Via FedEx

August 14, 2020

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

Subject: Second Quarter 2020 NPDES Discharge Monitoring Report

Compliance File CI-6027 and NPDES No. CA0001309

Santa Susana Field Laboratory Ventura County, California

The Boeing Company (Boeing) hereby submits this Discharge Monitoring Report (DMR) for the Santa Susana Field Laboratory (Santa Susana Site) for the period of April 1 through June 30, 2020 (Second Quarter 2020). 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 290 acres of Boeing's land for which the Department of Energy (DOE) has assumed responsibility for soil remediation.

Hard copies of this DMR are available to the public at the California State University Northridge Oviatt Library, the Simi Valley Public Library, and the Platt Branch of the Los Angeles Public Library. An electronic version of this DMR is located at: http://www.boeing.com/principles/environment/santa-susana/monitoring-reports.page

SECOND QUARTER 2020 DMR CONTENTS

This DMR includes the following sections and appendices:

- **Discharge and Sample Collection Summary:** This section describes the number of rain events, the number of samples collected, sample dates, and sample locations during the Second Quarter 2020. Table I summarizes the Second Quarter 2020 sampling record by outfall or location and sample type collected per the requirements of the NPDES Permit.
- Second Quarter 2020 Summary of Exceedances and/or Non-Compliance: This section summarizes the Second Quarter 2020 sample results that exceeded NPDES Permit Limits, Benchmarks, and Receiving Water Limits, and the potential causes thereof.
- Reasonable Potential Analysis: This section discusses the results of the analysis.
- Stormwater Treatment System at Outfall 018 Activities: This section summarizes the Second Quarter 2020 activities at the stormwater treatment system at Outfall 018.
- Second Quarter 2020 Santa Susana Site Stormwater Pollution Prevention Plan (SWPPP)/Best Management Practices (BMP) Activities: This section presents the Santa Susana Site SWPPP and BMP-related activities implemented in the Second Quarter 2020 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 Second Quarter 2020 by outfall location.

- Annual Comprehensive Site Compliance Evaluation Report: This section discusses the annual site compliance evaluation.
- SWPPP, BMP Plan, and Spill Contingency Plan Status and Effectiveness Report: This section discusses updates to the SWPPP, BMP Plan, and Spill Contingency Plan Status and Effectiveness Report for 2020.
- Bioassessment Monitoring: This section discusses the bioassessment review.
- **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 Second Quarter 2020.
- Appendix B tabulates waste shipments during the Second Quarter 2020.
- **Appendix C** presents chemical analytical results from the Second Quarter 2020 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 and includes the Arroyo Simi, Bell Creek, and Dayton Canyon surveys.
- **Appendix H** presents the Annual Comprehensive Sitewide Compliance Evaluation Report.
- Appendix I presents the 2020 Annual Bioassessment Sampling Report.

DISCHARGE AND SAMPLE COLLECTION SUMMARY

Stormwater samples were collected at Outfalls 001, 002, 008, 009, and 018 during Second Quarter 2020 (Figure 1). The Santa Susana Site had two qualifying rain events during the Second Quarter 2020 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). Of these, one rain event produced stormwater discharges at Outfalls 001, 002, 008 and 009 and lasted 11 days. The NPDES Permit states that no more than one sample per week need be obtained during extended periods of rainfall. Therefore, samples were collected at Outfalls 002, 008 and 009 twice during this rain event as these outfalls continued to flow into the second week of rainfall. Automated flow-weighted composite samplers (autosamplers) were set in preparation for all rain events and reset for the rainfall samples collected in the second week. Boeing also collected stormwater samples from Outfall 018 because Boeing operated the Stormwater Treatment System (SWTS) at Outfall 018 to increase the capacity in Silvernale Pond. 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). Two additional receiving water grab samples were collected early in the Second Quarter 2020 at RSW-002 to calculate the geometric mean; however, these two samples were the final samples of geometric mean sampling initiated at the end of the First Quarter 2020. All geometric mean data (including the two samples collected in early Second Quarter 2020) were presented and discussed in the First Quarter 2020 report.

Table I summarizes the Second Quarter 2020 sampling record by location, sample frequency, and sample type collected per NPDES Permit requirements, and the results are included in Appendix C.

TABLE I: Sampling Record during the Second Quarter 2020

| Date | Outfall/Location | Sample Frequency | Sample Type |
|--------------------------|--|--|-----------------|
| 4/6-4/7/2020 | Outfall 002 | Quarterly | Grab, Composite |
| 4/6-4/7/2020 | Outfall 009 | Routine | Grab, Composite |
| 4/8-4/9/2020 | Outfall 008 | Routine | Grab, Composite |
| 4/9-4/10/2020 | Outfall 001 | Quarterly | Grab, Composite |
| 4/9-4/10/2020 | Outfall 018 | Quarterly | Grab, Composite |
| 4/13-4/14/2020 | Outfall 002 | Routine (Extended Rainfall) ⁽³⁾ | Grab, Composite |
| 4/13-4/14/2020 | Outfall 009 | Routine (Extended Rainfall) ⁽³⁾ | Grab, Composite |
| 4/15/2020 ⁽¹⁾ | Outfall 008 | Routine (Extended Rainfall) ⁽³⁾ | Grab, Composite |
| 4/6/2020 | Arroyo Simi Receiving Water (RSW-002, Frontier Park) | Quarterly | Grab |
| 4/03/2020 ⁽²⁾ | Arroyo Simi Receiving Water (RSW-002, Frontier Park) | Geometric Mean | Grab |
| 4/13/2020(2) | Arroyo Simi Receiving Water (RSW-002, Frontier Park) | Geometric Mean | Grab |

| Date | Outfall/Location | Sample Frequency | Sample Type |
|-----------|--|------------------|-------------|
| 5/21/2020 | Arroyo Simi Receiving Water (RSW-002, Frontier Park) | Annual Sediment | Grab |

Notes:

Routine = 1 per discharge event.

- (1) Grab and composite samples collected on the same day due to short duration of flow at the outfall.
- (2) The 30-day period of collecting five equally spaced geometric mean samples at RSW-002 began at the end of March and ended in April. Since laboratory results were available prior to the publication of the First Quarter 2020 DMR, the sample results and the geometric mean calculation were presented in the First Quarter DMR.
- (3) An additional sample was collected during the extended period of rainfall.

All analyses were conducted at analytical laboratories certified by the State Water Resources Control Board (SWRCB) for such analyses (i.e., all have current certification from the Environmental Laboratory Accreditation Program [ELAP] established by the California Environmental Laboratory Improvement Act) or have been approved by the SWRCB Executive Officer in accordance with current U.S. Environmental Protection Agency (EPA) guideline procedures or as specified in the NPDES Permit. Laboratory analytical reports, including validation reports and notes (if validation was performed), are included in Appendix E. Attachment H of the NPDES Permit presents the SWRCB's minimum levels laboratories are expected to achieve for reporting and determining compliance with NPDES Permit Limits. The analytical laboratory achieved these minimum levels in the Second Quarter 2020 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, the reporting limit was used to determine compliance.

SECOND QUARTER 2020 SUMMARY OF EXCEEDANCES AND/OR NON-COMPLIANCE

As summarized in Appendix D, the Second Quarter 2020 exceedances of Daily Maximum Benchmarks, Daily Maximum Permit Limits, or Receiving Water Limits included:

Iron at Outfall 001.

A detailed discussion of the exceedance is provided below.

Boeing is committed to fulfilling the requirements of the NPDES Permit. Boeing and NASA each took actions during the Second Quarter 2020 to manage stormwater discharges (e.g., erosion and sediment transport, road runoff, etc.) on each party's property and/or area of responsibility. Boeing's actions are described in Tables II and III and in the sections below related to SWPPP/BMP Activities and Outfall 001/002 BMP Compliance Report Related Activities. Repair and other erosion control measures associated with BMPs undertaken by NASA and DOE are also described below. The Expert Panel is currently evaluating the data contained in this DMR and will include the results of their analysis on the likely causes of the exceedance described below in their 2020 Annual Report.

Outfall 001

Metals: Iron

On April 10, 2020, a stormwater sample was collected from Outfall 001. Iron was detected at 2.1 milligrams per liter (mg/L), above the Daily Maximum Benchmark of 0.3 mg/L.

The industrial areas upstream of Outfall 001 are monitored by Outfall 011. Given that Outfall 011 did not produce flow, and 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 are dirt roads, Boeing believes the higher iron concentration at Outfall 001 during the Second Quarter 2020 is attributable to erosion of natural soils. This conclusion is consistent with the findings in prior site studies conducted by the Expert Panel which confirmed that elevated metals are naturally occurring in site soils unrelated to former industrial operations.

As discussed in the 2019 Expert Panel Annual Report, the Expert Panel also reviewed metal ratio fingerprinting that further supports natural background soils as the likely source of iron in the sample having an exceedance. Geosyntec and the Expert Panel are in the process of updating the analysis from the "SSFL Metals Background Report: Sources of Metals in SSFL Watersheds" (Pitt, 2009), and analyzing the latest NPDES outfall exceedances to determine their causes and formulating additional actions to reduce sources; the results of the Expert Panel's analysis will be included in their 2020 Annual Report.

The actions completed during Second Quarter 2020 to control sources in the Outfall 001 watershed are described in the Second Quarter 2020 Santa Susana Site SWPPP/BMP Activities section below. Boeing and the Expert Panel will continue to monitor and evaluate the effectiveness of BMPs within the Outfall 001 watershed.

REASONABLE POTENTIAL ANALYSIS

Stormwater discharges from the Santa Susana Site occurred at Outfalls 001, 002, 008, 009, and 018 during the Second Quarter 2020. Analytical results from this quarter were added to the Reasonable Potential Analysis (RPA) dataset. Results of the RPA analysis are provided in Appendix F. Boeing believes that the analytical results for the Second Quarter 2020 did not trigger a reasonable potential for any other constituent not already regulated under the current NPDES Permit.

STORMWATER TREATMENT SYSTEM AT OUTFALL 018 ACTIVITIES

The SWTS located at Silvernale Pond discharges through Outfall 018. Maintenance items completed in the Second Quarter 2020 were as follows:

- Calibrated pH probes;
- Calibrated turbidity meters;
- Installed a new pH controller and probe for ACTIFLO;
- Rebuilt the sludge pump for the Screw Press;
- Installed a spare drop-in unit P-101;
- Purged all chemical lines with nitrogen;
- Replaced pump tubes for the chemical pumps used in ChemBox 1 and 3; and
- Installed a transient voltage suppressor for the effluent flow meter.

The SWTS operated one time during the Second Quarter 2020. Operational data are summarized below.

4th Operational Event:

- The SWTS operated from April 9 through 15, 2020, and discharged for approximately 130 hours; and
- The total amount of water treated and discharged from Silvernale Pond was 8,212,400 gallons.

SECOND QUARTER 2020 SANTA SUSANA SITE SWPPP/BMP ACTIVITIES

Boeing implemented significant BMP activities in compliance with the Site-Wide SWPPP (Haley & Aldrich, 2019) 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

| DAGD A satisfation | | | | | | Out | falls | | | | | |
|---|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
| BMP Activities | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 800 | 009 | 010 | 011 | 018 |
| Conducted erosion, 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. | х | Х | Х | х | Х | Х | Х | Х | Х | х | Х | х |
| Inspected the flume for sediment/debris. | х | Х | Х | Х | N/A | х | N/A | Х | Х | Х | N/A | Х |
| Inspected the weir for sediment/debris. | N/A | N/A | N/A | N/A | х | N/A |
| Cleaned the sample box of sediment and debris, checked for the presence of animals, and performed weed abatement as needed. | х | x | x | x | x | х | х | х | N/A | х | x | х |
| Checked the flow meter control box for the presence of debris and/or animals. | х | х | х | х | N/A | х | N/A | х | х | х | х | х |
| Cleaned the outfall area of sediment and debris and performed weed abatement as needed. | х | х | х | х | х | х | х | х | х | х | х | х |
| Reset the flow meter and replaced the tape monthly. | х | х | х | х | N/A | х | N/A | х | х | х | х | х |
| Conducted maintenance inspections of the stormwater conveyance system. | N/A | N/A | Х | Х | х | х | х | N/A | N/A | Х | х | х |
| Conducted maintenance inspections of the stormwater retention system. | N/A | N/A | Х | Х | Х | х | х | N/A | N/A | Х | Х | Х |
| Conducted maintenance inspections of the flow-through structure. | N/A | N/A | Х | Х | N/A | х | N/A | N/A | N/A | Х | х | N/A |

Notes:

X = BMP activity is applicable to the outfall and was completed in Second Quarter 2020.

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 Second Quarter 2020 by outfall or BMP location.

TABLE III: Additional Second Quarter 2020 BMP Activities

| Outfall or BMP Location | BMP Activities During Second Quarter 2020 |
|-------------------------|--|
| All Outfalls | Removed old sample tubing; cleaned and flipped overpack drums for storage during the dry season to eliminate accumulation of debris or moisture. |
| 003 | Installed a keyed start/stop switch for manual pump operation. |
| 005 | Installed a keyed start/stop switch for manual pump operation. |
| 007 | Installed a keyed start/stop switch for manual pump operation; installed a felt walkway in the basin to allow safe access to float switches. |
| 010 | Replaced a mechanical seal on the conveyance pump. Installed a cap on the media underdrain to prevent algae growth in the sump box. |
| 018 | Installed a transient voltage suppressor for the flow meters; disconnected the conduit and belts from pump P104 to prepare for motor replacement. |
| 001 and 002 Drainages | Installed media wattles around more than 50 utility poles from the Burn Pit to Bell Canyon Road and from the Burn Pit along the Southern Buffer zone to STL-IV Road. |

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

NASA-Related Activities

Demolition BMPs and stormwater activities covered by NASA's Construction SWPPP (dated May 16, 2017) for the Alfa and Bravo areas are inspected in accordance with the Construction General Permit (CGP). All demolition and soil disturbance activities were completed in 2018. During the Second Quarter 2020, NASA maintained wattles as linear sediment controls, maintained silt fencing, and installed gravel/riprap in areas within these sites where construction activities had been completed. Notice of Termination (NOT) was submitted to RWQCB in Second Quarter 2020.

Demolition BMPs and stormwater control activities covered by NASA's Construction SWPPP (dated December 4, 2017) in the Coca Test Stand Area are inspected in accordance with the CGP. All demolition and soil disturbance activities in the Coca Test Stand Area were completed in Fourth Quarter 2018. During Second Quarter 2020, NASA maintained sandbags, maintained wattles as linear sediment controls, and installed gravel/riprap in areas within these sites where construction activities had been completed. Notice of Termination (NOT) was submitted to RWQCB in Second Quarter 2020.

DOE Related Activities

DOE reported no BMP-related activities during the Second Quarter 2020.

Expert Panel-Related Activities

The BMP activities discussed below were performed, commenced, or completed during the Second Quarter 2020 in coordination with the Expert Panel.

Culvert Modifications

Twelve culvert modifications (CMs) were constructed in 2009 at various locations at or along the main road adjacent to the Northern Drainage. The CMs were designed to treat stormwater from roads and/or the surrounding hillsides. The Second Quarter 2020 activities included:

- BMP inspections, including the culvert inlets and riprap check dams; and
- All CMs, basins, and weir boards were cleaned of debris, as needed.

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. The Second Quarter 2020 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 Second Quarter 2020 activities included BMP inspections.

B-1 Area

The B-1 Area BMPs include:

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

The Second Quarter 2020 activities included continued BMP inspections and clearing the areas of sediment and debris.

Upper Parking Lot Media Filter

Construction of a media filter at the northeast corner of the upper parking lot was completed during the Second Quarter 2017. This BMP included a new media filter 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 Second Quarter 2020 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 Second Quarter 2020 activities included 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 parking 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 Second Quarter 2020 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, and inspections of surrounding BMPs.

Approximately 586,100 gallons of stormwater were pumped from the cistern to the sedimentation basin during the Second Quarter 2020.

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 solids settling. The Second Quarter 2020 activities included BMP inspections and accumulated sediment removal from the inlet structures.

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;
- Sandbag berm;
- Silt fencing;
- Water bar across the trail;
- Three check structures on the Northern Drainage Trail;

- Sandbags with fiber rolls;
- 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.

The Second Quarter 2020 activities included BMP inspections. 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.

NASA and Boeing BMP Monitoring-Related Activities

In addition to activities performed in coordination with the Expert Panel described above, BMP performance and subarea monitoring samples were collected in the watersheds associated with Outfalls 002 and 009 during the Second Quarter 2020. These sampling results will be reported by the Expert Panel in their 2020 Annual Report.

Northern Drainage BMPs

Boeing restored the Northern Drainage (Outfall 009) following cleanup activities performed under DTSC 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)¹ were implemented in 2012. In accordance with the RMMP, regular maintenance, monitoring, 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. Boeing will continue to inspect the Northern Drainage BMPs annually and maintain them on an as-needed basis. No RMMP-related inspections of Northern Drainage BMPs were performed during Second Quarter 2020.

Outfall 001/002 BMP Compliance Report Related Activities

The Daily Maximum Benchmark exceedance at Outfall 001 during the Second Quarter 2020 did not trigger a new BMP Compliance Report. In accordance with the current BMP compliance reports, 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 are provided in the 2019 Expert Panel Annual Report (Geosyntec and the Expert Panel, 2019) including BMP Performance and subarea monitoring samples collected during the Second Quarter 2020. These sampling results will be reported by the Expert Panel in their 2020 Annual Report.

¹ Available at: http://www.boeing.com/principles/environment/santa-susana/technical-reports.page

Other BMP Activities

BMP observations and maintenance inspections were conducted in conformance with the Site-Wide SWPPP (Haley & Aldrich, 2019) at and around the former test stands Alfa and Bravo and former Advanced Propulsion Test Facility.

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT

The annual comprehensive site compliance evaluation was conducted in June 2020 and a summary is included in Appendix H.

SWPPP, BMP PLAN, AND SPILL CONTINGENCY PLAN STATUS AND EFFECTIVENESS REPORT

The SWPPP, BMP Plan, and Spill Contingency Plan (heretofore referred to as the Spill Prevention and Response Plan [SPRP]) are implemented and the effectiveness is evaluated by Boeing annually. The SWPPP, BMP Plan, and SPRP were reviewed following the annual comprehensive site compliance evaluation in June 2020 (Appendix H) and will be issued in the Third Quarter 2020.

BIOASSESSMENT MONITORING

A bioassessment review was conducted at the Santa Susana Site on June 4, 2020 to evaluate water quality conditions in the tributary to Arroyo Simi downstream of Outfall 006 and the tributary to the Los Angeles River downstream of Outfall 001 in accordance with NPDES Permit requirements. The methods, procedures, and results of the bioassessment are reported in the Bioassessment Monitoring Report included in Appendix I. Note that there was insufficient water flow to conduct the bioassessment monitoring in the Second Quarter of 2020.

CONCLUSIONS

Boeing continues to implement, maintain, and monitor wide-ranging control practices intended to improve water quality at stormwater discharge locations at the Santa Susana Site through methods designed to preserve the natural conditions in the watershed to the maximum extent feasible by implementing distributed, sustainable erosion control/restoration measures. The Expert Panel is reviewing the data collected this year and will make BMP and monitoring recommendations that will be communicated in the Expert Panel's 2020 Annual Report.

FACILITY CONTACT

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

CERTIFICATION

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

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

Executed on the 14th of August 2020 at The Boeing Company, Seal Beach, California, Site.

Sincerely,

Kim O'Rourke

Kim O'Rourks

Remediation Program Manager Environment, Health & Safety

Enclosures:

References

Figure 1 – Site Map with Stormwater Collection and Conveyance System and Site Features

Figure 2 – Arroyo Simi Receiving Water (RSW-002, Frontier Park) Sampling Location and Upstream Monitoring Point

Appendix A – Second Quarter 2020 Rainfall Data Summary

Appendix B – Second Quarter 2020 Waste Shipment Summary Tables

Appendix C – Second Quarter 2020 Discharge Monitoring Data Summary Tables

Appendix D – Second Quarter 2020 Summary of Permit Limit Exceedances and/or Non-Compliance

Appendix E – Second Quarter 2020 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

Appendix F - Second Quarter 2020 Reasonable Potential Analysis Tables

Appendix G – Second Quarter 2020 Receiving Water Surveys

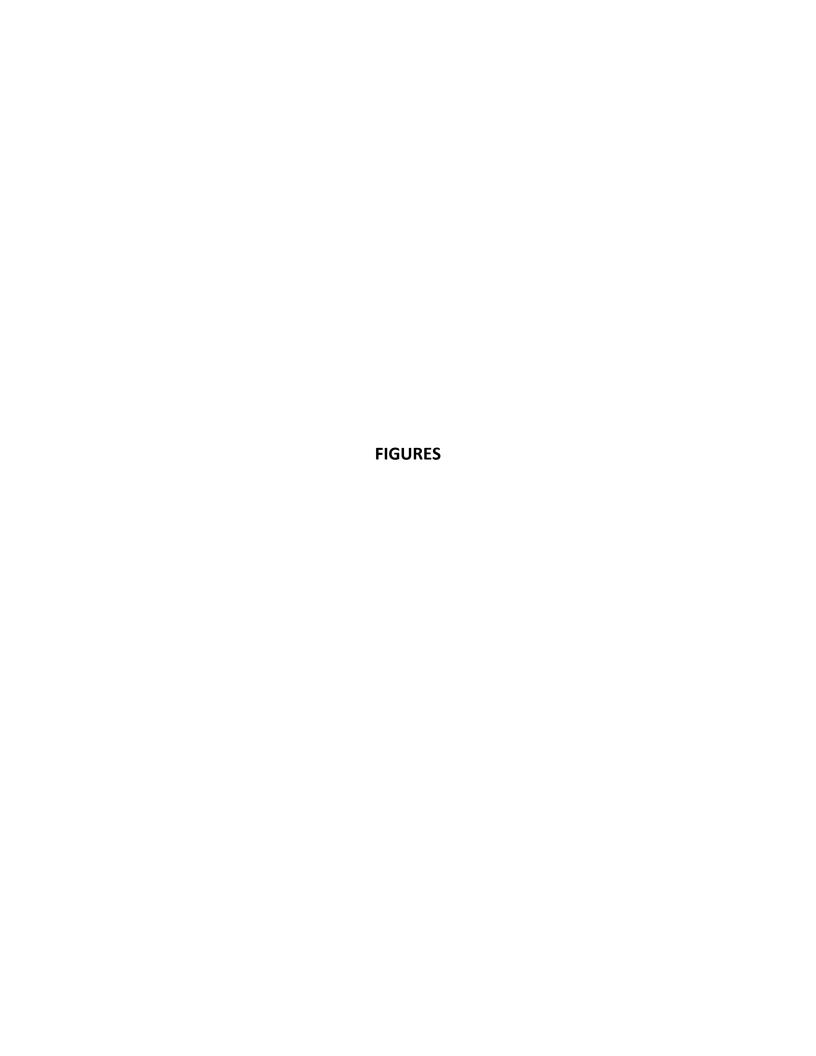
Appendix H – Annual Comprehensive Sitewide Compliance Evaluation Report

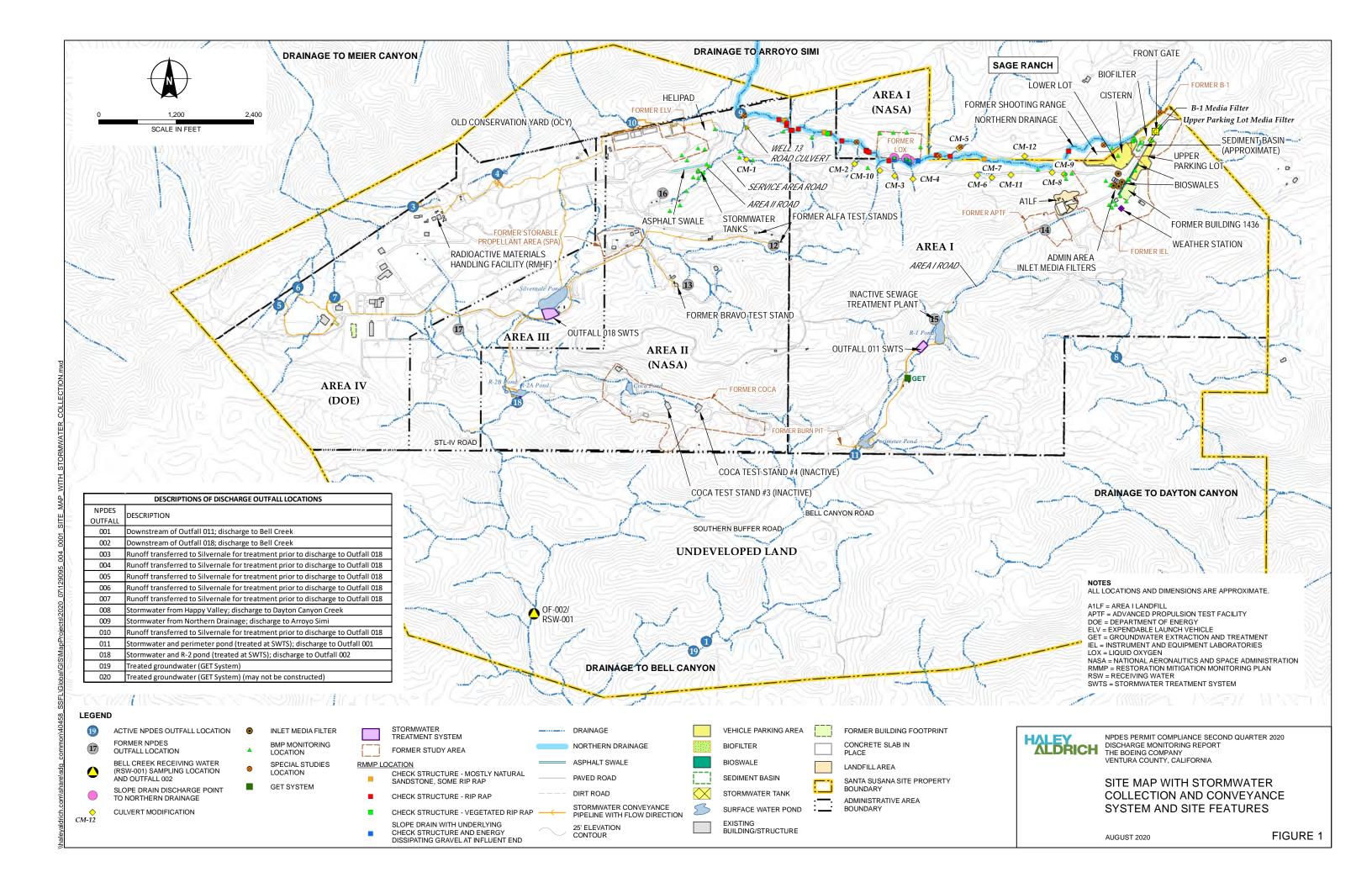
Appendix I – Annual Bioassessment Sampling Report

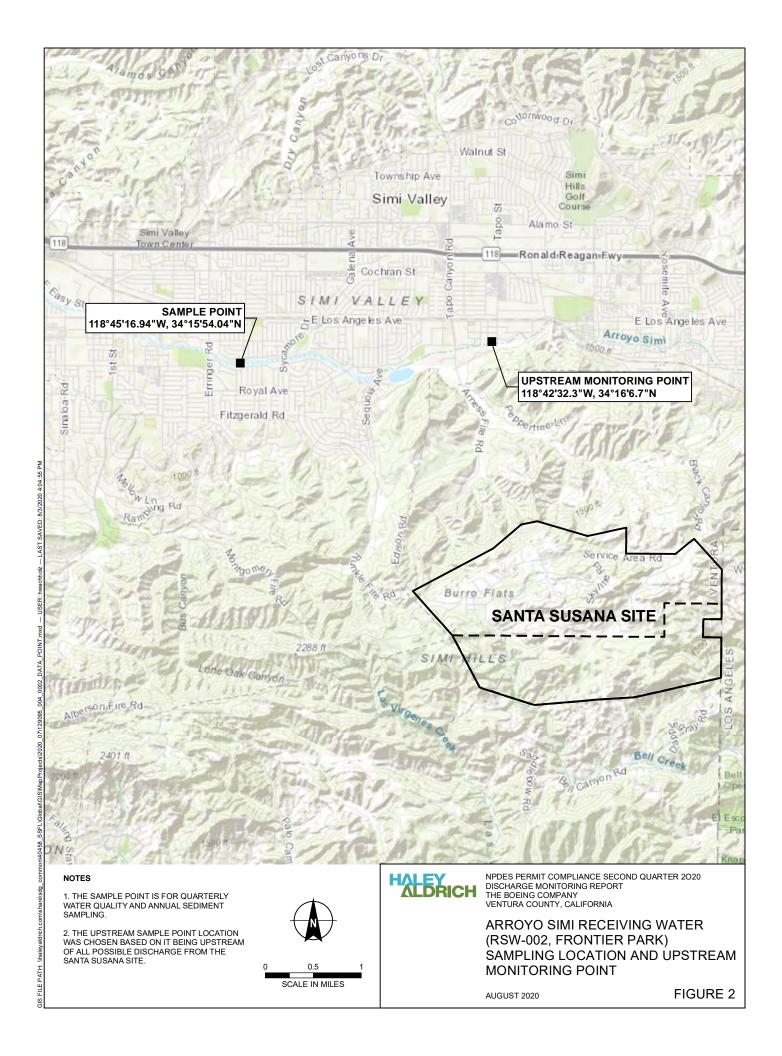
Los Angeles Regional Water Quality Control Board; Attn: Ms. Cris Morris
 California Department of Toxic Substances Control; Attn: Mr. Mark Malinowski
 California State University Northridge Oviatt Library
 Simi Valley Public Library
 Los Angeles Public Library, Platt Branch

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- 3. Geosyntec and the Expert Panel, 2019. Santa Susana Field Laboratory Site-Wide Stormwater Annual Report, 2018/19 Reporting Year, Ventura County, California (NPDES No. CA0001309, CI No.6027). 31 October.
- 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., 2019. Stormwater Pollution and Prevention Plan (Version 6 for Compliance with 2015 NPDES Permit). 26 September.
- 6. Pitt, Robert, 2009. Boeing SSFL Metals Background Report Sources of Metals in SSFL Watersheds. November 21.







APPENDIX A

Second Quarter 2020 Rainfall Data Summary

APPENDIX A

TABLE OF CONTENTS

Table A – Daily Rainfall Summary

TABLE A DAILY RAINFALL SUMMARY

THE BOEING COMPANY NPDES PERMIT CA0001309

Station: AREA 1 Parameter: Rain Month/Year: April 2020

HOUR OF THE DAY, PACIFIC STANDARD TIME

| | | | | | | | | | | HOUR | OF IH | E DAY, | PACIF | IC STA | NDARD | HIME | | | | | | | | | | |
|---|--------|------|------|------|------|------|------|------|------|------|-------|--------|-------|--------|-------|------|------|------|------|------|------|------|------|------|------|-------|
| | 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 | 0.03 | 0.03 | 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 | 0.07 |
| | 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 | 0.02 | 0.04 | 0.06 | 0.02 | 0.10 | 0.24 |
| | 6 | 0.15 | 0.27 | 0.29 | 0.19 | 0.10 | 0.01 | 0.00 | 0.09 | 0.00 | 0.07 | 0.02 | 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 | 1.21 |
| | 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 | 0.04 | 0.01 | 0.05 | 0.13 | 0.06 | 0.11 | 0.05 | 0.08 | 0.01 | 0.00 | 0.00 | 0.00 | 0.54 |
| D | 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.06 | 0.19 |
| Α | 9 | 0.01 | 0.01 | 0.06 | 0.05 | 0.07 | 0.02 | 0.07 | 0.05 | 0.09 | 0.08 | 0.04 | 0.09 | 0.07 | 0.07 | 0.08 | 0.17 | 0.09 | 0.05 | 0.04 | 0.03 | 0.02 | 0.02 | 0.04 | 0.08 | 1.40 |
| Υ | 10 | 0.04 | 0.02 | 0.02 | 0.01 | 0.03 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 |
| | 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 |
| 0 | 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.05 |
| F | 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | 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 |
| Т | 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 |
| Н | 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 |
| Ε | 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 |
| 0 | 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 |
| Т | 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 |
| Н | 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 |

TABLE A DAILY RAINFALL SUMMARY

THE BOEING COMPANY NPDES PERMIT CA0001309

Station: AREA 1 Parameter: Rain Month/Year: May 2020

HOUR OF THE DAY, PACIFIC STANDARD TIME

| | | | | | | | | | | | | | | | NDARD | | | | | | | | | | | |
|---|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|-------|
| | HR-BEG | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | |
| | HR-END | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| | DAY | | | | | | | | | | | | | | | | | | | | | | | | | Total |
| | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| D | 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Α | 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 |
| Υ | 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 |
| 0 | 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 |
| Т | 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 |
| Н | 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 |
| Е | 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 | 0.01 | 0.02 | 0.04 | 0.04 | 0.01 | 0.07 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.22 |
| 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 |
| 0 | 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 |
| Т | 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 |
| Н | 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

TABLE A DAILY RAINFALL SUMMARY

THE BOEING COMPANY NPDES PERMIT CA0001309

Station: AREA 1 Parameter: Rain Month/Year: June 2020

HOUR OF THE DAY, PACIFIC STANDARD TIME

| 1 | HR-BEG | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | |
|--------|----------|------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| ŀ | 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 | - | | Ť | - | | · | - | | Ť | | | | | | | | | | | | | | | | Total |
| | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| D | 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Α | 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 |
| Υ | 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 |
| 0 | 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 |
| Τ. | 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 |
| Е | 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 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 |
| М О | 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 |
| Ť | 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 |
| н | 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 |
| ŀ | 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 |
| ľ | 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 |
| ŀ | 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 | d | d | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 semi-annual audit (June 29). For the off-line event, the rain gauge at Sage Ranch confirmed that no rainfall was recorded on June 29 during hours 07:00-09:00.

APPENDIX B

Second Quarter 2020 Waste Shipment Summary Tables

APPENDIX B

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Table B – Waste Shipment Summary Table

TABLE B WASTE SHIPMENT SUMMARY TABLE

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| TYPE OF WASTE | MATRIX | QTY. | UNITS | TRANSPORTER 1 | TRANSPORTER 2 | DESTINATION |
|-----------------|--------|--------|-------|---|---|--|
| Asbestos | Solid | 140 | Y | MP Environmental Services, Inc. | n/a | US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624 |
| Hazardous Waste | Liquid | 51,708 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058 |
| Hazardous Waste | Liquid | 71 | Р | 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 | Liquid | 187 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, UT 84029 |
| Hazardous Waste | Liquid | 4 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Buttonwillow LLC 2500 West Lokern Road Buttonwillow, CA 93206 |
| Hazardous Waste | Liquid | 3,840 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | Clean Harbors Deer Park LLC 2027 Independence Parkway South La Porte, TX 77571 |
| Hazardous Waste | Liquid | 1,400 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69142 |
| Hazardous Waste | Liquid | 4,940 | Р | MP Environmental Services, Inc. | n/a | US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624 |
| Hazardous Waste | Solid | 50 | Р | 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 | 4 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029 |
| Hazardous Waste | Solid | 34,015 | Р | MP Environmental Services, Inc. | n/a | US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624 |
| Hazardous Waste | Solid | 5 | Р | Veolia ES Technical Solutions, LLC 5736 W. Jefferson Street Phoenix, AZ 85043 | n/a | Veolia ES Technical Solutions, LLC 5736 W. Jefferson Street Phoenix, AZ 85043 |
| Hazardous Waste | Liquid | 1,475 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | Rust & Sons Trucking | Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69142 |
| Hazardous Waste | Solid | 60 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69142 |

TABLE B WASTE SHIPMENT SUMMARY TABLE

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| TYPE OF WASTE | MATRIX | QTY. | UNITS | TRANSPORTER 1 | TRANSPORTER 2 | DESTINATION |
|---|----------|--------|-------|---|----------------------|--|
| Hazardous Waste | Solid | 15 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | Rust & Sons Trucking | Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69142 |
| Hazardous Waste,Flammable | Aerosols | 4 | Р | 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,Flammable | Liquid | 120 | Р | MP Environmental Services, Inc. | n/a | US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624 |
| Non Hazardous Waste | Liquid | 55,000 | G | Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058 | n/a | Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058 |
| Non Hazardous Waste | Liquid | 21,600 | G | American Integrated Services, Inc. | n/a | Crosby & Overton 1630 W 17th Street Long Beach, CA 90813 |
| Non Hazardous, Non D.O.T. Regulated Waste | Liquid | 34,000 | G | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058 |
| Non Hazardous, Non D.O.T. Regulated Waste | Liquid | 5 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029 |
| Non Hazardous, Non D.O.T. Regulated Waste | Solid | 240 | Y | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Waste Management - Antelope Valley LF 1200 W. City Ranch Road Palmdale, CA 93551 |
| Non Hazardous, Non D.O.T. Regulated Waste | Solid | 2,344 | Р | 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 Waste | Solid | 637 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029 |
| Non RCRA Hazardous Waste | Liquid | 5,366 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744 |
| Non RCRA Hazardous Waste | Liquid | 271 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69142 |
| Non RCRA Hazardous Waste | Solid | 408 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744 |
| Non RCRA Hazardous Waste | Solid | 509 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029 |

TABLE B WASTE SHIPMENT SUMMARY TABLE

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| TYPE OF WASTE | MATRIX | QTY. | UNITS | TRANSPORTER 1 | TRANSPORTER 2 | DESTINATION |
|-------------------------|--------|------|-------|---|---------------|--|
| Non Regulated Batteries | Solid | 20 | Р | MP Environmental Services, Inc. | n/a | US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624 |
| Universal Waste | Solid | 422 | Р | Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061 | n/a | Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744 |

Notes:

n/a = Not Applicable G = Gallons

P = Pounds

Y = Yards

APPENDIX C Second Quarter 2020 Discharge Monitoring Data Summary Tables

APPENDIX C

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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 018 - Discharge Monitoring Data Summary Table Outfall 018 - Discharge Monitoring Mass Summary Table |
| Arroyo Simi - Discharge Monitoring Data Summary Table Arroyo Simi, Sediment - Discharge Monitoring Data Summary Table |

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

- 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. |

| *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). |
| * * | Unusual problems found with the data that have been described in Section II, "sample management", or Section III, "method analysis". The number following the asterisk (*) will indicated the validation report section where a description of the problem can be found. |
| 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, semiannual, etc.). |
| Avg | Average. |
| В | 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. |
| С | 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). |
| Е | E in validation qualifier indicates that duplicates show poor agreement. |
| | |

| 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. |
| Н | Holding time was exceeded. |
| Hardness | Equivalent of calcium carbonate (CaCO3). |
| Нр | Hepta. |
| Нх | 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). |
| К | 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. |
| МВ | Analyte present in the method blank. |
| MDA/MDC | Minimum detectable activity/minimum detectable concentration. |
| | |

| MDL | Method detection limit. |
|------------|---|
| Meas | Measure sample type. |
| MFL | Million fibers per liter. |
| MGD | Million gallons per day. |
| МНА | 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. |
| 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. |
| Р | Pounds. |
| ppb | Parts per billion. |
| pCi/L | PicoCuries per liter. |
| Pe | Penta. |
| q | The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio; the measured ion ratio does not meet qualitative identification criteria and indicates a possible interference. |
| Q | Matrix spike (MS) recovery outside of control limits. |
| Q1 | Matrix spike (MS)/matrix spike duplicate (MSD) relative percent difference (RPD) was outside the control limit. |
| R | As a validation qualifier, results are rejected; the presence or absence of analyte cannot be verified. |
| (R) | Percent recovery (%R) for calibration not within control limits. |
| RL | Laboratory reporting limit. |

| RL-1 | Reporting limit raised due to sample matrix effects. |
|----------------|---|
| RPD | Relative percent difference. |
| %R | Percent recovery. |
| %RSD | Percent relative standard deviation. |
| % Normal/Alive | Percent normal and alive. |
| % Survival | Percent survival. |
| S | Surrogate recovery was outside control limits. |
| s.u. | Standard unit. |
| TCDD | 2,3,7,8-tetrachlorodibenzo-p-dioxin. |
| TCDF | 2,3,7,8-tetrachlorodibenzo-p-furan. |
| TEQ | Toxic equivalent. |
| TIC | Tentatively identified compound |
| TIE | Toxicity identification evaluation |
| TOC | Total organic carbon |
| Т | 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. |
| ٨ | 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. |
| | |

| (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 adry 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 8.06lbs/day. |
| (g) | 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. During the First Quarter 2020, various metals reverted back to annual sampling but may have continued to be analyzed due to laboratory or field error. |
| (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) | Reserved. |
| (1) | When field staff arrived onsite to collect the composite sample they discovered that the autosampler had malfunctioned and had not collected "sips." Field staff repaired the autosampler, reset it, determined it was functioning properly, then returned the next day to collect the composite sample. |
| (m) | The composite sample was collected as a grab sample from the sample box due to insufficient flow. |
| (n) | The grab sample was collected at the first opportunity given the short duration and low-flow at this Outfall. |
| (o) | Unsafe conditions all day prevented access to the Outfall. |
| (p) | Various annual constituents were analyzed by laboratory due to field and laboratory error. |
| (q) | Minimum level not met due to laboratory error. |
| | |

OUTFALL 001 DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | 4/9/2020 12:55 - 4/10/2020 09:30 | | |
|--|--------------|-------------------------------------|----------------------------|----------------------------------|--------------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Flow** | MGD | 117.83 | 1/Discharge | Meas | 0.400854 | * |
| CONVENTIONAL POLLUTANTS | | | | | | |
| Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C) | mg/L | 30 | 1/Discharge | Composite | ND < 2.0 | U* |
| Oil & Grease | mg/L | 15 | 1/Discharge | Grab | ND < 1.5 | U* |
| pH (Field) | S.U. | 6.5-8.5 | 1/Discharge | Grab | 7.78 | * |
| Total Suspended Solids [#] | mg/L | 45 | 1/Discharge | Composite | 22 ^(c) | * |
| PRIORITY POLLUTANTS | _ | ı | | | | 1 |
| 1,1-Dichloroethene | μg/L | 6.0 | 1/Discharge | Grab | ND < 0.25 | U* |
| 1,2-Dichloroethane | μg/L | 0.5 | 1/Discharge | Grab | ND < 0.25 | U* |
| 2,4,6-Trichlorophenol | μg/L | 13 | 1/Discharge | Composite | ND < 0.11 | U* |
| 2,4-Dinitrotoluene | μg/L | 18 0.03 | 1/Discharge | Composite | ND < 2.2 ND < 0.0026 | U* |
| alpha-BHC | μg/L | | 1/Discharge | Composite | | |
| Antimony Arsenic | µg/L | 6.0 10.0 | 1/Year 1/Year | ANR ANR | ANR ANR | ANR ANR |
| | μg/L | 4.0 | 1/Year | _ | | ANR |
| Beryllium Bis (2-Ethylhexyl) Phthalate | μg/L μg/L | 4.0 | 1/Discharge | ANR Composite | ANR ND < 2.2 | U* |
| Cadmium | μg/L μg/L | (4.0) 3.1 | 1/Discharge | Composite | ND < 0.25 ^(b) | U |
| Chromium VI (Hexavalent) | μg/L | 16 | 1/Discharge | ANR | ND < 0.25**/ ANR | ANR |
| Copper | μg/L | 14 | 1/Discharge | Composite | 3.8 | AINK |
| Cyanide | μg/L | 8.5 | 1/Discharge | Composite | ND < 2.5 | U* |
| Lead | μg/L | 5.2 | 1/Discharge | Composite | 1.6 | |
| Mercury | μg/L | 0.1 | 1/Discharge | Composite | ND < 0.10 | U* |
| Nickel | µg/L | 94 | 1/Year | ANR | ANR | ANR |
| N-Nitrosodimethylamine | µg/L | 16 | 1/Discharge | Composite | ND < 0.33 | U* |
| Pentachlorophenol | μg/L | 16.5 | 1/Discharge | Composite | ND < 1.1 | U* |
| Selenium | μg/L | (5) 8.2 | 1/Discharge | Composite | ND < 0.50 ^(f) | U |
| Silver | μg/L | 4.1 | 1/Year | ANR | ANR | ANR |
| Thallium | μg/L | 2.0 | 1/Year | ANR | ANR | ANR |
| Trichloroethene | μg/L | 5.0 | 1/Discharge | Grab | ND < 0.25 | U* |
| Zinc | μg/L | 119 | 1/Discharge | Composite | 15 | J (DNQ) |
| NON-CONVENTIONAL POLLUTANTS | | | | | | |
| Ammonia - N | mg/L | 10.1 | 1/Discharge | Composite | ND < 0.100 | U* |
| Barium | mg/L | 1.0 | 1/Year | ANR | ANR | ANR |
| Chloride | mg/L | 150 | 1/Discharge | Composite | 4.0 | * |
| Chlorine, Total Residual (Field) | mg/L | 0.1 | 1/Year | ANR | ANR | ANR |
| Chronic Toxicity | Pass or Fail | Pass or % | 1st & 2nd rain | Composite | Pass, -12.55 | * |
| Detergents (as MBAS) | and % Effect | Effect <50 0.5 | event/Year | Composite | 0.074 | J (DNQ*) |
| Fluoride | mg/L mg/L | 1.6 | 1/Discharge 1/Year | ANR | | ANR |
| Iron | mg/L | 0.3 | 1/Discharge ^(g) | Composite | ANR 2.1 | AINK |
| Manganese | µg/L | 50 | 1/Discharge ^(g) | Composite | 37 | * |
| Nitrate - N | mg/L | 8 | 1/Discharge | Composite | 0.13 | * |
| Nitrate + Nitrite as Nitrogen (N) | mg/L | 8 | 1/Discharge | Composite | 0.13 | J (DNQ*) |
| Nitrite - N | mg/L | 1 | 1/Discharge | Composite | ND < 0.025 | U* |
| Perchlorate | µg/L | 6.0 | 1/Discharge | Composite | ND < 0.95 | U* |
| Settleable Solids [#] | ml/L | 0.3 | 1/Discharge | Grab | ND < 0.10 ^(c) | U* |
| Sulfate | mg/L | 300 | 1/Discharge | Composite | 5.9 | * |
| Temperature (Field) | Deg F | 86 | 1/Discharge | Grab | 52.3 | * |
| Total Dissolved Solids | mg/L | 950 | 1/Discharge | Composite | 110 | * |
| 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 < 0.25 | 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* |
| 1,2,4-Trichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR |
| 1,2-Dichloropropane | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| 1,2-Diphenylhydrazine/Azobenzene | μg/L | - | 1/Year | ANR | ANR | ANR |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2020 12:55 - 4/10/2020 09:30 | | | | |
|---------------------------------|-------|-------------------------------------|---------------------|----------------------------------|--------------------|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | | |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| 2,4-Dichlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4-Dimethylphenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4-Dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,6-Dinitrotoluene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Chloroethyl vinyl ether | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Chloronaphthalene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Chlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Methyl-4,6-dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Nitrophenol | µg/L | _ | 1/Year | ANR | ANR | ANR | | |
| 3,3'-Dichlorobenzidine | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| 4,4'-DDD | μg/L | - | 1/Year | Composite | ND < 0.0041 | U* | | |
| 4,4'-DDE | | _ | 1/Year | Composite | ND < 0.0031 | U* | | |
| 4,4'-DDT | μg/L | - + | | · · | | U* | | |
| * | μg/L | - | 1/Year 1/Year | Composite ANR | ND < 0.0041 ANR | | | |
| 4-Bromophenyl phenyl ether | μg/L | - | | | | ANR | | |
| 4-Chloro-3-methylphenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 4-Chlorophenyl phenyl ether | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 4-Nitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acenaphthene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acenaphthylene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acrolein | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acrylonitrile | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aldrin | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| alpha-Endosulfan | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Anthracene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1016 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* | | |
| Aroclor 1221 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* | | |
| Aroclor 1232 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* | | |
| Aroclor 1242 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* | | |
| Aroclor 1248 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* | | |
| Aroclor 1254 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* | | |
| Aroclor 1260 | µg/L | _ | 1/Year | Composite | ND < 0.26 | U* | | |
| Benzene | μg/L | _ | 1/Year | Grab | ND < 0.25 | U* | | |
| Benzidine | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Benzo(a)anthracene | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Benzo(a)pyrene | | - | 1/Year | ANR | ANR | ANR | | |
| Benzo(b)fluoranthene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Benzo(g,h,i)perylene | μg/L | | | ANR | ANR | | | |
| Benzo(k)fluoranthene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| beta-BHC | μg/L | - | 1/Year | | | ANR | | |
| beta-Endosulfan | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Bis (2-Chloroethoxy) Methane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Bis (2-Chloroethyl) Ether | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Bis (2-Chloroisopropyl) Ether | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Bromoform | μg/L | - | 1/Year | Grab | ND < 0.40 | U* | | |
| Bromomethane | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| Butyl benzylphthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Carbon tetrachloride | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| Chlordane | μg/L | - | 1/Year | Composite | ND < 0.083 | 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 | ANR | ANR | ANR | | |
| Ontonium | μy/L | | 1/ 1 641 | AINIX | CANIX | VINIZ | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2020 12:55 - 4/10/2020 09:30 | | | | |
|---|-----------|-------------------------------------|---------------------|----------------------------------|------------------------|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | | |
| Chrysene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| cis-1,3-Dichloropropene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| delta-BHC | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dibenz(a,h)anthracene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dichlorobromomethane | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| Dieldrin | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Diethyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dimethyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Di-n-butyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Di-n-octyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Endosulfan sulfate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Endrin | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Endrin aldehyde | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Ethylbenzene | μg/L | _ | 1/Year | Grab | ND < 0.25 | U* | | |
| Fluoranthene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Fluorene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| gamma-BHC (Lindane) | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Heptachlor | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Heptachlor epoxide | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Hexachlorobenzene | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Hexachlorobutadiene | µg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Hexachlorocyclopentadiene | µg/L | - | 1/Year | ANR | ANR | ANR | | |
| Hexachloroethane | µg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Indeno(1,2,3-cd)pyrene | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Isophorone | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| m,p-Xylenes | μg/L | _ | 1/Year | ANR | ANR | ANR | | |
| Methylene chloride | | _ | 1/Year | Grab | ND < 0.88 | U* | | |
| | μg/L | - | 1/Year | Grab | ND < 0.40 | U* | | |
| Naphthalene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Naphthalene Nitrobanzana | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Nitrobenzene | μg/L | - | | ANR | ANR | + | | |
| N-Nitroso-di-n-propylamine | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| N-Nitrosodiphenylamine | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| o-Xylene | μg/L | | 1/Year | ANR | ANR | ANR | | |
| Phenanthrene | µg/L | - | 1/Year | ANR | ANR | ANR | | |
| Phenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Pyrene | μg/L | - | 1/Year | | ND < 0.25 | ANR | | |
| Tetrachloroethene | μg/L | - | 1/Year | Grab | ND < 0.25 ND < 0.25 | U* | | |
| Toluene | μg/L | - | 1/Year | Grab | | U* | | |
| Toxaphene | μg/L | - | 1/Year | Composite | ND < 0.25 | 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* | | |
| Trichlorofluoromethane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Vinyl chloride | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| Xylenes (Total) | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| EFFLUENT MONITORING (NO LIMITATIONS) POLL | | | | 01 | ND 050 | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | μg/L | - | 1/Quarter | Grab | ND < 0.50 | U* | | |
| 1,2-Dichloro-1,1,2-trifluoroethane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,4-Dioxane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Boron | mg/L | - | 1/Year | ANR | ANR | ANR | | |
| cis-1,2-Dichloroethene ^(p) | μg/L | - | 1/Year | Grab | ND < 0.25 | U* | | |
| Cobalt | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Conductivity | µmhos/cm | - | 1/Discharge | Grab | 130 | * | | |
| Cyclohexane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Diesel Range Organics (DRO C13-C28) | mg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dissolved Oxygen (Field) | mg/L | - | 1/Discharge | Grab | 8.94 | * | | |
| E. Coli | mpn/100mL | - | 1/Year | ANR | ANR | ANR | | |
| Gasoline Range Organics (GRO C4-C12) | mg/L | - | 1/Year | ANR | ANR | ANR | | |
| Hardness (as CaCO3) | mg/L | - | 1/Year | Composite | 44 | * | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/20 | 20 12:55 - 4/10/202 | 0 09:30 |
|--------------------------------------|-----------|-------------------------------------|--------------------------|-------------|---------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Monomethyl hydrazine | μg/L | - | 1/Year | ANR | ANR | ANR |
| Total Organic Carbon | mg/L | - | 1/Year | ANR | ANR | ANR |
| Turbidity | NTU | - | 1/Discharge | Composite | 51 | * |
| Vanadium | μg/L | - | 1/Year | ANR | ANR | ANR |
| ADDITIONAL POLLUTANTS ⁽²⁾ | | | | | | |
| Antimony, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Arsenic, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Barium, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR |
| Beryllium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Boron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR |
| Cadmium, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.25 | U |
| Chromium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Cobalt, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Copper, dissolved | μg/L | - | Additional/Discharge | Composite | 1.8 | J (DNQ) |
| Hardness, Dissolved (as CaCO3) | mg/L | - | Additional/Year | Composite | 41 | * |
| Human Bacteroides | CEs/100mL | - | Additional/Year | ANR | ANR | ANR |
| Iron, dissolved | mg/L | - | Additional/Discharge (g) | Composite | 0.20 | |
| Lead, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.50 | U |
| Manganese, dissolved | μg/L | - | Additional/Discharge(g) | Composite | ND < 0.015 | U* |
| Mercury, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.10 | U* |
| Nickel, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Selenium, dissolved | μg/L | - | Additional/Discharge | Composite | 1.2 | J (DNQ) |
| Silver, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Thallium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Vanadium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Zinc, dissolved | μg/L | - | Additional/Discharge | Composite | 16 | J (DNQ) |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | | 4/10/2020 0 | 9:30 (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 | 1.2E-06 | 2.6E-05 | U (B) | ND |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 0.01 | 0.01 | μg/L | 8.3E-07 | 2.0E-05 | U (B) | ND |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 0.01 | 0.4 | μg/L | 1.0E-06 | 7.4E-06 | UJ (*III) | ND |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 0.1 | 0.3 | μg/L | 9.4E-07 | 8.3E-06 | U (B) | ND |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 0.1 | 0.08 | μg/L | 1.6E-06 | 7.0E-06 | J (DNQ) | ND |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 9.6E-07 | 6.3E-06 | UJ (*III) | ND |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.2 | μg/L | 1.8E-06 | 7.3E-06 | J (DNQ) | ND |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 8.7E-07 | 5.4E-06 | U (B) | ND |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 0.1 | 0.6 | μg/L | 1.1E-06 | 6.7E-06 | U (B) | ND |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1.0 | 0.9 | μg/L | 8.4E-07 | 7.3E-06 | U (B) | ND |
| 1,2,3,7,8-PeCDF | 1/Discharge | 0.05 | 0.2 | μg/L | 7.5E-07 | 6.4E-06 | J (DNQ) | ND |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.7 | μg/L | 1.1E-06 | 6.2E-06 | UJ (*III) | ND |
| 2,3,4,7,8-PeCDF | 1/Discharge | 0.5 | 1.6 | μg/L | 7.1E-07 | 6.2E-06 | J (DNQ) | ND |
| 2,3,7,8-TCDD | 1/Discharge | 1.0 | 1.0 | μg/L | 6.5E-07 | 3.8E-06 | UJ (*III) | ND |
| 2,3,7,8-TCDF | 1/Discharge | 0.1 | 0.8 | μg/L | 1.1E-06 | 1.5E-06 | UJ (*III) | ND |
| OCDD | 1/Discharge | 0.0001 | 0.01 | μg/L | 1.4E-06 | 1.8E-04 | U (B) | ND |
| OCDF | 1/Discharge | 0.0001 | 0.02 | μg/L | 9.7E-07 | 3.9E-05 | U (B) | ND |

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/ | 10/2020 09:30 (Compos | site) |
|--------------------------------------|-----------------|--------|---------------------|--------------------|-----------------------|--|
| ANALYTE | UNITS DAIL BENC | | SAMPLE FREQUENCY | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER |
| NON-CONVENTIONAL POLLUTANTS | | | | | | |
| Gross Alpha | pCi/L | 15 | 1/Discharge | 0.935+/-0.827 | 1.24 | UJ (*III) |
| Gross Beta | pCi/L | 50 | 1/Discharge | 1.54+/-0.630 0.816 | | J+ (B) |
| Combined Radium-226 & Radium-228 | pCi/L | 5.0 | 1/Discharge | 0.735+/-0.429 | NM | U |
| Strontium-90 | pCi/L | 8.0 | 1/Discharge | -0.163+/-0.393 | 0.725 | U |
| Tritium | pCi/L | 20,000 | 1/Discharge | -40.1+/-149 | 273 | U |
| ADDITIONAL POLLUTANTS | • | | | | | , |
| Cesium-137 | pCi/L | 200 | 1/Discharge | -2.27+/-15.2 | 15.4 | U |
| Uranium | pCi/L | 20 | 1/Discharge | 0.250+/-0.250 | 0.297 | U |
| ADDITIONAL POLLUTANTS WITHOUT LIMITS | • | | | • | | • |
| Potassium-40 | pCi/L | = | 1/Discharge | 8.98+/-159 | 222 | U |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2020 12:55 - 4/10/2020 09:30 | | | |
|--|---------|----------------------------------|----------------------------|----------------------------------|-------------------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Flow** | MGD | 117.83 | 1/Discharge | Meas | 0.400854 | * | |
| 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 | 74 ^(c) | * | |
| PRIORITY POLLUTANTS | | | | | | | |
| 1,1-Dichloroethene | LBS/DAY | 5.9 | 1/Discharge | Grab | ND | U* | |
| 1,2-Dichloroethane | LBS/DAY | 0.49 | 1/Discharge | Grab | ND | U* | |
| 2,4,6-Trichlorophenol | LBS/DAY | 12.8 | 1/Discharge | Composite | ND | U* | |
| 2,4-Dinitrotoluene | LBS/DAY | 17.7 | 1/Discharge | Composite | ND | U* | |
| alpha-BHC | LBS/DAY | 0.03 | 1/Discharge | Composite | ND | U* | |
| Antimony | LBS/DAY | 5.9 | 1/Year | ANR | ANR | ANR | |
| Arsenic | LBS/DAY | 9.83 | 1/Year | ANR | ANR | ANR | |
| Beryllium | LBS/DAY | 3.93 | 1/Year | ANR | ANR | ANR | |
| Bis (2-Ethylhexyl) Phthalate | LBS/DAY | 3.93 | 1/Discharge | Composite | ND | U* | |
| Cadmium | LBS/DAY | (3.93) 3.05 | 1/Discharge | Composite | ND (b) | U | |
| Chromium VI (Hexavalent) | LBS/DAY | 15.72 | 1/Year | ANR | ANR | ANR | |
| Copper | LBS/DAY | 13.76 | 1/Discharge | Composite | 0.013 | | |
| Cyanide | LBS/DAY | 8.35 | 1/Discharge | Composite | ND | U* | |
| Lead | LBS/DAY | 5.11 | 1/Discharge | Composite | 0.0053 | | |
| Mercury | LBS/DAY | 0.1 | 1/Discharge | Composite | ND | U* | |
| Nickel | LBS/DAY | 92.4 | 1/Year | ANR | ANR | ANR | |
| N-Nitrosodimethylamine | LBS/DAY | 15.72 | 1/Discharge | Composite | ND | U* | |
| Pentachlorophenol | LBS/DAY | 16.22 | 1/Discharge | Composite | ND | U* | |
| Selenium | LBS/DAY | (4.91) 8.06 | 1/Discharge | Composite | ND ^(f) | U | |
| Silver | LBS/DAY | 4.03 | 1/Year | ANR | ANR | ANR | |
| TCDD TEQ NoDNQ ⁽⁴⁾ | LBS/DAY | 2.75E-08 | 1/Discharge | Composite | ND | U | |
| Thallium | LBS/DAY | 1.97 | 1/Year | ANR | ANR | ANR | |
| Trichloroethene | LBS/DAY | 4.91 | 1/Discharge | Grab | ND | U* | |
| Zinc | LBS/DAY | 117 | 1/Discharge | Composite | 0.050 | J (DNQ) | |
| NON-CONVENTIONAL POLLUTANTS | 220,2 | | i, Diodiai go | Composito | 0.000 | 0 (2.14) | |
| Ammonia - N | LBS/DAY | 9,925.3 | 1/Discharge | Composite | ND | U* | |
| Barium | LBS/DAY | 983 | 1/Year | ANR | ANR | ANR | |
| Chloride | LBS/DAY | 147,405 | 1/Discharge | Composite | 13 | * | |
| Chlorine, Total Residual (Field) | LBS/DAY | 98.3 | 1/Year | ANR | ANR | ANR | |
| Detergents (as MBAS) | LBS/DAY | 491.4 | 1/Discharge | Composite | 0.25 | J (DNQ*) | |
| Fluoride | LBS/DAY | 1,572.3 | 1/Year | ANR | ANR | ANR | |
| Iron | LBS/DAY | 295 | 1/Discharge ^(g) | Composite | 7.0 | | |
| Manganese | LBS/DAY | 49.1 | 1/Discharge ^(g) | Composite | 0.12 | * | |
| Nitrate - N | LBS/DAY | 7,862 | 1/Discharge | Composite | 0.43 | * | |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 7,862 | 1/Discharge | Composite | 0.43 | J (DNQ*) | |
| Nitrite - N | LBS/DAY | 983 | 1/Discharge | Composite | 0.43 ND | U* | |
| Perchlorate | LBS/DAY | 5.9 | 1/Discharge | Composite | ND | U* | |
| Sulfate | LBS/DAY | 294,810 | 1/Discharge | Composite | 20 | * | |
| Ounato | LBS/DAY | 933,567 | 1/Discharge | Composite | 368 | * | |

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| | | | | | | 4/6/20 | 20 07:20 - 4/7/2020 | 08:15 |
|--|---------------------------|----------------------------------|-----------------------------|--|--------------------------|-------------|--------------------------|--|
| 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 | 0.0740838 | * |
| CONVENTIONAL POLLUTANTS | • | | | ' | | • | • | • |
| Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C) | mg/L | 30 | 1/Discharge | NA | - | Composite | 3.3 | * |
| Oil & Grease | mg/L | 15 | 1/Discharge | NA | - | Grab | ND < 1.4 | U* |
| pH (Field) | S.U. | 6.5-8.5 | 1/Discharge | 1/Quarter | 6.5-8.5 | Grab | 7.58 | * |
| Total Suspended Solids# | mg/L | 45 | 1/Discharge | 1/Year | • | Composite | 1.8 ^(c) | * |
| PRIORITY POLLUTANTS | | | · · · · · · | 1 | | | - | II. |
| 1,1-Dichloroethene | μg/L | 6.0 | 1/Discharge | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1,2-Dichloroethane | μg/L | 0.5 | 1/Discharge | 1/5 Years | • | Grab | ND < 0.25 | U* |
| 2,4,6-Trichlorophenol | μg/L | 13 | 1/Discharge | 1/5 Years | | Composite | ND < 0.11 | U* |
| 2,4-Dinitrotoluene | μg/L | 18 | 1/Discharge | 1/5 Years | - | Composite | ND < 2.2 | U* |
| alpha-BHC | μg/L | 0.03 | 1/Discharge | 1/5 Years | | Composite | ND < 0.0026 | U* |
| Antimony | μg/L | 6.0 | 1/Year | 1/5 Years | • | ANR | ANR | ANR |
| Arsenic | μg/L | 10.0 | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Beryllium | μg/L | 4.0 | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Bis (2-Ethylhexyl) Phthalate | μg/L | 4.0 | 1/Discharge | 1/5 Years | | Composite | ND < 2.2 | U* |
| Cadmium | μg/L | (4.0) 3.1 | 1/Discharge | 1/5 Years | | Composite | ND < 0.25 ^(b) | 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 | 1.1 | J (DNQ) |
| Cyanide | μg/L | 8.5 | 1/Discharge | 1/5 Years | | Composite | ND < 2.5 | Ù* |
| 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 < 0.10 | 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 < 0.32 | U* |
| Pentachlorophenol | μg/L | 16.5 | 1/Discharge | 1/5 Years | - | Composite | ND < 1.1 | U* |
| Selenium | μg/L | (5) 8.2 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.50 ^(f) | U |
| Silver | μg/L | 4.1 | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Thallium | μg/L | 2.0 | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Trichloroethene | μg/L | 5.0 | 1/Discharge | 1/5 Years | - | Grab | ND < 0.25 | 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 | ND < 0.100 | U* |
| Barium | mg/L | 1.0 | 1/Year | NA | | ANR | ANR | ANR |
| Chloride | mg/L | 150 | 1/Discharge | NA | - | Composite | 28 | * |
| Chlorine, Total Residual (Field) | mg/L | 0.1 | 1/Year | NA | - | ANR | ANR | ANR |
| Chronic Toxicity | Pass or Fail and % Effect | Pass or % Effect <50 | 1st & 2nd rain event/Year | NA | - | ANR | ANR | ANR |
| Detergents (as MBAS) | mg/L | 0.5 | 1/Discharge | NA | - | Composite | 0.099 | J (DNQ*) |
| Fluoride | mg/L | 1.6 | 1/Year | NA | - | ANR | ANR | ANR |
| Iron | mg/L | 0.3 | 1/Discharge ^(g) | NA | - | Composite | 0.066 | J (DNQ) |
| | | | | | | | | |

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| | | | | | | 4/6/20 | 20 07:20 - 4/7/2020 | 08:15 |
|-----------------------------------|--------------|----------------------------------|-----------------------------|--|--------------------------|-------------|---------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Manganese | μg/L | 50 | 1/Year | NA | i | ANR | ANR | ANR |
| Nitrate - N | mg/L | 8 | 1/Discharge | NA | • | Composite | ND < 0.055 | U* |
| Nitrate + Nitrite as Nitrogen (N) | mg/L | 8 | 1/Discharge | NA | • | Composite | ND < 0.055 | U* |
| Nitrite - N | mg/L | 1 | 1/Discharge | NA | - | Composite | ND < 0.025 | U* |
| Perchlorate | μg/L | 6.0 | 1/Discharge | NA | - | Composite | ND < 0.95 | U* |
| Settleable Solids [#] | ml/L | 0.3 | 1/Discharge | NA | | Grab | 0.10 ^(c) | * |
| Sulfate | mg/L | 300 | 1/Discharge | NA | | Composite | 170 | * |
| Temperature (Field) | Deg F | 86 | 1/Discharge | 1/Quarter | | Grab | 52.6 | * |
| Total Dissolved Solids | mg/L | 950 | 1/Discharge | NA | | Composite | 500 | * |
| REMAINING PRIORITY POLLUTANTS | <u> </u> | | | | | , | | Į. |
| 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 < 0.25 | U* |
| 1,1,2-Trichloroethane | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1.1-Dichloroethane | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1,2,4-Trichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 1,2-Dichlorobenzene | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 1,2-Dichloropropane | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1,2-Diphenylhydrazine/Azobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1.3-Dichlorobenzene | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 1.4-Dichlorobenzene | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 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 | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2-Chloronaphthalene | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2-Chlorophenol | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2-Methyl-4,6-dinitrophenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2-Nitrophenol | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 3.3'-Dichlorobenzidine | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4,4'-DDD | µg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.0042 | U* |
| 4,4'-DDE | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.0031 | U* |
| 4.4'-DDT | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.0042 | U* |
| 4-Bromophenyl phenyl ether | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4-Chloro-3-methylphenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4-Chlorophenyl phenyl ether | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| - Oniorophonyi phonyi othor | μ9/ - | | 1/1001 | 1/0 10013 | | AINIX | 731413 | AINIX |

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| | | | | | | 4/6/20 | 20 07:20 - 4/7/2020 | 08:15 |
|---------------------------------|-------|----------------------------------|-----------------------------|--|--------------------------|-------------|---------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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 | - | Composite | ND < 0.0016 | U* |
| alpha-Endosulfan | μg/L | - | 1/Year | 1/5 Years | • | Composite | ND < 0.0031 | U* |
| Anthracene | μg/L | - | 1/Year | 1/5 Years | • | ANR | ANR | ANR |
| Aroclor 1016 | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.26 | U* |
| Aroclor 1221 | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.26 | U* |
| Aroclor 1232 | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.26 | U* |
| Aroclor 1242 | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.26 | U* |
| Aroclor 1248 | μg/L | - | 1/Year | 1/Quarter | | Composite | ND < 0.26 | U* |
| Aroclor 1254 | μg/L | = | 1/Year | 1/Quarter | | Composite | ND < 0.26 | U* |
| Aroclor 1260 | μg/L | = | 1/Year | 1/Quarter | | Composite | ND < 0.26 | U* |
| Benzene | μg/L | = | 1/Year | 1/5 Years | | Grab | ND < 0.25 | U* |
| Benzidine | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Benzo(a)anthracene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Benzo(a)pyrene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Benzo(b)fluoranthene | μg/L | - | 1/Year | 1/5 Years | • | ANR | ANR | ANR |
| Benzo(g,h,i)perylene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Benzo(k)fluoranthene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| beta-BHC | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0042 | U* |
| beta-Endosulfan | μg/L | - | 1/Year | 1/5 Years | | Composite | ND < 0.0021 | U* |
| 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 | - | Grab | ND < 0.40 | U* |
| Bromomethane | μg/L | - | 1/Year | 1/5 Years | | Grab | ND < 0.25 | U* |
| Butyl benzylphthalate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Carbon tetrachloride | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Chlordane | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.083 | U* |
| Chlorobenzene | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Chlorodibromomethane | µg/L | - | 1/Year | 1/5 Years | _ | Grab | ND < 0.25 | U* |
| Chloroethane | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.40 | U* |
| Chloroform | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Chloromethane (Methyl Chloride) | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Chromium | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Chrysene | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| - 3 | r3'- | 1 | ., | ., | | | | 1 |

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| | | | | | | 4/6/20 | 20 07:20 - 4/7/2020 | 08:15 |
|----------------------------|-------|----------------------------------|-----------------------------|--|--------------------------|-------------|---------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| cis-1,3-Dichloropropene | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| delta-BHC | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0036 | U* |
| Dibenz(a,h)anthracene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Dichlorobromomethane | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Dieldrin | μg/L | - | 1/Year | 1/Quarter | - | Composite | ND < 0.0021 | U* |
| Diethyl phthalate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Dimethyl phthalate | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Di-n-butyl phthalate | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Di-n-octyl phthalate | µg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Endosulfan sulfate | µg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0031 | U* |
| Endrin | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0021 | U* |
| Endrin aldehyde | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0021 | U* |
| Ethylbenzene | μg/L | _ | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Fluoranthene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Fluorene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| gamma-BHC (Lindane) | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0031 | U* |
| Heptachlor | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0031 | U* |
| Heptachlor epoxide | μg/L | - | 1/Year | 1/5 Years | - | Composite | ND < 0.0026 | U* |
| 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 | - | Grab | ND < 0.88 | U* |
| Naphthalene | μg/L | _ | 1/Year | 1/5 Years | - | Grab | ND < 0.40 | U* |
| 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 |
| 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 | - | Grab | ND < 0.25 | U* |
| Toluene | µg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Toxaphene | μg/L | _ | 1/Year | 1/Quarter | - | Composite | ND < 0.25 | U* |
| trans-1,2-Dichloroethene | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| | F-8-1 | 1 | | | 1 | | | _ |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | 4/6/20 | 20 07:20 - 4/7/2020 | 08:15 |
|---|-----------------------|----------------------------------|-------------------------------------|--|--------------------------|-------------|---------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| trans-1,3-Dichloropropene | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Trichlorofluoromethane | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Vinyl chloride | μg/L | - | 1/Year | 1/5 Years | - | Grab | ND < 0.25 | U* |
| Xylenes (Total) | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| EFFLUENT MONITORING (NO LIMITATIONS) POLL | UTANTS ^(p) | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | μg/L | - | 1/Quarter | NA | - | Grab | ND < 0.50 | U* |
| 1,2-Dichloro-1,1,2-trifluoroethane | μg/L | - | 1/Year | NA | - | ANR | ANR | ANR |
| 1,4-Dioxane | μg/L | - | 1/Year | NA | - | ANR | ANR | ANR |
| Boron | mg/L | - | 1/Year | NA | - | ANR | ANR | ANR |
| cis-1,2-Dichloroethene | μg/L | - | 1/Year | NA | - | Grab | 0.36 | J (DNQ*) |
| Cobalt | μg/L | - | 1/Year | NA | - | ANR | ANR | ANR |
| Conductivity | µmhos/cm | - | 1/Discharge | NA | - | Grab | 660 | * |
| 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 | 15.46 | * |
| 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 | - | Composite | 270 | * |
| 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 | 2.0 | * |
| Vanadium | μg/L | _ | 1/Year | NA | - | ANR | ANR | ANR |
| ADDITIONAL POLLUTANTS(2)(P) | 1 13 | | | | | <u> </u> | | L |
| Antimony, dissolved | μg/L | _ | Additional/Year | NA | - | ANR | ANR | ANR |
| Arsenic, dissolved | μg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Barium, dissolved | mg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Beryllium, dissolved | μg/L | _ | Additional/Year | NA | _ | ANR | ANR | ANR |
| Boron, dissolved | mg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Cadmium, dissolved | μg/L | - | Additional/Discharge | NA | - | Composite | ND < 0.25 | 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 NA | - | Composite | 1.0 | J (DNQ) |
| Hardness, Dissolved (as CaCO3) | mg/L | - | Additional/Year | NA NA | - | Composite | 270 | * |
| Human Bacteroides | CEs/100mL | _ | Additional/Year | NA | - | ANR | ANR | ANR |
| Iron, dissolved | mg/L | - | Additional/Discharge ^(g) | NA | - | Composite | ND < 0.050 | U |
| Lead, dissolved | μg/L | - | Additional/Discharge | NA NA | - | Composite | ND < 0.50 | U |
| Manganese, dissolved | μg/L | - | Additional/Year | NA NA | - | ANR | ANR | ANR |
| Mercury, dissolved | μg/L | _ | Additional/Discharge | NA NA | - | Composite | ND < 0.10 | U* |
| Nickel, dissolved | μg/L | _ | Additional/Year | NA NA | _ | ANR | ANR | ANR |
| Mickel, alcocived | µ9/ ∟ | | Additional/ Foal | 14/4 | | - CUNIX | ALVIN | 71111 |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | 4/6/20 | 20 07:20 - 4/7/2020 | 08:15 |
|---------------------|-------|----------------------------------|-----------------------------|--|--------------------------|-------------|---------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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 |
| Diazinon | μg/L | - | Additional | NA | - | Composite | ND < 0.0052 | U* |
| Chlorpyrifos | μg/L | - | Additional | NA | - | Composite | ND < 0.0069 | U* |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | 4/13/20 | 20 09:00 - 4/14/202 | 0 09:15 |
|--|---------------------------|----------------------------------|-----------------------------|--|--------------------------|-------------|--------------------------|--|
| 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 | 1.28121 | * |
| CONVENTIONAL POLLUTANTS | | | | | | | | • |
| Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C) | mg/L | 30 | 1/Discharge | NA | = | Composite | ND < 2.0 | U* |
| Oil & Grease | mg/L | 15 | 1/Discharge | NA | - | Grab | ND < 1.5 | U* |
| pH (Field) | S.U. | 6.5-8.5 | 1/Discharge | 1/Quarter | 6.5-8.5 | Grab | 7.08 | * |
| Total Suspended Solids# | mg/L | 45 | 1/Discharge | 1/Year | - | Composite | 0.60 ^(d) | J (DNQ*) |
| PRIORITY POLLUTANTS | | | | | | | | |
| 1,1-Dichloroethene | μg/L | 6.0 | 1/Discharge | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 1,2-Dichloroethane | μg/L | 0.5 | 1/Discharge | 1/5 Years | - | Grab | ND < 0.25 | U* |
| 2,4,6-Trichlorophenol | μg/L | 13 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.11 | U* |
| 2,4-Dinitrotoluene | μg/L | 18 | 1/Discharge | 1/5 Years | - | Composite | ND < 2.2 | U* |
| alpha-BHC | μg/L | 0.03 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.021 | U* |
| Antimony | μg/L | 6.0 | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Arsenic | μg/L | 10.0 | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Beryllium | μg/L | 4.0 | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Bis (2-Ethylhexyl) Phthalate | μg/L | 4.0 | 1/Discharge | 1/5 Years | - | Composite | ND < 2.2 | U* |
| Cadmium | μg/L | (4.0) 3.1 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.25 ^(a) | U |
| Chromium VI (Hexavalent) | μg/L | 16 | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Copper | μg/L | 14 | 1/Discharge | 1/5 Years | - | Composite | 2.0 | |
| Cyanide | μg/L | 8.5 | 1/Discharge | 1/5 Years | - | Composite | ND < 2.5 | U* |
| Lead | μg/L | 5.2 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.50 | U |
| Mercury | μg/L | 0.1 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.10 | 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 < 0.32 | U* |
| Pentachlorophenol | μg/L | 16.5 | 1/Discharge | 1/5 Years | - | Composite | ND < 1.1 | U* |
| Selenium | μg/L | (5) 8.2 | 1/Discharge | 1/5 Years | - | Composite | ND < 0.50 ^(e) | 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 | 0.66 | * |
| 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 | 8.1 | * |
| 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 | - | ANR | ANR | ANR |
| Detergents (as MBAS) | mg/L | 0.5 | 1/Discharge | NA | - | Composite | 0.10 | * |
| Fluoride | mg/L | 1.6 | 1/Year | NA | _ | ANR | ANR | ANR |
| Iron | mg/L | 0.3 | 1/Discharge ^(g) | NA NA | _ | Composite | ND < 0.50 | U |
| | 9- | 3 | 1/Discharge | | | 00p000 | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| Ititate N mgl | | | | | | | 4/13/20 | 0 09:15 | |
|--|-----------------------------------|-------|-----|-------------|--------------|---|-------------|--------------------------|------------|
| Bittlet N | ANALYTE | UNITS | | | WATER SAMPLE | | SAMPLE TYPE | RESULT | VALIDATION |
| ### ### ### ### ### ### ### ### ### ## | Manganese | μg/L | 50 | 1/Year | NA | - | ANR | ANR | ANR |
| Bittle - N | Nitrate - N | mg/L | 8 | 1/Discharge | NA | - | Composite | ND < 0.055 | U* |
| Percentionate | Nitrate + Nitrite as Nitrogen (N) | mg/L | 8 | 1/Discharge | NA | - | Composite | ND < 0.055 | U* |
| Settleable Solids | Nitrite - N | mg/L | 1 | 1/Discharge | NA | - | Composite | ND < 0.025 | U* |
| sultate mg/L 300 I/Discharge NA - Composite 99 * ciral Dissolved Solids mg/L 950 I/Discharge I/Discharge NA - Composite 280 * EXEMINIOR POLLUTANTS J.1-Trickloroethare µg/L - 1/Pear 1/5 Years - ANR | Perchlorate | μg/L | 6.0 | 1/Discharge | NA | - | Composite | ND < 0.95 | U* |
| sultate mg/L 300 I/Discharge NA - Composite 99 * ciral Dissolved Solids mg/L 950 I/Discharge I/Discharge NA - Composite 280 * EXEMINIOR POLLUTANTS J.1-Trickloroethare µg/L - 1/Pear 1/5 Years - ANR | Settleable Solids [#] | ml/L | 0.3 | 1/Discharge | NA | - | Grab | ND < 0.10 ^(d) | U* |
| Vision V | Sulfate | mg/L | 300 | 1/Discharge | NA | - | Composite | | * |
| | Temperature (Field) | Deg F | 86 | 1/Discharge | 1/Quarter | - | Grab | 54.1 | * |
| 1.1-Trichioroethane | Total Dissolved Solids | mg/L | 950 | 1/Discharge | NA | - | Composite | 280 | * |
| 1,2,2-Terlachtoroethane µg/L - 1/Year 1/S Years - ANR A | REMAINING PRIORITY POLLUTANTS | • | • | • | • | | • | • | • |
| 1,2-Trichloroethane | 1,1,1-Trichloroethane | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 1/Year | 1,1,2,2-Tetrachloroethane | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2,4-Tichlorobenzene | 1,1,2-Trichloroethane | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| μg/L - 1/Year 1/5 Years - ANR ANR ANR ANR ANR 2-Dichlorobenzene μg/L - 1/Year 1/5 Years - ANR A | 1,1-Dichloroethane | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2-Dichlorobenzene | 1,2,4-Trichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 2-Dichloropropane | 1,2-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| μg/L - 1/Year 1/5 Years - ANR ANR | 1,2-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 3-Dichlorobenzene | 1,2-Dichloropropane | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 3-Dichlorobenzene | 1,2-Diphenylhydrazine/Azobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4-Dichlorobenzene | 1,3-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4-Dichlorobenzene | 1,3-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4-Dichlorophenol | 1,4-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 4-Dichlorophenol | 1,4-Dichlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| A-Dinitrophenol | 2,4-Dichlorophenol | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| 1/Year 1/5 Years - ANR | 2,4-Dimethylphenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| -Chloroethyl vinyl ether | 2,4-Dinitrophenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| -Chloroethyl vinyl ether μg/L - 1/Year 1/5 Years - ANR | 2,6-Dinitrotoluene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| -Chloronaphthalene μg/L - 1/Year 1/5 Years - ANR | 2-Chloroethyl vinyl ether | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| -Methyl-4,6-dinitrophenol μg/L - 1/Year 1/5 Years - ANR | 2-Chloronaphthalene | · - | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| -Nitrophenol μg/L - 1/Year 1/5 Years - ANR | 2-Chlorophenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| -Nitrophenol μg/L - 1/Year 1/5 Years - ANR | 2-Methyl-4,6-dinitrophenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| μg/L - 1/Year 1/5 Years - ANR ANR ANR ,4'-DDD μg/L - 1/Year 1/Quarter - ANR ANR ANR ,4'-DDE μg/L - 1/Year 1/Quarter - ANR ANR ANR ,4'-DDT μg/L - 1/Year 1/Quarter - ANR ANR ANR | 2-Nitrophenol | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| μg/L - 1/Year 1/Quarter - ANR ANR ANR ,4'-DDE μg/L - 1/Year 1/Quarter - ANR ANR ANR ,4'-DDT μg/L - 1/Year 1/Quarter - ANR ANR ANR Bromophenyl phenyl ether μg/L - 1/Year 1/5 Years - ANR ANR ANR Chloro-3-methylphenol μg/L - 1/Year 1/5 Years - ANR ANR ANR | 3,3'-Dichlorobenzidine | · - | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| μg/L - 1/Year 1/Quarter - ANR ANR ANR ,4'-DDT μg/L - 1/Year 1/Quarter - ANR ANR ANR -Bromophenyl phenyl ether μg/L - 1/Year 1/5 Years - ANR ANR ANR -Chloro-3-methylphenol μg/L - 1/Year 1/5 Years - ANR ANR ANR | 4,4'-DDD | | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR |
| μg/L - 1/Year 1/Quarter - ANR ANR ANR Bromophenyl phenyl ether μg/L - 1/Year 1/5 Years - ANR ANR ANR Chloro-3-methylphenol μg/L - 1/Year 1/5 Years - ANR ANR ANR | 4,4'-DDE | | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR |
| -Bromophenyl phenyl ether μg/L - 1/Year 1/5 Years - ANR ANR ANR ANR -Chloro-3-methylphenol μg/L - 1/Year 1/5 Years - ANR ANR ANR ANR | 4,4'-DDT | | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR |
| -Chloro-3-methylphenol μg/L - 1/Year 1/5 Years - ANR ANR ANR | 4-Bromophenyl phenyl ether | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| | 4-Chloro-3-methylphenol | , , | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| | 4-Chlorophenyl phenyl ether | · - | - | 1/Year | 1/5 Years | - | | ANR | ANR |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| ANALYTE UNITS BORCHMARK LIMIT FREUENCY FREQUENCY FREQUENCY FREUENCY FRE | | | | | | | 4/13/2020 09:00 - 4/14/2020 09:15 | | | |
|---|---|-------|---|--------|--------------|---|-----------------------------------|--------|--|--|
| Accraphthene Light - 11/Year 1/5 Years - ANR ANR AAR Accraphthylene Light - 11/Year 11/5 Years - ANR | ANALYTE | UNITS | | | WATER SAMPLE | | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Acroler | 4-Nitrophenol | μg/L | - | 1/Year | 1/5 Years | 1 | ANR | ANR | ANR | |
| Accylonitrie | Acenaphthene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Acytonitrile | Acenaphthylene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Aldrin | Acrolein | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Aldrin | Acrylonitrile | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Anthracene μg/L - 1/Year 1/5 Years - ANR | Aldrin | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Arcolor 1016 μg/L - 1/γear 1/γuarter - ANR ANR AR Arcolor 1221 μg/L - 1/γear 1/γear 1/γearter - ANR ANR AR AR Arcolor 1232 μg/L - 1/γear 1/γearter - ANR ANR AR AR Arcolor 1232 μg/L - 1/γear 1/γearter - ANR ANR AR AR Arcolor 1242 μg/L - 1/γear 1/γearter - ANR ANR ANR AR Arcolor 1248 μg/L - 1/γear 1/γearter - ANR ANR ANR AR Arcolor 1254 μg/L - 1/γear 1/γearter - ANR ANR ANR AR Arcolor 1254 μg/L - 1/γear 1/γearter - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γearter - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR Arcolor 1260 μg/L - 1/γear 1/γear 1/γears - ANR ANR ANR AR AR AR AR A | alpha-Endosulfan | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Arcolor 1221 | Anthracene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Aroclor 1232 μg/L - 1/Year 1/Quarter - ANR ANR AAR Aroclor 1242 μg/L - 1/Year 1/Quarter - ANR ANR AAR Aroclor 1248 μg/L - 1/Year 1/Quarter - ANR ANR AA Aroclor 1254 μg/L - 1/Year 1/Quarter - ANR ANR AA Aroclor 1260 μg/L - 1/Year 1/Quarter - ANR ANR ANR AR Benze 206 μg/L - 1/Year 1/Year 1/Years - ANR | Aroclor 1016 | μg/L | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Aroclor 1242 | Aroclor 1221 | μg/L | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Aroclor 1248 μg/L - 1/Year 1/Quarter - ANR ANR AAR Aroclor 1250 μg/L - 1/Year 1/Quarter - ANR ANR AAR Benzene μg/L - 1/Year 1/Sears - ANR ANR A Benzidine μg/L - 1/Year 1/5 Years - ANR ANR A Benzo(a)pyrene μg/L - 1/Year 1/5 Years - ANR ANR A Benzo(b)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR A Benzo(b)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR A Benzo(b)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR A Benzo(b)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR A Benzo | Aroclor 1232 | μg/L | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Aroclor 1254 μg/L - 1/Year 1/Quarter - ANR ANR AAR Aroclor 1260 μg/L - 1/Year 1/Quarter - ANR ANR AAR Benzene μg/L - 1/Year 1/5 Years - ANR ANR ANR ANR Benzo(a)anthracene μg/L - 1/Year 1/5 Years - ANR | Aroclor 1242 | μg/L | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Aroclor 1254 μg/L - 1/Year 1/Quarter - ANR ANR AAR Aroclor 1260 μg/L - 1/Year 1/Quarter - ANR ANR ANR A Benzene μg/L - 1/Year 1/5 Years - ANR ANR ANR A Benzo(ine μg/L - 1/Year 1/5 Years - ANR ANR <td>Aroclor 1248</td> <td>µg/L</td> <td>-</td> <td>1/Year</td> <td>1/Quarter</td> <td>-</td> <td>ANR</td> <td>ANR</td> <td>ANR</td> | Aroclor 1248 | µg/L | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Aroclor 1260 μg/L - 1/Year 1/Quarter - ANR ANR AR Benzene μg/L - 1/Year 1/5 Years - ANR ANR A Benzidine μg/L - 1/Year 1/5 Years - ANR < | Aroclor 1254 | | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Benzeine μg/L - 1/Year 1/5 Years - ANR ANR AR Benzidine μg/L - 1/Year 1/5 Years - ANR ANR AR AR ANR AR ANR | Aroclor 1260 | | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR | |
| Benzo(a)anthracene | Benzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Benzo(a)anthracene μg/L - 1/Year 1/5 Years - ANR ANR AR Benzo(a)pyrene μg/L - 1/Year 1/5 Years - ANR | Benzidine | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Benzo(a)pyrene μg/L - 1/Year 1/5 Years - ANR | Benzo(a)anthracene | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Benzo(b)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR AR Benzo(g,h,i)perylene μg/L - 1/Year 1/5 Years - ANR ANR ANR AR Benzo(k)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR ANR AR beta-BHC μg/L - 1/Year 1/5 Years - ANR ANR <t< td=""><td>Benzo(a)pyrene</td><td></td><td>-</td><td>1/Year</td><td>1/5 Years</td><td>-</td><td>ANR</td><td>ANR</td><td>ANR</td></t<> | Benzo(a)pyrene | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Benzo(g,h,i)perylene μg/L - 1/Year 1/5 Years - ANR ANR ARR ARR ARR ANR ANR< | Benzo(b)fluoranthene | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Benzo(k)fluoranthene μg/L - 1/Year 1/5 Years - ANR ANR A beta-BHC μg/L - 1/Year 1/5 Years - ANR < | | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| beta-BHC μg/L - 1/Year 1/5 Years - ANR ANR A beta-Endosulfan μg/L - 1/Year 1/5 Years - ANR AN | 10. 17. | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| beta-Endosulfan μg/L - 1/Year 1/5 Years - ANR ANR AR Bis (2-Chloroethoxy) Methane μg/L - 1/Year 1/5 Years - ANR AN | beta-BHC | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Bis (2-Chloroethoxy) Methane μg/L - 1/Year 1/5 Years - ANR | | | - | 1/Year | | - | ANR | ANR | ANR | |
| Bis (2-Chloroethyl) Ether μg/L - 1/Year 1/5 Years - ANR ANR AR AR ANR A | Bis (2-Chloroethoxy) Methane | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Bis (2-Chloroisopropyl) Ether μg/L - 1/Year 1/5 Years - ANR ANR AR AR ANR < | , | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Bromoform μg/L - 1/Year 1/5 Years - ANR ANR A Bromomethane μg/L - 1/Year 1/5 Years - ANR ANR A Butyl benzylphthalate μg/L - 1/Year 1/5 Years - ANR ANR A Carbon tetrachloride μg/L - 1/Year 1/5 Years - ANR ANR A Chlordane μg/L - 1/Year 1/Quarter - ANR ANR A | Bis (2-Chloroisopropyl) Ether | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Bromomethane μg/L - 1/Year 1/5 Years - ANR ANR A Butyl benzylphthalate μg/L - 1/Year 1/5 Years - ANR ANR ANR A Carbon tetrachloride μg/L - 1/Year 1/5 Years - ANR ANR A Chlordane μg/L - 1/Year 1/Quarter - ANR ANR A | , , , , , , | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | Bromomethane | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| Carbon tetrachloride μ g/L - 1/Year 1/5 Years - ANR ANR ANR ANR Chlordane μ g/L - 1/Year 1/Quarter - ANR ANR ANR A | Butyl benzylphthalate | | - | 1/Year | | - | ANR | ANR | ANR | |
| Chlordane µg/L - 1/Year 1/Quarter - ANR ANR A | Carbon tetrachloride | | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR | |
| | | | - | | | - | ANR | ANR | ANR | |
| 10 | | | - | | | - | | | ANR | |
| Chlorodibromomethane µg/L - 1/Year 1/5 Years - ANR ANR A | | | - | | | - | | | ANR | |
| r v | | | - | | | - | | | ANR | |
| | | | - | | | - | | | ANR | |
| | | | - | | | - | | | ANR | |
| 13 | ` , , , | | - | | | - | | | ANR | |
| | | | - | | | - | | | ANR | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | 4/13/202 | 20 09:00 - 4/14/20 | 20 09:15 |
|----------------------------|-------|----------------------------------|-----------------------------|--|--------------------------|-------------|--------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| cis-1,3-Dichloropropene | μg/L | - | 1/Year | 1/5 Years | ī | ANR | ANR | ANR |
| delta-BHC | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Dibenz(a,h)anthracene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Dichlorobromomethane | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Dieldrin | μg/L | - | 1/Year | 1/Quarter | | ANR | ANR | ANR |
| Diethyl phthalate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Dimethyl phthalate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Di-n-butyl phthalate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Di-n-octyl phthalate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Endosulfan sulfate | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Endrin | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Endrin aldehyde | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Ethylbenzene | μg/L | - | 1/Year | 1/5 Years | • | ANR | ANR | ANR |
| Fluoranthene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Fluorene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| gamma-BHC (Lindane) | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Heptachlor | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Heptachlor epoxide | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Hexachlorobenzene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Hexachlorobutadiene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Hexachlorocyclopentadiene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Hexachloroethane | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Indeno(1,2,3-cd)pyrene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Isophorone | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| m,p-Xylenes | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Methylene chloride | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Naphthalene | μg/L | - | 1/Year | 1/5 Years | • | ANR | ANR | ANR |
| Naphthalene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Nitrobenzene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| N-Nitroso-di-n-propylamine | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| N-Nitrosodiphenylamine | μg/L | - | 1/Year | 1/5 Years | • | ANR | ANR | ANR |
| o-Xylene | μg/L | - | 1/Year | 1/5 Years | | ANR | ANR | ANR |
| Phenanthrene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Phenol | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Pyrene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Tetrachloroethene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Toluene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |
| Toxaphene | μg/L | - | 1/Year | 1/Quarter | - | ANR | ANR | ANR |
| trans-1,2-Dichloroethene | μg/L | - | 1/Year | 1/5 Years | - | ANR | ANR | ANR |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | 4/13/20 | 0 09:15 | |
|---|--------------------|----------------------------------|-------------------------------------|--|--------------------------|-------------|-----------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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) POLLUTA | NTS ^(p) | | | | | | | |
| 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 | 5.96 | * |
| 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 | 0.31 | * |
| Vanadium | μg/L | - | 1/Year | NA | - | ANR | ANR | ANR |
| ADDITIONAL POLLUTANTS(2)(p) | 1.0 | | | | | | | |
| Antimony, dissolved | μg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Arsenic, dissolved | μg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Barium, dissolved | mg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Beryllium, dissolved | μg/L | - | Additional/Year | NA | _ | ANR | ANR | ANR |
| Boron, dissolved | mg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Cadmium, dissolved | μg/L | - | Additional/Discharge | NA | - | Composite | ND < 0.25 | 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 | 1.4 | J (DNQ) |
| Hardness, Dissolved (as CaCO3) | mg/L | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Human Bacteroides | CEs/100mL | - | Additional/Year | NA | - | ANR | ANR | ANR |
| Iron, dissolved | mg/L | _ | Additional/Discharge ^(g) | NA | _ | Composite | ND < 0.50 | U |
| Lead, dissolved | μg/L | - | Additional/Discharge | NA NA | _ | Composite | ND < 0.50 | U |
| Manganese, dissolved | μg/L | _ | Additional/Year | NA NA | _ | ANR | ANR | ANR |
| Mercury, dissolved | μg/L | _ | Additional/Discharge | NA NA | _ | Composite | ND < 0.10 | U* |
| Nickel, dissolved | μg/L | - | Additional/Year | NA NA | _ | ANR | ANR | ANR |
| , | F3' = | 1 | | 1 | | 1 | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/13/2020 09:00 - 4/14/2020 09:15 | | | | |
|---------------------|-------|----------------------------------|-----------------------------|--|--------------------------|-------------|-----------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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 |
| Diazinon | μg/L | - | Additional | NA | | ANR | ANR | ANR |
| Chlorpyrifos | µg/L | - | Additional | NA | - | ANR | ANR | ANR |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | | 4/7/2020 08:15 (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 | 4.0E-07 | 2.3E-06 | U (B) | ND | | |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 1/Year | 0.01 | 0.01 | μg/L | 1.1E-06 | 2.0E-06 | U (B) | ND | | |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 1/Year | 0.01 | 0.4 | μg/L | 1.2E-06 | ND | U | ND | | |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 1/Year | 0.1 | 0.3 | μg/L | 1.0E-06 | 3.4E-06 | U (B) | ND | | |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.08 | μg/L | 5.7E-07 | 1.6E-06 | U (B) | ND | | |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 1/Year | 0.1 | 0.1 | μg/L | 1.1E-06 | ND | U | ND | | |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.2 | μg/L | 5.9E-07 | 1.5E-06 | U (B) | ND | | |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 1/Year | 0.1 | 0.1 | μg/L | 9.8E-07 | 2.7E-06 | U (B) | ND | | |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.6 | μg/L | 5.1E-07 | 2.2E-06 | U (B) | ND | | |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1/Year | 1.0 | 0.9 | μg/L | 1.3E-06 | ND | U | ND | | |
| 1,2,3,7,8-PeCDF | 1/Discharge | 1/Year | 0.05 | 0.2 | μg/L | 9.3E-07 | ND | U | ND | | |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.7 | μg/L | 5.1E-07 | 1.7E-06 | J (DNQ) | ND | | |
| 2,3,4,7,8-PeCDF | 1/Discharge | 1/Year | 0.5 | 1.6 | μg/L | 9.9E-07 | ND | U | ND | | |
| 2,3,7,8-TCDD | 1/Discharge | 1/Year | 1.0 | 1.0 | μg/L | 1.9E-06 | ND | U | ND | | |
| 2,3,7,8-TCDF | 1/Discharge | 1/Year | 0.1 | 0.8 | μg/L | 4.6E-07 | ND | U | ND | | |
| OCDD | 1/Discharge | 1/Year | 0.0001 | 0.01 | μg/L | 1.4E-06 | 1.1E-05 | U (B) | ND | | |
| OCDF | 1/Discharge | 1/Year | 0.0001 | 0.02 | μg/L | 1.6E-06 | 5.4E-06 | U (B) | ND | | |

TCDD TEQ w/out DNQ Values⁽⁴⁾ ND

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | | 4/14/2020 09:15 (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 | 4.1E-07 | 2.5E-06 | U (B) | ND | | |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 1/Year | 0.01 | 0.01 | μg/L | 4.2E-07 | 2.0E-06 | U (B) | ND | | |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 1/Year | 0.01 | 0.4 | μg/L | 4.4E-07 | ND | U | ND | | |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 1/Year | 0.1 | 0.3 | μg/L | 7.0E-07 | 2.5E-06 | U (B) | ND | | |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.08 | μg/L | 7.9E-07 | ND | U | ND | | |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 1/Year | 0.1 | 0.1 | μg/L | 6.6E-07 | 2.1E-06 | J (DNQ) | ND | | |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.2 | μg/L | 8.2E-07 | ND | U | ND | | |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 1/Year | 0.1 | 0.1 | μg/L | 6.2E-07 | ND | U | ND | | |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.6 | μg/L | 4.1E-07 | 1.1E-06 | U (B) | ND | | |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1/Year | 1.0 | 0.9 | μg/L | 5.3E-07 | ND | U | ND | | |
| 1,2,3,7,8-PeCDF | 1/Discharge | 1/Year | 0.05 | 0.2 | μg/L | 4.1E-07 | ND | U | ND | | |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 1/Year | 0.1 | 0.7 | μg/L | 4.6E-07 | ND | U | ND | | |
| 2,3,4,7,8-PeCDF | 1/Discharge | 1/Year | 0.5 | 1.6 | μg/L | 5.0E-07 | ND | U | ND | | |
| 2,3,7,8-TCDD | 1/Discharge | 1/Year | 1.0 | 1.0 | μg/L | 4.5E-07 | ND | U | ND | | |
| 2,3,7,8-TCDF | 1/Discharge | 1/Year | 0.1 | 0.8 | μg/L | 3.0E-07 | ND | U | ND | | |
| OCDD | 1/Discharge | 1/Year | 0.0001 | 0.01 | μg/L | 5.1E-07 | 1.5E-05 | U (B) | ND | | |
| OCDF | 1/Discharge | 1/Year | 0.0001 | 0.02 | μg/L | 5.8E-07 | 4.7E-06 | U (B) | ND | | |

TCDD TEQ w/out DNQ Values⁽⁴⁾ ND

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | 4/7/2020 08:15 (Composite) | | | 4/14/2020 09:15 (Composite) | | | | | |
|--------------------------------------|-------|-------------------------------------|-----------------------------|----------------------------------|--------------------------|-----------------------------|-------|--|---------------|-------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | OUTFALL SAMPLE FREQUENCY | RECEIVING WATER SAMPLE FREQUENCY | RECEIVING WATER LIMIT | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER |
| NON-CONVENTIONAL POLLUTANTS | | | | | | | | | | | |
| Gross Alpha | pCi/L | 15 | 1/Discharge | NA | -/- | 1.55+/-2.47 | 4.26 | UJ (*III) | 1.41+/-1.27 | 1.89 | UJ (*III) |
| Gross Beta | pCi/L | 50 | 1/Discharge | NA | -/- | 4.88+/-1.59 | 2.00 | | 3.23+/-0.829 | 0.848 | J+ (B) |
| Combined Radium-226 & Radium-228 | pCi/L | 5.0 | 1/Discharge | NA | -/- | 0.567+/-0.347 | NM | U (B) | 0.442+/-0.267 | NM | UJ (*III) |
| Strontium-90 | pCi/L | 8.0 | 1/Discharge | NA | -/- | 0.217+/-0.261 | 0.431 | U | 0.168+/-0.212 | 0.351 | U |
| Tritium | pCi/L | 20,000 | 1/Discharge | NA | -/- | 14.9+/-159 | 282 | U | 136+/-176 | 292 | U |
| ADDITIONAL POLLUTANTS | | | • | | | | | | | | · |
| Cesium-137 | pCi/L | 200 | 1/Discharge | NA | -/- | 0.162+/-9.27 | 11.9 | U | 1.46+/-7.36 | 9.50 | U |
| Uranium | pCi/L | 20 | 1/Discharge | NA | -/- | 1.44+/-0.347 | 0.163 | | 0.552+/-0.289 | 0.280 | U (B) |
| ADDITIONAL POLLUTANTS WITHOUT LIMITS | 3 | | | | | | | | | | · |
| Potassium-40 | pCi/L | - | 1/Discharge | NA | -/- | 9.19+/-79.3 | 143 | U | 68.4+/-90.0 | 143 | U |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/6/202 | 0 07:20 - 4/7/2020 | 0 08:15 | 4/13/2020 | 0 09:00 - 4/14/20 | 20 09:15 |
|--|-------------|----------------------------------|----------------------------|-------------|--------------------|--|-------------|--------------------|--|
| 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 | 0.0740838 | * | Meas | 1.28121 | * |
| CONVENTIONAL POLLUTANTS | | • | | | | * | | | * |
| Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C) | LBS/DAY | 29,481 | 1/Discharge | Composite | 2.0 | * | Composite | ND | U* |
| Oil & Grease | LBS/DAY | 14,741 | 1/Discharge | Grab | ND | U* | Grab | ND | U* |
| Total Suspended Solids# | LBS/DAY | 44,222 | 1/Discharge | Composite | 1.1 ^(c) | * | Composite | 6.4 ^(d) | J (DNQ*) |
| PRIORITY POLLUTANTS | | | | • | | | | | <u> </u> |
| 1,1-Dichloroethene | LBS/DAY | 5.9 | 1/Discharge | Grab | ND | U* | Grab | ND | U* |
| 1,2-Dichloroethane | LBS/DAY | 0.49 | 1/Discharge | Grab | ND | U* | Grab | ND | U* |
| 2,4,6-Trichlorophenol | LBS/DAY | 12.8 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| 2,4-Dinitrotoluene | LBS/DAY | 17.7 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| alpha-BHC | LBS/DAY | 0.03 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Antimony | LBS/DAY | 5.9 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Arsenic | LBS/DAY | 9.83 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Beryllium | LBS/DAY | 3.93 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Bis (2-Ethylhexyl) Phthalate | LBS/DAY | 3.93 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Cadmium | LBS/DAY | (3.93) 3.05 | 1/Discharge | Composite | ND (b) | U | Composite | ND ^(a) | U |
| Chromium VI (Hexavalent) | LBS/DAY | 15.72 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Copper | LBS/DAY | 13.76 | 1/Discharge | Composite | 0.00068 | J (DNQ) | Composite | 0.021 | |
| Cyanide | LBS/DAY | 8.35 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Lead | LBS/DAY | 5.11 | 1/Discharge | Composite | ND | U | Composite | ND | U |
| Mercury | LBS/DAY | 0.1 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Nickel | LBS/DAY | 92.4 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| N-Nitrosodimethylamine | LBS/DAY | 15.72 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Pentachlorophenol | LBS/DAY | 16.22 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Selenium | LBS/DAY | (4.91) 8.06 | 1/Discharge | Composite | ND (f) | U | Composite | ND (e) | U |
| Silver | LBS/DAY | 4.03 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| TCDD TEQ_NoDNQ ⁽⁴⁾ | LBS/DAY | 2.75E-08 | 1/Discharge | Composite | ND | U | Composite | ND | U |
| Thallium | LBS/DAY | 1.97 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Trichloroethene | LBS/DAY | 4.91 | 1/Discharge | Grab | ND | U* | Grab | 0.0071 | * |
| 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 | ND | U* | Composite | ND | U* |
| Barium | LBS/DAY | 983 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Chloride | LBS/DAY | 147,405 | 1/Discharge | Composite | 17 | * | Composite | 87 | * |
| Chlorine, Total Residual (Field) | LBS/DAY | 98.3 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Detergents (as MBAS) | LBS/DAY | 491.4 | 1/Discharge | Composite | 0.061 | J (DNQ*) | Composite | 1.1 | * |
| Fluoride | LBS/DAY | 1,572.3 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |
| Iron | LBS/DAY | 295 | 1/Discharge ^(g) | Composite | 0.041 | J (DNQ) | Composite | ND | U |
| Manganese | LBS/DAY | 49.1 | 1/Year | ANR | ANR | ANR | ANR | ANR | ANR |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | 4/6/202 | 20 07:20 - 4/7/2020 | 08:15 | 4/13/2020 09:00 - 4/14/2020 09:15 | | | | | |
|-----------------------------------|---------|----------------------------------|---------------------|-----------------------------------|--------|--|-------------|--------|--|
| ANALYTE | UNITS | DAILY MAXIMUM BENCHMARK LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Nitrate - N | LBS/DAY | 7,862 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 7,862 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Nitrite - N | LBS/DAY | 983 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Perchlorate | LBS/DAY | 5.9 | 1/Discharge | Composite | ND | U* | Composite | ND | U* |
| Sulfate | LBS/DAY | 294,810 | 1/Discharge | Composite | 105 | * | Composite | 1,058 | * |
| Total Dissolved Solids | LBS/DAY | 933,567 | 1/Discharge | Composite | 309 | * | Composite | 2,992 | * |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| DAILY MARTHE UNITS MARTHUM FREQUENCY SAMPLE TYPE RESULT VALIDATION VALIDATION | | | | | 4/8/2 | 07:25 | |
|---|--|-------|---------|-------------|---------------------------------------|------------|---------------------------|
| Today | ANALYTE | UNITS | MAXIMUM | | | | LABORATORY/ VALIDATION |
| 0.1 & Gresser | | MGD | 7.21 | 1/Discharge | Meas | 0.00295700 | * |
| pit Field | CONVENTIONAL POLLUTANTS | | | | | | |
| Montry POLUTATS | | mg/L | | | | | - |
| Anternorny | , , | s.u | 6.5-8.5 | 1/Discharge | Grab | 7.19 | * |
| Cadmium ugl. 4 (40) 3.1 1.Discharge Composite N 0 + 0.25 to UJ (1, 1) Composite N 0 + 0.25 to UJ (1, 1) Composite N 0 + 0.25 to UJ (1, 1) Composite N 0 + 0.25 to UJ (1, 1) Composite N 0 + 0.25 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.5 to UJ (1, 1) Composite N 0 + 0.0 to UJ (1, 1) Composite N 0 + 0.0 to UJ (1, 1) Composite N 0 + 0.0 to UJ (1, 1) Composite N 0 + 0.0 to UJ (1, 1) Composite N 0 + 0.0 to UJ (1, 1) Composite N 0 + 0.0 to N 0 + 0.0 to UJ (1, 1) Composite N 0 + 0.0 to | | 1 | 1 | | | | |
| Copper Ugil. 14 1/Discharge Composite 1.8 J (J.1), J (J.5) Cyande Ugil. 9.5 1/Discharge Composite ND < 2.5 | • | | | | | | . , |
| Cyanide u.yl. 9.5 1/Discharge Composite ND < 2.5 U° Load u.yl. 5.2 1/Discharge Composite ND < 0.0 | | | ` ′ | | · · · · · · · · · · · · · · · · · · · | | , , |
| Lead Upl. 5.2 ViDischarge Composite N0 = 0.50 Upl. Nickel Upl. 86 ViDischarge Composite N0 = 0.10 Upl. Nickel Upl. 86 ViDischarge Composite N0 = 0.10 Upl. Nickel Upl. 86 ViDischarge Composite N0 = 0.10 Upl. Nickel Upl. 5 ViDischarge Composite N0 = 0.10 Upl. Nickel Upl. 5 ViDischarge Composite Nickel Upl. 10 ViDischarge Composite Nickel Upl. Nickel Upl. 10 ViDischarge Composite Nickel Upl. Nickel Up | * * | | | | | | . , , |
| Mercary | * | | | | | | _ |
| No. No. | | | | | · · · · · · · · · · · · · · · · · · · | | . , |
| Sefensium | • | | | | | | _ |
| Thellimen | | | | • | | | ` ' |
| Description | | | | | | | |
| NON-CONVENTIONAL POLLUTANTS | | | | • | | | . , |
| Ammonia - N | | ug/L | 120 | ויטואכוומין | Composite | 00 | J (L1) |
| Boron | | ma/l | 10.1 | 1/Discharge | Composito | 0.100 | I (DNO*) |
| Description | | | | | | | - (/ |
| Pass or Fell and % Effect Effect 20 event/Year ANR | | | | | | | * |
| Chronic loxicity | | | | | · · | | |
| Fluoride | Chronic Toxicity | | | | ANR | ANR | ANR |
| Nitrie - N mgL 8 | Fluoride | | | | ANR | ANR | ANR |
| | Nitrate - N | | 8 | 1/Discharge | Composite | 0.16 | * |
| Perchlorate | Nitrate + Nitrite as Nitrogen (N) | mg/L | 8 | 1/Discharge | Composite | 0.16 | * |
| Sulfate mg/L 300 1/Discharge Composite 4.0 * Tamperature (Field) Deg F 86 1/Discharge Grab 78.8 * Total Dissolved Solids mg/L 950 1/Discharge Composite 130 * REMAINING PRIORITY POLLUTANTS 1.1,1-Trichloroethane ug/L - 1/Year ANR | Nitrite - N | mg/L | 1 | 1/Discharge | Composite | ND < 0.025 | U* |
| Surial Fig. Sout Fibratary Composite 4.0 | Perchlorate | ug/L | 6.0 | 1/Discharge | Composite | ND < 0.95 | U* |
| Total Dissolved Solids | Sulfate | mg/L | 300 | 1/Discharge | Composite | 4.0 | * |
| REMAINING PRIORITY POLLUTANTS | Temperature (Field) | Deg F | 86 | 1/Discharge | Grab | 78.8 | * |
| 1.1.1-Trichloroethane ug/L - 1/Year ANR ANR ANR 1.1.2.2-Teitachloroethane ug/L - 1/Year ANR ANR <td>Total Dissolved Solids</td> <td>mg/L</td> <td>950</td> <td>1/Discharge</td> <td>Composite</td> <td>130</td> <td>*</td> | Total Dissolved Solids | mg/L | 950 | 1/Discharge | Composite | 130 | * |
| 1.1.2.2-Tetrachloroethane ug/L - 1/Year ANR ANR ANR 1.1.2-Trichloroethane ug/L - 1/Year ANR ANR <td>REMAINING PRIORITY POLLUTANTS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | REMAINING PRIORITY POLLUTANTS | | | | | | |
| 1.1.2-Trichloroethane ug/L - 1/Year ANR ANR ANR 1.1-Dichloroethane ug/L - 1/Year ANR ANR ANR 1.1-Dichloroethene ug/L - 1/Year ANR ANR ANR 1.2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1.2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1.2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1.2-Dichloroptopane ug/L - 1/Year ANR ANR ANR 1.2-Diphorylpydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1.2-Diphorylpydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1.3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1.3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR | 1,1,1-Trichloroethane | ug/L | - | 1/Year | ANR | ANR | ANR |
| 1,1-Dichloroethane ug/L - 1/Year ANR ANR ANR 1,1-Dichloroethane ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichloroethane ug/L - 1/Year ANR ANR ANR 1,2-Dichloroethane ug/L - 1/Year ANR ANR ANR 1,2-Dichloropropane ug/L - 1/Year ANR ANR ANR 1,3-Dichlorophane ug/L - 1/Year ANR ANR ANR 1,4-D | 1,1,2,2-Tetrachloroethane | ug/L | - | | ANR | ANR | |
| 1,1-Dichloroethene ug/L - 1/Year ANR ANR ANR 1,2-4-Trichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Diphenylhydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR < | 1,1,2-Trichloroethane | ug/L | - | 1/Year | ANR | ANR | ANR |
| 1,2,4-Trichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichloroptopane ug/L - 1/Year ANR ANR ANR 1,2-Diphenylhydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4-Dirichlorophenol ug/L - 1/Year ANR ANR ANR | * | | - | | | | |
| 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichloropthane ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR <td>,</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> | , | | - | | | | |
| 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,2-Dichloropethane ug/L - 1/Year ANR ANR ANR 1,2-Dichloropropane ug/L - 1/Year ANR ANR ANR 1,2-Diphenylhydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR | 1 | | - | | | | |
| 1,2-Dichloroethane ug/L - 1/Year ANR ANR ANR 1,2-Dichloropropane ug/L - 1/Year ANR ANR ANR 1,2-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4-6-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4 | | | - | | | | |
| 1,2-Dichloropropane ug/L - 1/Year ANR ANR ANR 1,2-Diphenylhydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4-G-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR | .,= =::::::::::::::::::::::::::::::::::: | | - | | | | |
| 1,2-Diphenylhydrazine/Azobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4,6-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR | | | | | | | |
| 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4-G-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-D | | | | | | | |
| 1,3-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4,6-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Din | | | | | | | |
| 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4,6-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2-Chloroethyl vinyl ether ug/L - 1/Year ANR ANR ANR 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Me | * | | | | | | |
| 1,4-Dichlorobenzene ug/L - 1/Year ANR ANR ANR 2,4,6-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dimethylphenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,-Chlo | , | | | | | | |
| 2,4,6-Trichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dimethylphenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrot | | | | | | | |
| 2,4-Dichlorophenol ug/L - 1/Year ANR ANR ANR 2,4-Dimethylphenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitro | | | | | | | |
| 2,4-Dimethylphenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitro | • | | | | | | |
| 2,4-Dinitrophenol ug/L - 1/Year ANR ANR ANR 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2-Chloroethyl vinyl ether ug/L - 1/Year ANR ANR ANR 2-Chloropaphthalene ug/L - 1/Year ANR ANR ANR 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | | | | | | | |
| 2,4-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2-Chloroethyl vinyl ether ug/L - 1/Year ANR ANR ANR 2-Chloronaphthalene ug/L - 1/Year ANR ANR ANR 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | | | | | | | |
| 2,6-Dinitrotoluene ug/L - 1/Year ANR ANR ANR 2-Chloroethyl vinyl ether ug/L - 1/Year ANR ANR ANR 2-Chloronaphthalene ug/L - 1/Year ANR ANR ANR 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | · · | | | | | | |
| 2-Chloroethyl vinyl ether ug/L - 1/Year ANR ANR ANR 2-Chloronaphthalene ug/L - 1/Year ANR ANR ANR 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | , | | | | | | |
| 2-Chloronaphthalene ug/L - 1/Year ANR ANR ANR 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | ** | | | | | | |
| 2-Chlorophenol ug/L - 1/Year ANR ANR ANR 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | , , | | | | | | |
| 2-Methyl-4,6-dinitrophenol ug/L - 1/Year ANR ANR ANR 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | | | | | | | |
| 2-Nitrophenol ug/L - 1/Year ANR ANR ANR 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | , | | | | | | + |
| 3,3'-Dichlorobenzidine ug/L - 1/Year ANR ANR ANR 4,4'-DDD ug/L - 1/Year ANR ANR ANR | | | | | | | |
| 4,4'-DDD ug/L - 1/Year ANR ANR ANR | | | | | | | |
| | | | - | | | | |
| 4,4'-DDE | 4,4'-DDE | ug/L | | 1/Year | ANR | ANR | ANR |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | 4/8/2020 07:20 - 4/9/2020 07:25 | | | | | | |
|--|-------|----------------------------------|---------------------------------|-------------|------------|--|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | | | |
| 4,4'-DDT | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Bromophenyl phenyl ether | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Chloro-3-methylphenol | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Chlorophenyl phenyl ether | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Nitrophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acenaphthene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acenaphthylene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acrolein | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acrylonitrile | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aldrin | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| alpha-BHC | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| alpha-Endosulfan | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Anthracene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1016 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1221 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1232 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1242 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1248 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1254 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1260 | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Arsenic | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Asbestos | MFL | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzene | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzidine | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzo(a)anthracene | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzo(a)pyrene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Benzo(b)fluoranthene | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzo(g,h,i)perylene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Benzo(k)fluoranthene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Beryllium | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| beta-BHC | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| beta-Endosulfan | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Chloroethoxy) Methane | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Chloroethyl) Ether | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Chloroisopropyl) Ether | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Ethylhexyl) Phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Bromoform | | - | 1/Year | ANR | ANR | ANR | | | |
| | ug/L | - | 1/Year | ANR | | ANR | | | |
| Bromomethane | ug/L | | | | ANR | | | | |
| Butyl benzylphthalate Carbon tetrachloride | ug/L | - | 1/Year 1/Year | ANR ANR | ANR ANR | ANR ANR | | | |
| | ug/L | | | | | | | | |
| Chlordane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chlorodibromomethane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chloroform | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chloromethane (Methyl Chloride) | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chromium | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chromium VI (Hexavalent) | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chrysene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| cis-1,3-Dichloropropene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| delta-BHC | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Dibenz(a,h)anthracene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Dichlorobromomethane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Dieldrin | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Diethyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Dimethyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Di-n-butyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Di-n-octyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/8/2 | 2020 07:20 - 4/9/2020 (| 0/2020 07:25 | |
|---|---------------------|----------------------------------|----------------------|-------------|-------------------------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Endosulfan sulfate | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Endrin | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Endrin aldehyde | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Ethylbenzene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Fluoranthene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Fluorene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| gamma-BHC (Lindane) | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Heptachlor | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Heptachlor epoxide | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachlorobenzene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Hexachlorobutadiene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachlorocyclopentadiene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachloroethane | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Indeno(1,2,3-cd)pyrene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Isophorone | ug/L | - | 1/Year | ANR | ANR | ANR | |
| m,p-Xylenes | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Methylene chloride | ug/L ug/L | | 1/Year | ANR | ANR | ANR | |
| Naphthalene | ug/L ug/L | - | 1/Year | ANR | ANR | ANR | |
| Naphthalene | | - | 1/Year | ANR | ANR | ANR | |
| | ug/L | | | | | | |
| Nitrobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| N-Nitrosodimethylamine | ug/L | - | 1/Year | ANR | ANR | ANR | |
| N-Nitroso-di-n-propylamine | ug/L | - | 1/Year | ANR | ANR | ANR | |
| N-Nitrosodiphenylamine | ug/L | - | 1/Year | ANR | ANR | ANR | |
| o-Xylene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Pentachlorophenol | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Phenanthrene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Phenol | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Pyrene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Tetrachloroethene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Toluene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Toxaphene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| trans-1,2-Dichloroethene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| trans-1,3-Dichloropropene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Trichloroethene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Trichlorofluoromethane | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Vinyl chloride | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Xylenes (Total) | ug/L | - | 1/Year | ANR | ANR | ANR | |
| EFFLUENT MONITORING (NO LIMITATIONS) POLLUTA | ANTS ^(p) | | | | | | |
| Aluminum | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Chlorpyrifos | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Diazinon | ug/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 | |
| Silver | ug/L | - | 1/Discharge | Composite | ND < 0.50 | UJ (L1) | |
| Total Suspended Solids | mg/L | - | 1/Year | Composite | 2.6 | * | |
| Vanadium | ug/L | - | 1/Year | ANR | ANR | ANR | |
| ADDITIONAL POLLUTANTS(2)(p) | | | | | | | |
| Aluminum, dissolved | ug/L | - | Additional/Year | ANR | ANR | ANR | |
| Antimony, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.50 | U | |
| Arsenic, dissolved | ug/L | _ | Additional/Year | ANR | ANR | ANR | |
| Beryllium, dissolved | ug/L | _ | Additional/Year | ANR | ANR | ANR | |
| Boron, dissolved | mg/L | _ | Additional/Year | ANR | ANR | ANR | |
| Cadmium, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.25 | U | |
| Chromium, dissolved | ug/L ug/L | - | Additional/Year | ANR | ANR | ANR | |
| | | | | | | | |
| cis-1,2-Dichloroethene | ug/L | - | Additional/Piccharge | ANR | ANR | ANR | |
| Copper, dissolved | ug/L | - | Additional/Discharge | Composite | 1.5 | J (DNQ) | |
| Hardness, Dissolved (as CaCO3) | mg/L | - | Additional/Year | ANR | ANR | ANR | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | 4/8/2020 07:20 - 4/9/2020 07:25 | | | | |
|---------------------|-----------|----------------------------------|---------------------------------|-------------|-----------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Human Bacteriodes | CEs/100mL | - | Additional/Year | ANR | ANR | ANR | |
| Iron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR | |
| Lead, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.50 | U | |
| Mercury, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.10 | 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 | ANR | ANR | ANR | |
| Zinc, dissolved | ug/L | - | Additional/Discharge | Composite | 47 | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/15/2020 09:10 | | | | |
|--------------------------------------|---------------------------|----------------------------------|------------------------------|-----------------|--------------------------|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | | |
| Flow** | MGD | 7.21 | 1/Discharge | Meas | 0.000429654 | * | | |
| CONVENTIONAL POLLUTANTS | | | | | | | | |
| Oil & Grease | mg/L | 15 | 1/Discharge | Grab | ND < 1.5 | U* | | |
| pH (Field) | s.u | 6.5-8.5 | 1/Discharge | Grab | 7.67 | * | | |
| PRIORITY POLLUTANTS | | ı | | | | | | |
| Antimony | ug/L | 6 | 1/Discharge | Composite | ND < 0.50 | U | | |
| Cadmium | ug/L | (4.0) 3.1 | 1/Discharge | Composite | ND < 0.25 ^(a) | U | | |
| Copper | ug/L | 14 | 1/Discharge | Composite | 2.0 | | | |
| Cyanide | ug/L | 9.5 | 1/Discharge | Composite | ND < 2.5 | U* | | |
| Lead | ug/L | 5.2 | 1/Discharge | Composite | ND < 0.50 | U | | |
| Mercury | ug/L | 0.13 | 1/Discharge | Composite | ND < 0.10 | U* | | |
| Nickel | ug/L | 86 | 1/Discharge | Composite | ND < 5.0 | U | | |
| Selenium | ug/L | 5 | 1/Discharge | Composite | 0.57 | J (DNQ) | | |
| 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 | ND < 0.100 | U* | | |
| Boron | mg/L | 1.0 | 1/Year | ANR | ANR | ANR | | |
| Chloride | mg/L | 150 | 1/Discharge | Composite | 5.0 | * | | |
| Chronic Toxicity | Pass or Fail and % Effect | Pass or % Effect <50 | 1st & 2nd rain event/Year | ANR | ANR | ANR | | |
| Fluoride | mg/L | 1.6 | 1/Year | ANR | ANR | ANR | | |
| Nitrate - N | mg/L | 8 | 1/Discharge | Composite | ND < 0.055 | U* | | |
| Nitrate + Nitrite as Nitrogen (N) | mg/L | 8 | 1/Discharge | Composite | ND < 0.055 | U* | | |
| Nitrite - N | mg/L | 1 | 1/Discharge | Composite | ND < 0.025 | U* | | |
| Perchlorate | ug/L | 6.0 | 1/Discharge | Composite | ND < 0.95 | U* | | |
| Sulfate | mg/L | 300 | 1/Discharge | Composite | 5.0 | * | | |
| Temperature (Field) | Deg F | 86 | 1/Discharge | Grab | 54.4 | * | | |
| Total Dissolved Solids | mg/L | 950 | 1/Discharge | Composite | 140 | * | | |
| REMAINING PRIORITY POLLUTANTS | , , | | | | | | | |
| 1,1,1-Trichloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,1,2,2-Tetrachloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,1,2-Trichloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,1-Dichloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,1-Dichloroethene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,2,4-Trichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,2-Dichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,2-Dichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,2-Dichloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,2-Dichloropropane | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,2-Diphenylhydrazine/Azobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,3-Dichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,3-Dichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,4-Dichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 1,4-Dichlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4,6-Trichlorophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4-Dichlorophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4-Dimethylphenol | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4-Dinitrophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,4-Dinitrotoluene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2,6-Dinitrotoluene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Chloroethyl vinyl ether | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Chloronaphthalene | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Chlorophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| 2-Methyl-4,6-dinitrophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | |
| | | | | ANR | ANR | ANR | | |
| 2-Nitrophenol | ug/L | - | 1/Year | ZINIX | AININ | AINI. | | |
| 2-Nitrophenol 3,3'-Dichlorobenzidine | ug/L ug/L | - | 1/Year | ANR | ANR | ANR | | |
| | | | | | | | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/15/2020 09:10 | | | | | |
|-----------------------------------|--------------|----------------------------------|---------------------|-----------------|------------|--|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | | | |
| 4,4'-DDT | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Bromophenyl phenyl ether | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Chloro-3-methylphenol | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Chlorophenyl phenyl ether | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| 4-Nitrophenol | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acenaphthene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acenaphthylene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acrolein | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Acrylonitrile | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aldrin | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| alpha-BHC | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| alpha-Endosulfan | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Anthracene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1016 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1221 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1232 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1242 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1248 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1254 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Aroclor 1260 | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Arsenic | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Asbestos | MFL | - | 1/Year | ANR | ANR | ANR | | | |
| Benzene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Benzidine | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzo(a)anthracene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Benzo(a)pyrene | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzo(b)fluoranthene | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Benzo(g,h,i)perylene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Benzo(k)fluoranthene | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Beryllium | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| beta-BHC | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| beta-Endosulfan | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Chloroethoxy) Methane | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Chloroethyl) Ether | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Chloroisopropyl) Ether | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bis (2-Ethylhexyl) Phthalate | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bromoform | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Bromomethane | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Butyl benzylphthalate | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Carbon tetrachloride | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chlordane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chlorodibromomethane | ug/L | _ | 1/Year | ANR | ANR | ANR | | | |
| Chloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Chloroform | | - | 1/Year | | | ANR | | | |
| Chloromethane (Methyl Chloride) | ug/L ug/L | - | 1/Year 1/Year | ANR ANR | ANR ANR | ANR | | | |
| Chromium | | - | 1/Year | ANR | ANR | ANR | | | |
| Chromium Chromium VI (Hexavalent) | ug/L | + | 1/Year | ANR | | ANR | | | |
| , | ug/L | - | | | ANR | | | | |
| Chrysene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| cis-1,3-Dichloropropene | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| delta-BHC | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Dibenz(a,h)anthracene | ug/L | = | 1/Year | ANR | ANR | ANR | | | |
| Dichlorobromomethane | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Dieldrin Dieth Labitation | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Diethyl phthalate | ug/L | = | 1/Year | ANR | ANR | ANR | | | |
| Dimethyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Di-n-butyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |
| Di-n-octyl phthalate | ug/L | - | 1/Year | ANR | ANR | ANR | | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/15/2020 09:10 | | | |
|--|-----------|----------------------------------|----------------------|-----------------|-----------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Endosulfan sulfate | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Endrin | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Endrin aldehyde | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Ethylbenzene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Fluoranthene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Fluorene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| gamma-BHC (Lindane) | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Heptachlor | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Heptachlor epoxide | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachlorobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachlorobutadiene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachlorocyclopentadiene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Hexachloroethane | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Indeno(1,2,3-cd)pyrene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Isophorone | ug/L | - | 1/Year | ANR | ANR | ANR | |
| m,p-Xylenes | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Methylene chloride | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Naphthalene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Naphthalene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Nitrobenzene | ug/L | - | 1/Year | ANR | ANR | ANR | |
| N-Nitrosodimethylamine | ug/L | - | 1/Year | ANR | ANR | ANR | |
| N-Nitroso-di-n-propylamine | ug/L | - | 1/Year | ANR | ANR | ANR | |
| N-Nitrosodiphenylamine | ug/L | - | 1/Year | ANR | ANR | ANR | |
| o-Xylene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Pentachlorophenol | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Phenanthrene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Phenol | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Pyrene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Tetrachloroethene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Toluene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Toxaphene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| trans-1,2-Dichloroethene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| trans-1,3-Dichloropropene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Trichloroethene | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Trichlorofluoromethane | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Vinyl chloride | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Xylenes (Total) | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| EFFLUENT MONITORING (NO LIMITATIONS) POLLUT. | | <u> </u> | 1/1041 | AIVIX | AUUT | AUVIX | |
| Aluminum | ug/L | _ | 1/Year | ANR | ANR | ANR | |
| Chlorpyrifos | ug/L | - | 1/Year | ANR | ANR | ANR | |
| Diazinon | ug/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 | |
| Silver | ug/L | - | 1/Discharge | Composite | ND < 0.50 | U | |
| Total Suspended Solids | mg/L | _ | 1/Year | Composite | 0.60 | J (DNQ*) | |
| Vanadium | ug/L | - | 1/Year | ANR | ANR | ANR | |
| ADDITIONAL POLLUTANTS ^{(2)(p)} | ug/L | <u> </u> | 17 1 0 01 | 74410 | 7000 | 7000 | |
| Aluminum, dissolved | ug/L | _ | Additional/Year | ANR | ANR | ANR | |
| Antimony, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.50 | U | |
| Arsenic, dissolved | ug/L | - | Additional/Year | ANR | ANR | ANR | |
| Beryllium, dissolved | ug/L | - | Additional/Year | ANR | ANR | ANR | |
| Boron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR | |
| Cadmium, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.25 | U | |
| Chromium, dissolved | | - | Additional/Year | ANR | ANR | ANR | |
| | ug/L | | | | | | |
| cis-1,2-Dichloroethene | ug/L | - | Additional/Year | ANR | ANR | ANR | |
| Copper, dissolved | ug/L | - | Additional/Discharge | Composite | 1.3 | J (DNQ) | |
| Hardness, Dissolved (as CaCO3) | mg/L | - | Additional/Year | ANR | ANR | ANR | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | 4/15/2020 09:10 | | |
|---------------------|-----------|--------------------------------|----------------------|--------------------|-----------------|--|--|
| ANALYTE | UNITS | UNITS DAILY SAMPLE FREQUENCY S | | SAMPLE TYPE RESULT | | LABORATORY/ VALIDATION QUALIFIER | |
| Human Bacteriodes | CEs/100mL | - | Additional/Year | ANR | ANR | ANR | |
| Iron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR | |
| Lead, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.50 | U | |
| Mercury, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 0.10 | U* | |
| Nickel, dissolved | ug/L | - | Additional/Discharge | Composite | 8.9 | J (DNQ) | |
| Selenium, dissolved | ug/L | - | Additional/Discharge | Composite | 0.79 | J (DNQ) | |
| 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 | ANR | ANR | ANR | |
| Zinc, dissolved | ug/L | - | Additional/Discharge | Composite | ND < 12 | U | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | 4/9/2020 07:25 (Composite) | | | | | | | | |
|---------------------|----------------------------|--------------|--|-------|---------|------------|--|-----------------|--|
| ANALYTE | SAMPLE FREQUENCY | 1998 WHO TEF | BEF GREAT LAKES WATER QUALITY INITIATIVE | UNITS | LAB MDL | LAB RESULT | LABORATORY/ VALIDATION QUALIFIER | TCDD EQUIVALENT | |
| 1,2,3,4,6,7,8-HpCDD | 1/Discharge | 0.01 | 0.05 | μg/L | 9.2E-07 | 5.1E-06 | U (B) | ND | |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 0.01 | 0.01 | μg/L | 5.0E-07 | 2.8E-06 | U (B) | ND | |
| I,2,3,4,7,8,9-HpCDF | 1/Discharge | 0.01 | 0.4 | μg/L | 6.2E-07 | 1.3E-06 | UJ (*III) | ND | |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 0.1 | 0.3 | μg/L | 5.4E-07 | 2.9E-06 | J (DNQ) | ND | |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 0.1 | 0.08 | μg/L | 1.0E-06 | 1.8E-06 | J (DNQ) | ND | |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 5.6E-07 | 1.5E-06 | UJ (*III) | ND | |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.2 | μg/L | 9.9E-07 | ND | U | ND | |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 5.0E-07 | 1.5E-06 | J (DNQ) | ND | |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 0.1 | 0.6 | μg/L | 7.0E-07 | 1.3E-06 | UJ (*III) | ND | |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1.0 | 0.9 | μg/L | 6.9E-07 | 1.0E-06 | UJ (*III) | ND | |
| 1,2,3,7,8-PeCDF | 1/Discharge | 0.05 | 0.2 | μg/L | 6.7E-07 | 1.3E-06 | U (B) | ND | |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.7 | μg/L | 6.8E-07 | 9.8E-07 | UJ (*III) | ND | |
| 2,3,4,7,8-PeCDF | 1/Discharge | 0.5 | 1.6 | μg/L | 6.5E-07 | 9.9E-07 | UJ (*III) | ND | |
| 2,3,7,8-TCDD | 1/Discharge | 1.0 | 1.0 | μg/L | 6.5E-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 | 2.5E-06 | 9.3E-05 | U (B) | ND | |
| OCDF | 1/Discharge | 0.0001 | 0.02 | μg/L | 8.5E-07 | 1.0E-05 | U (B) | ND | |

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | | 4/15/2020 0 | 9:10 (Composite) | |
|---------------------|---------------------|--------------|--|-------|---------|-----------------|--|------------------------------------|
| ANALYTE | SAMPLE FREQUENCY | 1998 WHO TEF | BEF GREAT LAKES WATER QUALITY INITIATIVE | UNITS | LAB MDL | LAB RESULT | LABORATORY/ VALIDATION QUALIFIER | TCDD EQUIVALENT (w/out DNQ Values) |
| 1,2,3,4,6,7,8-HpCDD | 1/Discharge | 0.01 | 0.05 | μg/L | 3.7E-07 | 1.3E-06 | U (B) | ND |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 0.01 | 0.01 | μg/L | 4.2E-07 | 1,7E-06 | U (B) | ND |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 0.01 | 0.4 | μg/L | 4.0E-07 | 1.7E-06 | J (DNQ) | ND |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 0.1 | 0.3 | μg/L | 3.9E-07 | 2.3E-06 | U (B) | ND |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 0.1 | 0.08 | μg/L | 3.2E-07 | 6.4E-07 | UJ (*III) | ND |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 4.2E-07 | ND | U | ND |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.2 | μg/L | 3.4E-07 | 9.6E-07 | UJ (*III) | ND |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 3.7E-07 | 8.3E-07 | U (B) | ND |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 0.1 | 0.6 | μg/L | 3.1E-07 | 2.2E-06 | U (B) | ND |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1.0 | 0.9 | μg/L | 7.3E-07 | ND | U | ND |
| 1,2,3,7,8-PeCDF | 1/Discharge | 0.05 | 0.2 | μg/L | 4.5E-07 | 9.2E-07 | UJ (*III) | ND |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.7 | μg/L | 3.1E-07 | 7.3E-07 | UJ (*III) | ND |
| 2,3,4,7,8-PeCDF | 1/Discharge | 0.5 | 1.6 | μg/L | 4.8E-07 | 8.2E-07 | UJ (*III) | ND |
| 2,3,7,8-TCDD | 1/Discharge | 1.0 | 1.0 | μg/L | 1.5E-06 | ND | U | ND |
| 2,3,7,8-TCDF | 1/Discharge | 0.1 | 0.8 | μg/L | 4.0E-07 | ND | U | ND |
| OCDD | 1/Discharge | 0.0001 | 0.01 | μg/L | 3.4E-07 | 8.6E-06 | U (B) | ND |
| OCDF | 1/Discharge | 0.0001 | 0.02 | μg/L | 9.1E-07 | 3.7E-06 | U (B) | ND |
| | | | | | TCDD T | TEQ w/out DNQ \ | /alues ⁽⁴⁾ | ND |

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2020 07:25 (Composite) | | | | | | |
|--------------------------------------|-------|-------------------------------|---------------------|----------------------------|-------|--|--|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER | | | | |
| NON-CONVENTIONAL POLLUTANTS | | | | | | | | | | |
| Gross Alpha | pCi/L | 15 | 1/Discharge | 0.722+/-0.959 | 1.60 | UJ (*III) | | | | |
| Gross Beta | pCi/L | 50 | 1/Discharge | 1.96+/-0.794 | 1.09 | J+ (B) | | | | |
| Combined Radium-226 & Radium-228 | pCi/L | 5.0 | 1/Discharge | 0.586+/-0.326 | NM | U | | | | |
| Strontium-90 | pCi/L | 8.0 | 1/Discharge | 0.447+/-0.418 | 0.671 | U | | | | |
| Tritium | pCi/L | 20,000 | 1/Discharge | -32.4+/-159 | 295 | U | | | | |
| ADDITIONAL POLLUTANTS | | | | | | | | | | |
| Cesium-137 | pCi/L | 200 | 1/Discharge | -1.59+/-11.5 | 14.6 | U | | | | |
| Uranium | pCi/L | 20 | 1/Discharge | 0.166+/-0.140 | 0.175 | U | | | | |
| ADDITIONAL POLLUTANTS WITHOUT LIMITS | | | | | | | | | | |
| Potassium-40 | pCi/L | • | 1/Discharge | 6.65+/-126 | 175 | U | | | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/15/2020 09:10 (Composite) | | | |
|-------------------------------------|-------|-------------------------------|---------------------|-----------------------------|-------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER | |
| NON-CONVENTIONAL POLLUTANTS | | | | | | | |
| Gross Alpha | pCi/L | 15 | 1/Discharge | 0.643+/-0.961 | 1.64 | UJ (*III) | |
| Gross Beta | pCi/L | 50 | 1/Discharge | 1.49+/-0.643 | 0.865 | J+ (B) | |
| Combined Radium-226 & Radium-228 | pCi/L | 5.0 | 1/Discharge | 0.534+/-0.306 | NM | UJ (*III) | |
| Strontium-90 | pCi/L | 8.0 | 1/Discharge | 0.208+/-0.343 | 0.582 | U | |
| Tritium | pCi/L | 20,000 | 1/Discharge | 140+/-176 | 290 | U | |
| ADDITIONAL POLLUTANTS | | | | | | | |
| Cesium-137 | pCi/L | 200 | 1/Discharge | 3.99+/-8.80 | 14.9 | U | |
| Uranium | pCi/L | 20 | 1/Discharge | 0.0563+/-0.181 | 0.295 | U | |
| ADDITIONAL POLLUTANTS WITHOUT LIMIT | S | | | <u> </u> | | • | |
| Potassium-40 | pCi/L | - | 1/Discharge | -91.1+/-172 | 220 | U | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/8/2020 07:20 - 4/9/2020 07:25 | | |
|-----------------------------------|---------|-------------------------------|---------------------|---------------------------------|------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Flow** | MGD | 7.21 | 1/Discharge | Meas | 0.00295700 | * |
| CONVENTIONAL POLLUTANTS | | • | | , | | |
| Oil & Grease | LBS/DAY | 902 | 1/Discharge | Grab | ND | U* |
| PRIORITY POLLUTANTS | • | | | | | |
| Antimony | LBS/DAY | 0.36 | 1/Discharge | Composite | ND | UJ (L1, B) |
| Cadmium | LBS/DAY | (0.24)0.19 | 1/Discharge | Composite | ND (b) | UJ (L1) |
| Copper | LBS/DAY | 0.84 | 1/Discharge | Composite | 4.4E-05 | J (L1, DNQ) |
| Cyanide | LBS/DAY | 0.57 | 1/Discharge | Composite | ND | U* |
| Lead | LBS/DAY | 0.31 | 1/Discharge | Composite | ND | UJ (L1) |
| Mercury | LBS/DAY | 0.008 | 1/Discharge | Composite | ND | U* |
| Nickel | LBS/DAY | 5.2 | 1/Discharge | Composite | ND | UJ (L1) |
| Selenium | LBS/DAY | 0.3 | 1/Discharge | Composite | 1.6E-05 | J (L1, DNQ) |
| TCDD TEQ_NoDNQ ⁽⁴⁾ | LBS/DAY | 1.7E-09 | 1/Discharge | Composite | ND | U |
| Thallium | LBS/DAY | 0.12 | 1/Discharge | Composite | ND | UJ (L1) |
| Zinc | LBS/DAY | 7.22 | 1/Discharge | Composite | 0.0015 | J (L1) |
| NON-CONVENTIONAL POLLUTANTS | | | | | | |
| Ammonia - N | LBS/DAY | 607.3 | 1/Discharge | Composite | 0.0044 | J (DNQ*) |
| Boron | LBS/DAY | 60 | 1/Year | ANR | ANR | ANR |
| Chloride | LBS/DAY | 9,020 | 1/Discharge | Composite | 0.12 | * |
| Fluoride | LBS/DAY | 96.2 | 1/Year | ANR | ANR | ANR |
| Nitrate - N | LBS/DAY | 481 | 1/Discharge | Composite | 0.0039 | * |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 481 | 1/Discharge | Composite | 0.0039 | * |
| Nitrite - N | LBS/DAY | 60 | 1/Discharge | Composite | ND | U* |
| Perchlorate | LBS/DAY | 0.36 | 1/Discharge | Composite | ND | U* |
| Sulfate | LBS/DAY | 18,039 | 1/Discharge | Composite | 0.099 | * |
| Total Dissolved Solids | LBS/DAY | 57,124 | 1/Discharge | Composite | 3.2 | * |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/15/2020 09:10 | | |
|-----------------------------------|---------|-------------------------------|---------------------|-----------------|-------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Flow** | MGD | 7.21 | 1/Discharge | Meas | 0.000429654 | * |
| CONVENTIONAL POLLUTANTS | | | | | | |
| Oil & Grease | LBS/DAY | 902 | 1/Discharge | Grab | ND | U* |
| PRIORITY POLLUTANTS | | | | | | |
| Antimony | LBS/DAY | 0.36 | 1/Discharge | Composite | ND | U |
| Cadmium | LBS/DAY | (0.24)0.19 | 1/Discharge | Composite | ND (a) | U |
| Copper | LBS/DAY | 0.84 | 1/Discharge | Composite | 7.2E-06 | |
| 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 | 2.0E-06 | J (DNQ) |
| 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 | ND | U* |
| Boron | LBS/DAY | 60 | 1/Year | ANR | ANR | ANR |
| Chloride | LBS/DAY | 9,020 | 1/Discharge | Composite | 0.018 | * |
| Fluoride | LBS/DAY | 96.2 | 1/Year | ANR | ANR | ANR |
| Nitrate - N | LBS/DAY | 481 | 1/Discharge | Composite | ND | U* |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 481 | 1/Discharge | Composite | ND | U* |
| Nitrite - N | LBS/DAY | 60 | 1/Discharge | Composite | ND | U* |
| Perchlorate | LBS/DAY | 0.36 | 1/Discharge | Composite | ND | U* |
| Sulfate | LBS/DAY | 18,039 | 1/Discharge | Composite | 0.018 | * |
| Total Dissolved Solids | LBS/DAY | 57,124 | 1/Discharge | Composite | 0.50 | * |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/6/2 | 9:10 | | |
|-----------------------------------|----------------------|----------------------------------|-------------------------------|-------------|-----------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Flow** | MGD | 64.33 | 1/Discharge | Meas | 0.302007 | * | |
| CONVENTIONAL POLLUTANTS | | | | | | | |
| Oil & Grease | mg/L | 15 | 1/Discharge | Grab | ND < 1.5 | U* | |
| pH (Field) | s.u | 6.5-8.5 | 1/Discharge | Grab | 8.35 | * | |
| PRIORITY POLLUTANTS | | | | _ | | 1 | |
| Antimony | μg/L | 6.0 | 1/Discharge | Composite | ND < 0.50 | U | |
| Cadmium | μg/L | 4.0 | 1/Discharge | Composite | ND < 0.25 | U | |
| Copper | μg/L | 13 | 1/Discharge | Composite | 3.9 | | |
| Cyanide | μg/L | 9.5 | 1/Discharge | Composite | ND < 2.5 | U* | |
| Lead | μg/L | 5.2 | 1/Discharge | Composite | 0.83 | J (DNQ) | |
| Mercury | μg/L | 0.13 | 1/Discharge | Composite | ND < 0.10 | U* | |
| Nickel | μg/L | 86 | 1/Discharge | Composite | ND < 5.0 | U | |
| Thallium | μg/L | 2.0 | 1/Discharge | Composite | ND < 0.20 | UJ (Q) | |
| Zinc | μg/L | 120 | 1/Discharge | Composite | ND < 12 | U | |
| NON-CONVENTIONAL POLLUTANTS | II | 4.0 | 1// | ANR | AND | AND | |
| Boron | mg/L | 1.0 | 1/Year | | ANR | ANR * | |
| Chloride | mg/L Pass or Fail | 150 Pass or % | 1/Discharge 1st & 2nd rain | Composite | 3.2 | - | |
| Chronic Toxicity | and % Effect | Pass or % Effect <50 | 1st & 2nd rain event/Year | ANR | ANR | ANR | |
| Fluoride | mg/L | 1.6 | 1/Year | ANR | ANR | ANR | |
| Nitrate + Nitrite as Nitrogen (N) | mg/L | 10 | 1/Discharge | Composite | 0.24 | * | |
| Perchlorate | μg/L | 6.0 | 1/Semiannual | ANR | ANR | ANR | |
| Sulfate | mg/L | 250 | 1/Discharge | Composite | 4.3 | * | |
| Temperature (Field) | Deg F | 86 | 1/Discharge | Grab | 57.3 | * | |
| Total Dissolved Solids | mg/L | 850 | 1/Discharge | Composite | 74 | * | |
| REMAINING PRIORITY POLLUTANTS | g/ 2 | 555 | 1,2.00.1a.go | Composito | | I | |
| 1,1,1-Trichloroethane | μg/L | _ | 1/Year | ANR | ANR | ANR | |
| 1.1.2.2-Tetrachloroethane | µg/L | _ | 1/Year | ANR | ANR | ANR | |
| 1.1.2-Trichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,1-Dichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,1-Dichloroethene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2,4-Trichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichloropropane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Diphenylhydrazine/Azobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4,6-Trichlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dichlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dimethylphenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dinitrotoluene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,6-Dinitrotoluene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Chloroethyl vinyl ether | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Chloronaphthalene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Chlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Methyl-4,6-dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 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 | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/6/2020 07:50 - 4/7/2020 09:10 | | | | |
|---------------------------------|-------|----------------------------------|---------------------|---------------------------------|--------|--|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | | |
| 4-Nitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acenaphthene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acenaphthylene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acrolein | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Acrylonitrile | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aldrin | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| alpha-BHC | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| alpha-Endosulfan | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Anthracene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1016 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1221 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1232 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1242 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1248 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1254 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Aroclor 1260 | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Arsenic | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Asbestos | 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 | | _ | 1/Year | ANR | ANR | ANR | | |
| Bromomethane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| | μg/L | | 1/Year | ANR | ANR | ANR | | |
| Butyl benzylphthalate | μg/L | - | 1/Year | ANR | | ANR | | |
| Carbon tetrachloride | μg/L | | 1/Year | | ANR | ANR | | |
| Chlordane | μg/L | - | | 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 VI (Hexavalent) | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Chrysene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| cis-1,3-Dichloropropene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| delta-BHC | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dibenz(a,h)anthracene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dichlorobromomethane | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dieldrin | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Diethyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Dimethyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Di-n-butyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Di-n-octyl phthalate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Endosulfan sulfate | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Endrin | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Endrin aldehyde | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| Ethylbenzene | μg/L | - | 1/Year | ANR | ANR | ANR | | |
| | | | | • | • | • | | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/6/2 | 19:10 | |
|---|--------------|----------------------------------|----------------------|-------------|-----------------------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | 2020 07:50 - 4/7/2020 (RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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 | ug/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 μg/L | - | 1/Year | ANR | ANR | ANR |
| N-Nitrosodimethylamine | | | 1/Year | ANR | ANR | ANR |
| N-Nitrosodimetnylamine N-Nitroso-di-n-propylamine | μg/L | - | 1/Year 1/Year | ANR | ANR | ANR |
| | μg/L | | 1/Year | ANR | ANR | ANR |
| N-Nitrosodiphenylamine | μg/L | - | | | | |
| o-Xylene | ug/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) POLLUTA | NTS(p) | | | | | |
| Aluminum | μg/L | - | 1/Year | ANR | ANR | ANR |
| Chlorpyrifos | μg/L | - | 1/Year | ANR | ANR | ANR |
| Diazinon | μg/L | - | 1/Year | ANR | ANR | ANR |
| E. Coli | mpn/100mL | - | 1/Year | ANR | ANR | ANR |
| Hardness (as CaCO3) | mg/L | - | 1/Year | ANR | ANR | ANR |
| Iron | mg/L | - | 1/Year | ANR | ANR | ANR |
| Selenium | μg/L | - | 1/Discharge | Composite | ND < 0.50 | U |
| Silver | μg/L | - | 1/Discharge | Composite | ND < 0.50 | U |
| Total Suspended Solids | mg/L | - | 1/Year | Composite | 3.2 | * |
| 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 |
| Bervllium, 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 μg/L | - | Additional/Year | ANR | ANR | ANR |
| Copper, dissolved | | - | Additional/Discharge | Composite | 2.7 | AINK |
| Hardness, dissolved (as CaCO3) | μg/L mg/l | - | Additional/Year | ANR | ANR | ANR |
| | mg/L | | | | | |
| Human Bacteriodes | CEs/100mL | - | Additional/Year | ANR | ANR | ANR |
| Iron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR |
| Lead, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.50 | U |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/6/2 | 020 07:50 - 4/7/2020 0 | 9:10 |
|---------------------|-------|--|----------------------|-------------|------------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT SAMPLE FREQUENCY | | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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/Discharge | Composite | 0.24 | * |
| Nitrite - N | mg/L | - | Additional/Discharge | Composite | ND < 0.025 | U* |
| Selenium, dissolved | μg/L | - | Additional/Discharge | Composite | 0.5 | J (DNQ) |
| 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 |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/13/2020 09:15 - 4/14/2020 09:45 | | | |
|-----------------------------------|--------------|----------------------------------|---------------------|-----------------------------------|------------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Flow** | MGD | 64.33 | 1/Discharge | Meas | 0.0922081 | * | |
| CONVENTIONAL POLLUTANTS | | | | | | | |
| Oil & Grease | mg/L | 15 | 1/Discharge | Grab | ND < 1.5 | U* | |
| pH (Field) | s.u | 6.5-8.5 | 1/Discharge | Grab | 7.79 | * | |
| PRIORITY POLLUTANTS | | | | | | | |
| Antimony | μg/L | 6.0 | 1/Discharge | Composite | ND < 1.2 | U (B) | |
| Cadmium | μg/L | 4.0 | 1/Discharge | Composite | ND < 0.25 | U | |
| Copper | μg/L | 13 | 1/Discharge | Composite | 3.8 | | |
| Cyanide | μg/L | 9.5 | 1/Discharge | Composite | ND < 2.5 | U* | |
| Lead | μg/L | 5.2 | 1/Discharge | Composite | ND < 0.50 | U | |
| Mercury | μg/L | 0.13 | 1/Discharge | Composite | ND < 0.10 | U* | |
| Nickel | μg/L | 86 | 1/Discharge | Composite | ND < 5.0 | U | |
| Thallium | μg/L | 2.0 | 1/Discharge | Composite | ND < 0.20 | U | |
| Zinc | μg/L | 120 | 1/Discharge | Composite | ND < 12 | U | |
| NON-CONVENTIONAL POLLUTANTS | | | | | | T | |
| Boron | mg/L | 1.0 | 1/Year | ANR | ANR | ANR | |
| Chloride | mg/L | 150 | 1/Discharge | Composite | 5.0 | * | |
| Chronic Toxicity | Pass or Fail | Pass or % | 1st & 2nd rain | ANR | ANR | ANR | |
| · | and % Effect | Effect <50 | event/Year | | | | |
| Fluoride | mg/L | 1.6 | 1/Year | ANR | ANR | ANR | |
| Nitrate + Nitrite as Nitrogen (N) | mg/L | 10 | 1/Discharge | Composite | ND < 0.055 | U* | |
| Perchlorate | μg/L | 6.0 | 1/Semiannual | ANR | ANR | ANR | |
| Sulfate | mg/L | 250 | 1/Discharge | Composite | 6.5 | * | |
| Temperature (Field) | Deg F | 86 | 1/Discharge | Grab | 54.2 | * | |
| Total Dissolved Solids | mg/L | 850 | 1/Discharge | Composite | 120 | • | |
| REMAINING PRIORITY POLLUTANTS | | | | | | | |
| 1,1,1-Trichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,1,2,2-Tetrachloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,1,2-Trichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,1-Dichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,1-Dichloroethene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2,4-Trichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichloroethane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Dichloropropane | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,2-Diphenylhydrazine/Azobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4,6-Trichlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dichlorophenol | μg/L | | 1/Year | ANR | ANR | ANR | |
| 2,4-Dimethylphenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,4-Dinitrotoluene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2,6-Dinitrotoluene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Chloroethyl vinyl ether | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Chloronaphthalene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Chlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 2-Methyl-4,6-dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| 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 | |

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| ANALYTE | | | | | 4/13/2020 09:15 - 4/14/2020 09:45 | | | |
|---|----------------------|-------|---------|--------|-----------------------------------|-----|--|--|
| Accessed-Hydren Pagh. 10 10 10 10 10 10 10 1 | ANALYTE | UNITS | MAXIMUM | | | | LABORATORY/ VALIDATION QUALIFIER | |
| ADDITION ADDITION ADDITION ADDITION | 4-Nitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Accretion 1901 17/Year ANR ANR ANR ANR | Acenaphthene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Acceptantine | Acenaphthylene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Albrin | Acrolein | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Albrin | Acrylonitrile | μg/L | - | 1/Year | ANR | ANR | ANR | |
| alpha-Endosulfan | Aldrin | | - | 1/Year | ANR | ANR | ANR | |
| Anthracene Lg/L - 11/Year ANR ANR ANR Ancodor 1221 Lg/L - 11/Year ANR | alpha-BHC | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Arcoder 1016 | alpha-Endosulfan | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Arcoder 1016 | Anthracene | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Arobot 1221 | Aroclor 1016 | | - | 1/Year | ANR | ANR | ANR | |
| Apole 1/42 | Aroclor 1221 | μg/L | - | 1/Year | ANR | ANR | ANR | |
| Aroctor 1242 | Aroclor 1232 | | - | 1/Year | ANR | ANR | ANR | |
| ACOCH 1248 μg/L 1/Year ANR ANR ANR ACOCH 1254 μg/L 1/Year ANR ANR ANR Acoch 1250 μg/L 1/Year ANR ANR ANR Asbestios MFL 1/Year ANR ANR ANR Asteronome µg/L 1/Year ANR ANR ANR Asteronome µg/L 1/Year ANR ANR ANR Benzo(gh)piene µg/L 1/Year ANR ANR ANR Benzo(gh)fluoranthene µg/L 1/Year ANR ANR ANR Benzo(gh)fluoranthene µg/L 1/Year ANR ANR ANR | Aroclor 1242 | | - | 1/Year | ANR | ANR | ANR | |
| Accord 1254 μg/L - 1/Year ANR ANR ANR Ancord 1250 μg/L - 1/Year ANR ANR ANR Asbesico MFL - 1/Year ANR ANR ANR Asbesico MFL - 1/Year ANR ANR ANR Benzolen μg/L - 1/Year ANR ANR ANR Benzolen μg/L - 1/Year ANR ANR ANR Benzolen μg/L - 1/Year ANR ANR ANR Benzolen/Bloranthene μg/L - | Aroclor 1248 | | - | 1/Year | ANR | ANR | ANR | |
| Ancel Anc | Aroclor 1254 | | - | 1/Year | ANR | ANR | ANR | |
| Assentic μpd. . 17/ear ANR ANR ANR Assestos MFL . 17/ear ANR | | | - | | | | | |
| Asbestos | | | - | | | | | |
| Benzene µg/L - 1/Year ANR A | Asbestos | | - | | | | | |
| Benzidine µg/L - 11/Year ANR ANR ANR Benzo(a)anthracene µg/L - 11/Year ANR | | | _ | | | | | |
| Benzo(a)pyrene µg/L - 1/Year ANR ANR ANR Benzo(p)pyrene µg/L - 1/Year ANR ANR< | | | _ | | | | | |
| Benzo(a)pyrene μg/L - 1/Year ANR ANR ANR Benzo(ph)fultorinthene μg/L - 1/Year ANR | | | _ | | | | | |
| Berzo(b)fluoranthene μg/L - 17/9ear ANR ANR ANR Benzo(b)fluoranthene μg/L - 17/9ear ANR | | | _ | | | | | |
| Benzo(g(h,i)perylene μg/L - 1/Year ANR ANR ANR Benzo(g(h,i)perylene μg/L - 1/Year ANR | | | _ | | | | | |
| Berzo(k)fluoranthene μg/L - 1/Year ANR ANR ANR Beryllium μg/L - 1/Year ANR AN | | | _ | | | | | |
| Beryllium μg/L - 1/Year ANR ANR ANR beta-BHC μg/L - 1/Year ANR | 10. 171 | | _ | | | | | |
| beta-BHC µg/L - 1/Year ANR ANR ANR beta-Endosulfan µg/L - 1/Year ANR | | | | | | | | |
| beta-Endosulfan µg/L - 1/Year ANR ANR ANR Bis (2-Chloroethoxy) Methane µg/L - 1/Year ANR | • | | _ | | | | | |
| Bis (2-Chloroethoxy) Methane | | | _ | | | | | |
| Bis (2-Chloroethyl) Ether | | | - | | | | | |
| Bis (2-Chloroisopropyl) Ether | | | | | | | | |
| Bis (2-Ethylhexyl) Phthalate | | | - | | | | | |
| 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 Chlordordane μg/L - 1/Year ANR ANR ANR Chlordordane μg/L - 1/Year ANR ANR ANR Chlorodebrane μg/L - 1/Year ANR ANR ANR Chlorodethane μg/L - | | | | | | | | |
| Bromomethane μg/L - 1/Year ANR ANR ANR Butyl benzylphthalate μg/L - 1/Year ANR ANR <t< td=""><td>, , , ,</td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | , , , , | | | | | | | |
| Butyl benzylphthalate µg/L - 1/Year ANR ANR ANR Carbon tetrachloride µg/L - 1/Year ANR ANR ANR ANR Chlorodane µg/L - 1/Year ANR ANR ANR ANR Chlorodibromomethane µg/L - 1/Year ANR ANR ANR ANR Chlorodethane µg/L - 1/Year ANR ANR ANR ANR Chlorodethane µg/L - 1/Year ANR | | | - | | | | | |
| Carbon tetrachloride μg/L - 1/Year ANR ANR ANR Chlordane μg/L - 1/Year ANR ANR ANR Chlorodbracene μg/L - 1/Year ANR ANR ANR Chlorodbromomethane μg/L - 1/Year ANR ANR ANR Chlorodrome μg/L - 1/Year ANR ANR ANR Chlorodromethane (Methyl Chloride) μg/L - 1/Year ANR ANR ANR Chloromethane (Methyl Chloride) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) 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 Chlorodibrom 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 VI (Hexavalent) µg/L - 1/Year ANR ANR ANR Chrysene µg/L - | | | - | | | | | |
| Chlorobenzene µg/L - 1/Year ANR ANR ANR Chlorodibromomethane 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 VI (Hexavalent) µg/L - 1/Year ANR ANR ANR Chrysene µg/L - | | | | | | | | |
| 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 μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | | | | | | | | |
| 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 VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year 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 VI (Hexavalent) µg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) µg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) µg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) µg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) µg/L - 1/Year ANR ANR ANR ANR Chromium VI (Hexavalent) µg/L - 1/Year ANR ANR <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | | | |
| Chloromethane (Methyl Chloride) μg/L - 1/Year ANR ANR ANR Chromium μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR ANR ANR ANR ANR ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR ANR ANR | | | | | | | | |
| Chromium μg/L - 1/Year ANR ANR ANR Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chrysene μg/L - 1/Year ANR ANR ANR cis-1,3-Dichloropropene μg/L - 1/Year ANR ANR ANR delta-BHC μg/L - 1/Year ANR ANR ANR Dibenz(a,h)anthracene μg/L - 1/Year ANR ANR ANR Dichlorobromomethane μg/L - 1/Year ANR ANR ANR Dieldrin μg/L - 1/Year ANR ANR ANR Diethyl phthalate μg/L - 1/Year ANR ANR ANR Di-n-butyl phthalate μg/L - 1/Year ANR ANR ANR Di-n-butyl phthalate μg/L - 1/Year ANR ANR ANR Di-n-butyl phthalate | | | | | | | | |
| Chromium VI (Hexavalent) μg/L - 1/Year ANR ANR ANR Chrysene μg/L - 1/Year ANR ANR ANR cis-1,3-Dichloropropene μg/L - 1/Year ANR ANR ANR delta-BHC μg/L - 1/Year ANR ANR ANR Dibenz(a,h)anthracene μg/L - 1/Year ANR ANR ANR Dichlorobromomethane μg/L - 1/Year ANR ANR ANR Diedtrin μg/L - 1/Year ANR ANR ANR Diethyl phthalate μg/L - 1/Year ANR ANR ANR Di-n-butyl phthalate μg/L - 1/Year ANR ANR ANR Di-n-cytyl phthalate μg/L - 1/Year ANR ANR ANR Di-n-cytyl phthalate μg/L - 1/Year ANR ANR ANR Endosulfan sulfat | ``` | | | | | | | |
| Chrysene μg/L - 1/Year ANR ANR ANR cis-1,3-Dichloropropene μg/L - 1/Year ANR ANR ANR delta-BHC μg/L - 1/Year ANR ANR ANR Dibenz(a,h)anthracene μg/L - 1/Year ANR ANR ANR Dichlorobromomethane μg/L - 1/Year ANR ANR ANR Dichlorin μg/L - 1/Year ANR ANR ANR Diethyl 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/ | | | | | | | | |
| cis-1,3-Dichloropropene µg/L - 1/Year ANR ANR ANR delta-BHC µg/L - 1/Year ANR ANR ANR Dibenz(a,h)anthracene µg/L - 1/Year ANR ANR ANR Dichlorobromomethane µg/L - 1/Year ANR ANR ANR ANR ANR ANR ANR ANR ANR ANR Dichlorobromomethane µg/L - 1/Year ANR ANR ANR ANR ANR ANR ANR ANR ANR ANR Dichlorobromomethane µg/L - 1/Year ANR ANR ANR Dichlorobromomethane | , | | + + | | | | | |
| delta-BHC µg/L - 1/Year ANR ANR ANR Dibenz(a,h)anthracene µg/L - 1/Year ANR ANR ANR Dichlorobromomethane µg/L - 1/Year ANR ANR ANR Dieldrin µg/L - 1/Year ANR ANR ANR Diethyl phthalate µg/L - 1/Year ANR ANR ANR Dimethyl phthalate µg/L - 1/Year ANR ANR ANR Di-n-butyl phthalate µg/L - 1/Year ANR ANR ANR Di-n-octyl phthalate µg/L - 1/Year ANR ANR ANR Endosulfan sulfate µg/L - 1/Year ANR ANR ANR Endrin µg/L - 1/Year ANR ANR ANR Endrin aldehyde µg/L - 1/Year ANR ANR ANR | • | | | | | | | |
| Dibenz(a,h)anthracene µg/L - 1/Year ANR ANR ANR Dichlorobromomethane µg/L - 1/Year ANR ANR ANR Dieldrin µg/L - 1/Year ANR ANR ANR Diethyl phthalate µg/L - 1/Year ANR ANR ANR 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 | | | - | | | | | |
| 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 | | | + | | | | | |
| 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 | | | | | | | | |
| 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 | | | | | | | | |
| 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 | | | | | | | | |
| 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 | | | - | | | | | |
| 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 | Dimethyl phthalate | | - | | | | | |
| 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 | Di-n-butyl phthalate | | - | | | | | |
| Endrin μg/L - 1/Year ANR ANR ANR Endrin aldehyde μg/L - 1/Year ANR ANR ANR | Di-n-octyl phthalate | | - | | | | | |
| Endrin aldehyde μg/L - 1/Year ANR ANR ANR ANR | Endosulfan sulfate | | - | | | | | |
| · · · · · · · · · · · · · · · · · · · | Endrin | μg/L | - | | | | | |
| Ethylbenzene μg/L - 1/Year ANR ANR ANR | Endrin aldehyde | | - | | | | | |
| | Ethylbenzene | μg/L | - | 1/Year | ANR | ANR | ANR | |

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| | | | | 4/13/2020 09:15 - 4/14/2020 09:45 | | | |
|--|--------------|----------------------------------|--------------------------------------|-----------------------------------|-----------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| 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 | ug/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 | ug/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) POLLU | | | 17 1 0 01 | 71111 | 7000 | 74410 | |
| Aluminum | µg/L | _ | 1/Year | ANR | ANR | ANR | |
| Chlorpyrifos | μg/L | _ | 1/Year | ANR | ANR | ANR | |
| Diazinon | μg/L | _ | 1/Year | ANR | ANR | ANR | |
| E. Coli | mpn/100mL | - | 1/Year | ANR | ANR | ANR | |
| Hardness (as CaCO3) | mg/L | _ | 1/Year | ANR | ANR | ANR | |
| Iron | mg/L | - | 1/Year | ANR | ANR | ANR | |
| Selenium | µg/L | - | 1/Discharge | Composite | ND < 0.50 | U | |
| Silver | μg/L | - | 1/Discharge | Composite | ND < 0.50 | U | |
| Total Suspended Solids | μg/L mg/L | - | 1/Discharge | Composite | ND < 0.50 | U* | |
| Vanadium | | - | 1/Year | ANR | ANR | ANR | |
| ADDITIONAL POLLUTANTS ^{(2)(p)} | μg/L | <u>-</u> | ı/ıeai | AINK | AINK | AINK | |
| Aluminum, dissolved | 1.~/1 | - | Additional/Year | ANR | ANR | ANR | |
| | μg/L | | | | | | |
| Antimony, dissolved | μg/L | - | Additional/Discharge Additional/Year | Composite ANR | 1.4 | J (DNQ) ANR | |
| Arsenic, dissolved | μg/L | - | | | ANR | | |
| Beryllium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR | |
| Boron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR | |
| Cadmium, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.25 | U | |
| Chromium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR | |
| cis-1,2-Dichloroethene | μg/L | - | Additional/Year | ANR | ANR | ANR | |
| Copper, dissolved | μg/L | - | Additional/Discharge | Composite | 3.9 | | |
| Hardness, dissolved (as CaCO3) | mg/L | - | Additional/Year | ANR | ANR | ANR | |
| Human Bacteriodes | CEs/100mL | - | Additional/Year | ANR | ANR | ANR | |
| Iron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR | |
| Lead, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.50 | U | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/13/2 | 2020 09:15 - 4/14/2020 | 09:45 |
|---------------------|-------|--|----------------------|-------------|------------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT SAMPLE FREQUENCY | | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 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/Discharge | Composite | ND < 0.055 | U* |
| Nitrite - N | mg/L | - | Additional/Discharge | Composite | ND < 0.025 | 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 |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | | | 4/7/2020 09:10 (Composite) | | | | | |
|---------------------|---------------------|--------------|--|-------|---------|------------|--|------------------------------------|--|--|--|--|
| ANALYTE | SAMPLE FREQUENCY | 1998 WHO TEF | BEF GREAT LAKES WATER QUALITY INITIATIVE | UNITS | LAB MDL | LAB RESULT | LABORATORY/ VALIDATION QUALIFIER | TCDD EQUIVALENT (w/out DNQ Values) | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1/Discharge | 0.01 | 0.05 | μg/L | 6.0E-07 | 1.6E-05 | U (B) | ND | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 0.01 | 0.01 | μg/L | 9.3E-07 | 9.9E-06 | U (B) | ND | | | | |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 0.01 | 0.4 | μg/L | 9.9E-07 | 3.7E-06 | UJ (*III) | ND | | | | |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 0.1 | 0.3 | μg/L | 9.5E-07 | 5.9E-06 | U (B) | ND | | | | |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 0.1 | 0.08 | μg/L | 5.8E-07 | 3.7E-06 | U (B) | ND | | | | |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 1.1E-06 | 4.5E-06 | J (DNQ) | ND | | | | |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.2 | μg/L | 5.7E-07 | 3.8E-06 | U (B) | ND | | | | |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 9.2E-07 | 5.1E-06 | U (B) | ND | | | | |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 0.1 | 0.6 | μg/L | 5.1E-07 | 3.6E-06 | U (B) | ND | | | | |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1.0 | 0.9 | μg/L | 1.2E-06 | 3.0E-06 | UJ (*III) | ND | | | | |
| 1,2,3,7,8-PeCDF | 1/Discharge | 0.05 | 0.2 | μg/L | 9.6E-07 | 3.6E-06 | J (DNQ) | ND | | | | |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.7 | μg/L | 5.5E-07 | 3.5E-06 | J (DNQ) | ND | | | | |
| 2,3,4,7,8-PeCDF | 1/Discharge | 0.5 | 1.6 | μg/L | 9.5E-07 | 3.1E-06 | J (DNQ) | ND | | | | |
| 2,3,7,8-TCDD | 1/Discharge | 1.0 | 1.0 | μg/L | 1.4E-06 | ND | U | ND | | | | |
| 2,3,7,8-TCDF | 1/Discharge | 0.1 | 0.8 | μg/L | 4.3E-07 | ND | U | ND | | | | |
| OCDD | 1/Discharge | 0.0001 | 0.01 | μg/L | 1.4E-06 | 1.6E-04 | U (B) | ND | | | | |
| OCDF | 1/Discharge | 0.0001 | 0.02 | μg/L | 1.6E-06 | 2.5E-05 | U (B) | ND | | | | |

| TCDD TEQ w/out DNQ Values ⁽⁴⁾ | ND |
|--|----|
|--|----|

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | 4/14/2020 09:45 (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 | 3.9E-07 | 1.7E-06 | U (B) | ND | |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 0.01 | 0.01 | μg/L | 3.1E-07 | 1.5E-06 | U (B) | ND | |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 0.01 | 0.4 | μg/L | 3.3E-07 | 7.4E-07 | UJ (*III) | ND | |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 0.1 | 0.3 | μg/L | 4.4E-07 | 2.4E-06 | U (B) | ND | |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 0.1 | 0.08 | μg/L | 4.9E-07 | 8.0E-07 | J (DNQ) | ND | |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 4.3E-07 | ND | U | ND | |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.2 | μg/L | 5.3E-07 | 6.9E-07 | J (DNQ) | ND | |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 3.9E-07 | 8.6E-07 | U (B) | ND | |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 0.1 | 0.6 | μg/L | 2.9E-07 | 7.4E-07 | U (B) | ND | |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1.0 | 0.9 | μg/L | 3.7E-07 | 8.7E-07 | U (B) | ND | |
| 1,2,3,7,8-PeCDF | 1/Discharge | 0.05 | 0.2 | μg/L | 3.3E-07 | 7.6E-07 | UJ (*III) | ND | |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.7 | μg/L | 3.2E-07 | 3.7E-07 | UJ (*III) | ND | |
| 2,3,4,7,8-PeCDF | 1/Discharge | 0.5 | 1.6 | μg/L | 3.6E-07 | 6.4E-07 | UJ (*III) | ND | |
| 2,3,7,8-TCDD | 1/Discharge | 1.0 | 1.0 | μg/L | 3.7E-07 | 1.0E-06 | UJ (*III) | ND | |
| 2,3,7,8-TCDF | 1/Discharge | 0.1 | 0.8 | μg/L | 2.5E-07 | ND | U | ND | |
| OCDD | 1/Discharge | 0.0001 | 0.01 | μg/L | 4.8E-07 | 1.2E-05 | U (B) | ND | |
| OCDF | 1/Discharge | 0.0001 | 0.02 | μg/L | 4.2E-07 | 2.4E-06 | U (B) | ND | |

| TCDD TEQ w/out DNQ Values ⁽⁴⁾ | ND |
|--|----|
|--|----|

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/ | site) | |
|-------------------------------------|-------|-------------------------------|---------------------|-----------------|-------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER |
| NON-CONVENTIONAL POLLUTANTS | | | • | | | • |
| Gross Alpha | pCi/L | 15 | 1/Discharge | -0.0913+/-0.730 | 1.46 | UJ (*III) |
| Gross Beta | pCi/L | 50 | 1/Discharge | 1.72+/-0.674 | 0.902 | U (B) |
| Combined Radium-226 & Radium-228 | pCi/L | 5.0 | 1/Discharge | 0.49+/-0.327 | NM | U |
| Strontium-90 | pCi/L | 8.0 | 1/Discharge | 0.0975+/-0.774 | 1.35 | UJ (*III) |
| Tritium | pCi/L | 20,000 | 1/Discharge | 623+/-220 | 284 | J+ (B) |
| ADDITIONAL POLLUTANTS | | | | , | | |
| Cesium-137 | pCi/L | 200 | 1/Discharge | -4.92+/-14.5 | 18.0 | U |
| Uranium | pCi/L | 20 | 1/Discharge | 0.0541+/-0.1137 | 0.154 | U |
| ADDITIONAL POLLUTANTS WITHOUT LIMIT | S | | | , | | |
| Potassium-40 | pCi/L | - | 1/Discharge | -110+/-164 | 262 | U |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/1 | 4/2020 09:45 (Compos | site) |
|--------------------------------------|-------|-------------------------------|---------------------|---------------|----------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER |
| NON-CONVENTIONAL POLLUTANTS | | | | | | |
| Gross Alpha | pCi/L | 15 | 1/Discharge | 1.44+/-1.01 | 1.38 | UJ (*III, B) |
| Gross Beta | pCi/L | 50 | 1/Discharge | 1.87+/-0.767 | 1.04 | U (B) |
| Combined Radium-226 & Radium-228 | pCi/L | 5.0 | 1/Discharge | 1.50+/-0.344 | NM | J- (*III) |
| Strontium-90 | pCi/L | 8.0 | 1/Discharge | 0.375+/-0.407 | 0.664 | U |
| Tritium | pCi/L | 20,000 | 1/Discharge | 23.4+/-169 | 307 | U |
| ADDITIONAL POLLUTANTS | | | , | | | , |
| Cesium-137 | pCi/L | 200 | 1/Discharge | 3.39+/-10.6 | 13.2 | U |
| Uranium | pCi/L | 20 | 1/Discharge | 0.127+/-0.392 | 0.523 | U |
| ADDITIONAL POLLUTANTS WITHOUT LIMITS | | | , | | | , |
| Potassium-40 | pCi/L | - | 1/Discharge | -32.1+/-159 | 207 | U |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/6/2020 07:50 - 4/7/2020 | | 20 09:10 |
|-----------------------------------|---------|-------------------------------|---------------------|---------------------------|----------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Flow** | MGD | 64.33 | 1/Discharge | Meas | 0.302007 | * |
| CONVENTIONAL POLLUTANTS | | . | | | | |
| Oil & Grease | LBS/DAY | 8,048 | 1/Discharge | Grab | ND | U* |
| PRIORITY POLLUTANTS | | | | | | |
| Antimony | LBS/DAY | 3.22 | 1/Discharge | Composite | ND | U |
| Cadmium | LBS/DAY | 2.15 | 1/Discharge | Composite | ND | U |
| Copper | LBS/DAY | 7 | 1/Discharge | Composite | 0.0098 | |
| Cyanide | LBS/DAY | 5.1 | 1/Discharge | Composite | ND | U* |
| Lead | LBS/DAY | 2.8 | 1/Discharge | Composite | 0.0021 | J (DNQ) |
| 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 | ND | U |
| Thallium | LBS/DAY | 1.1 | 1/Discharge | Composite | ND | UJ (Q) |
| Zinc | LBS/DAY | 64.4 | 1/Discharge | Composite | ND | U |
| NON-CONVENTIONAL POLLUTANTS | | | | | | • |
| Boron | LBS/DAY | 537 | 1/Year | ANR | ANR | ANR |
| Chloride | LBS/DAY | 80,477 | 1/Discharge | Composite | 8.1 | * |
| Fluoride | LBS/DAY | 858 | 1/Year | ANR | ANR | ANR |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 5,365 | 1/Discharge | Composite | 0.60 | * |
| Perchlorate | LBS/DAY | 3.22 | 1/Semiannual | ANR | ANR | ANR |
| Sulfate | LBS/DAY | 134,128 | 1/Discharge | Composite | 11 | * |
| Total Dissolved Solids | LBS/DAY | 456,034 | 1/Discharge | Composite | 186 | * |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/13/2020 09:15 - 4/14/20 | | 020 09:45 |
|-----------------------------------|---------|-------------------------------|---------------------|---------------------------|-----------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Flow** | MGD | 64.33 | 1/Discharge | Meas | 0.0922081 | * |
| CONVENTIONAL POLLUTANTS | | | | <u> </u> | | |
| Oil & Grease | LBS/DAY | 8,048 | 1/Discharge | Grab | ND | U* |
| PRIORITY POLLUTANTS | | | | | | |
| Antimony | LBS/DAY | 3.22 | 1/Discharge | Composite | ND | U (B) |
| Cadmium | LBS/DAY | 2.15 | 1/Discharge | Composite | ND | U |
| Copper | LBS/DAY | 7 | 1/Discharge | Composite | 0.0029 | |
| Cyanide | LBS/DAY | 5.1 | 1/Discharge | Composite | ND | U* |
| Lead | LBS/DAY | 2.8 | 1/Discharge | Composite | ND | U |
| Mercury | LBS/DAY | 0.07 | 1/Discharge | Composite | ND | U* |
| Nickel | LBS/DAY | 46.14 | 1/Discharge | Composite | ND | U |
| TCDD TEQ_NoDNQ ⁽⁴⁾ | LBS/DAY | 1.5E-08 | 1/Discharge | Composite | ND | U |
| Thallium | LBS/DAY | 1.1 | 1/Discharge | Composite | ND | U |
| Zinc | LBS/DAY | 64.4 | 1/Discharge | Composite | ND | U |
| NON-CONVENTIONAL POLLUTANTS | | | | | | |
| Boron | LBS/DAY | 537 | 1/Year | ANR | ANR | ANR |
| Chloride | LBS/DAY | 80,477 | 1/Discharge | Composite | 3.8 | * |
| Fluoride | LBS/DAY | 858 | 1/Year | ANR | ANR | ANR |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 5,365 | 1/Discharge | Composite | ND | U* |
| Perchlorate | LBS/DAY | 3.22 | 1/Semiannual | ANR | ANR | ANR |
| Sulfate | LBS/DAY | 134,128 | 1/Discharge | Composite | 5.0 | * |
| Total Dissolved Solids | LBS/DAY | 456,034 | 1/Discharge | Composite | 92 | * |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2 | 12:50 | |
|--|--------------|----------------------------------|-----------------------|------------------|--------------------------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | 020 12:30 - 4/10/2020 RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Flow** | MGD | 117.83 | 1/Discharge | Meas | 1.37754 | * |
| CONVENTIONAL POLLUTANTS | | | | . | T | |
| Biochemical Oxygen Demand (BOD)(5-Day @ 20 deg. C) | mg/L | 30 | 1/Discharge | Composite | ND < 2.0 | U* |
| Oil & Grease | mg/L | 15 | 1/Discharge | Grab | 2.3 | J (DNQ*) |
| pH (Field) | s.u. | 6.5-8.5 | 1/Discharge | Grab | 7.76 | * |
| Total Suspended Solids [#] | mg/L | 45 | 1/Discharge | Composite | 1.3 ^(c) | * |
| PRIORITY POLLUTANTS | | | | 1 . | | |
| 1,1-Dichloroethene | μg/L | 6.0 | 1/Discharge | Grab | ND < 0.25 | U* |
| 1,2-Dichloroethane | μg/L | 0.5 | 1/Discharge | Grab | ND < 0.25 | U* |
| 2,4,6-Trichlorophenol | μg/L | 13 18 | 1/Discharge | Composite | ND < 0.11 | U* U* |
| 2,4-Dinitrotoluene | μg/L | | 1/Discharge | Composite | ND < 2.1 | U* |
| alpha-BHC | μg/L | 0.03 | 1/Discharge | Composite | ND < 0.0026 | - |
| Antimony | μg/L | 6.0 10.0 | 1/Year 1/Year | ANR ANR | ANR ANR | ANR ANR |
| Arsenic | μg/L | | | | | |
| Beryllium Bis (2-Ethylhexyl) Phthalate | μg/L | 4.0 | 1/Year 1/Discharge | ANR Composite | ANR ND < 2.1 | ANR U* |
| Cadmium | μg/L μg/L | (4.0) 3.1 | 1/Discharge | Composite | ND < 2.1 ND < 0.25 ^(b) | U. |
| Chromium VI (Hexavalent) | μg/L μg/L | 16 | 1/Discharge | ANR | ND < 0.25*** ANR | ANR |
| | μg/L μg/L | 14 | 1/Discharge | Composite | 2.1 | ANK |
| Copper Cyanide | μg/L μg/L | 8.5 | 1/Discharge | Composite | ND < 2.5 | U* |
| Lead | μg/L μg/L | 5.2 | 1/Discharge | Composite | ND < 0.50 | U |
| Mercury | μg/L | 0.1 | 1/Discharge | Composite | ND < 0.10 | U* |
| Nickel | μg/L μg/L | 94 | 1/Year | ANR | ANR | ANR |
| N-Nitrosodimethylamine | μg/L μg/L | 16 | 1/Discharge | Composite | ND < 0.32 | U* |
| Pentachlorophenol | μg/L | 16.5 | 1/Discharge | Composite | ND < 1.1 | U* |
| Selenium | μg/L | (5) 8.2 | 1/Discharge | Composite | 0.55 ^(f) | J (DNQ) |
| Silver | μg/L | 4.1 | 1/Year | ANR | ANR | ANR |
| Thallium | μg/L | 2.0 | 1/Year | ANR | ANR | ANR |
| Trichloroethene | μg/L | 5.0 | 1/Discharge | Grab | ND < 0.25 | U* |
| Zinc | μg/L | 119 | 1/Discharge | Composite | ND < 12 | Ü |
| NON-CONVENTIONAL POLLUTANTS | F9/- | | 1,210011a1g0 | Composito | 115 112 | |
| Ammonia - N | mg/L | 10.1 | 1/Discharge | Composite | ND < 0.100 | U* |
| Barium | mg/L | 1.0 | 1/Year | ANR | ANR | ANR |
| Chloride | mg/L | 150 | 1/Discharge | Composite | 5.9 | * |
| Chlorine, Total Residual (Field) | mg/L | 0.1 | 1/Year | ANR | ANR | ANR |
| • | Pass or Fail | Pass or % | 1st & 2nd rain | AND | AND | AND |
| Chronic Toxicity | and % Effect | Effect <50 | event/Year | ANR | ANR | ANR |
| Detergents (as MBAS) | mg/L | 0.5 | 1/Discharge | Composite | 0.086 | J (DNQ*) |
| Fluoride | mg/L | 1.6 | 1/Year | ANR | ANR | ANR |
| Iron | mg/L | 0.3 | 1/Year | ANR | ANR | ANR |
| Manganese | μg/L | 50 | 1/Year | ANR | ANR | ANR |
| Nitrate - N | mg/L | 8 | 1/Discharge | Composite | 0.15 | * |
| Nitrate + Nitrite as Nitrogen (N) | mg/L | 8 | 1/Discharge | Composite | 0.15 | * |
| Nitrite - N | mg/L | 1 | 1/Discharge | Composite | ND < 0.025 | U* |
| Perchlorate | μg/L | 6.0 | 1/Discharge | Composite | ND < 0.95 | U* |
| Settleable Solids [#] | mL/L | 0.3 | 1/Discharge | Grab | ND < 0.10 ^(c) | U* * |
| Sulfate Transport of (Fig.14) | mg/L | 300 | 1/Discharge | Composite | 88 | * |
| Temperature (Field) | Deg F | 86 | 1/Discharge | Grab | 55.3 | * |
| Total Dissolved Solids | mg/L | 950 | 1/Discharge | Composite | 270 | |
| REMAINING PRIORITY POLLUTANTS ^(p) | 1.00% | | 1// | Cb | ND - 0.05 | 114 |
| 1,1,1-Trichloroethane | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane | μg/L | - , | 1/Year | Grab | ND < 0.25 | U* |
| | μg/L | - | 1/Year | Grab | ND < 0.25 | U* U* |
| 1,1-Dichloroethane | μg/L | = | 1/Year 1/Year | Grab | ND < 0.25 | |
| 1,2,4-Trichlorobenzene 1.2-Dichlorobenzene | μg/L | = | 1/Year 1/Year | ANR | ANR ND < 0.25 | ANR U* |
| | μg/L | - | | Grab | | |
| 1,2-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR U* |
| 1,2-Dichloropropane | μg/L | = | 1/Year | Grab ANR | ND < 0.25 | U* ANR |
| 1,2-Diphenylhydrazine/Azobenzene | μg/L | - | 1/Year | ANK | ANR | ANK |

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| | | | | 4/9/2 | 020 12:30 - 4/10/2020 | 12:50 |
|---------------------------------|-------|----------------------------------|---------------------|-------------|-----------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| 1,3-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| 1,4-Dichlorobenzene | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2,4-Dichlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2,4-Dimethylphenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2,4-Dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2,6-Dinitrotoluene | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2-Chloroethyl vinyl ether | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2-Chloronaphthalene | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2-Chlorophenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2-Methyl-4,6-dinitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| 2-Nitrophenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| 3,3'-Dichlorobenzidine | μg/L | - | 1/Year | ANR | ANR | ANR |
| 4,4'-DDD | μg/L | - | 1/Year | Composite | ND < 0.0042 | U* |
| 4,4'-DDE | μg/L | - | 1/Year | Composite | ND < 0.0031 | U* |
| 4.4'-DDT | μg/L | - | 1/Year | Composite | ND < 0.0042 | U* |
| 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 | | _ | 1/Year | ANR | ANR | ANR |
| | μg/L | - | 1/Year | ANR | ANR | ANR |
| Acrolein | μg/L | - | 1/Year | ANR | ANR | ANR |
| | μg/L | - | 1/Year | | | ANR |
| Acrylonitrile | μg/L | - | | ANR | ANR | |
| Aldrin | μg/L | - | 1/Year | ANR | ANR | ANR |
| alpha-Endosulfan | µg/L | - | 1/Year | ANR | ANR | ANR |
| Anthracene | µg/L | - | 1/Year | ANR | ANR | ANR |
| Aroclor 1016 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Aroclor 1221 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Aroclor 1232 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Aroclor 1242 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Aroclor 1248 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Aroclor 1254 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Aroclor 1260 | μg/L | - | 1/Year | Composite | ND < 0.26 | U* |
| Benzene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| Benzidine | μg/L | - | 1/Year | ANR | ANR | ANR |
| Benzo(a)anthracene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Benzo(a)pyrene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Benzo(b)fluoranthene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Benzo(g,h,i)perylene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Benzo(k)fluoranthene | μg/L | - | 1/Year | ANR | ANR | ANR |
| beta-BHC | μg/L | - | 1/Year | ANR | ANR | ANR |
| beta-Endosulfan | μg/L | - | 1/Year | ANR | ANR | ANR |
| Bis (2-Chloroethoxy) Methane | μg/L | - | 1/Year | ANR | ANR | ANR |
| Bis (2-Chloroethyl) Ether | μg/L | - | 1/Year | ANR | ANR | ANR |
| Bis (2-Chloroisopropyl) Ether | μg/L | - | 1/Year | ANR | ANR | ANR |
| Bromoform | μg/L | - | 1/Year | Grab | ND < 0.40 | U* |
| Bromomethane | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| Butyl benzylphthalate | μg/L | - | 1/Year | ANR | ANR | ANR |
| Carbon tetrachloride | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| Chlordane | μg/L | - | 1/Year | Composite | ND < 0.083 | 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 | ANR | ANR | ANR |
| | μ9/- | ı | 1, 1 Cai | 7 31 41 3 | 7 11 11 1 | 7.0.41. |

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| | | | | 4/9/2 | 020 12:30 - 4/10/2020 | 12:50 |
|---|-----------|----------------------------------|---------------------|-------------|-----------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Chrysene | μg/L | - | 1/Year | ANR | ANR | ANR |
| cis-1,3-Dichloropropene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| delta-BHC | μg/L | - | 1/Year | ANR | ANR | ANR |
| Dibenz(a,h)anthracene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Dichlorobromomethane | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| Dieldrin | μg/L | - | 1/Year | Composite | ND < 0.0021 | U* |
| 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 | Grab | ND < 0.25 | U* |
| Fluoranthene | μg/L | _ | 1/Year | ANR | ANR | ANR |
| Fluorene | | - | 1/Year | ANR | ANR | ANR |
| gamma-BHC (Lindane) | μg/L | - | 1/Year 1/Year | ANR | ANR | ANR |
| | μg/L | - | 1/Year 1/Year | ANR | ANR | ANR |
| Heptachlor | μg/L | | | | | |
| 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 | Grab | ND < 0.88 | U* |
| Naphthalene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Naphthalene | μg/L | - | 1/Year | Grab | ND < 0.40 | U* |
| Nitrobenzene | μg/L | - | 1/Year | ANR | ANR | ANR |
| N-Nitroso-di-n-propylamine | μg/L | - | 1/Year | ANR | ANR | ANR |
| N-Nitrosodiphenylamine | μg/L | - | 1/Year | ANR | ANR | ANR |
| o-Xylene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Phenanthrene | μg/L | - | 1/Year | ANR | ANR | ANR |
| Phenol | μg/L | - | 1/Year | ANR | ANR | ANR |
| Pyrene | μg/L | _ | 1/Year | ANR | ANR | ANR |
| Tetrachloroethene | μg/L | _ | 1/Year | Grab | ND < 0.25 | U* |
| Toluene | μg/L | _ | 1/Year | Grab | ND < 0.25 | U* |
| Toxaphene | μg/L | _ | 1/Year | Composite | ND < 0.25 | 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* |
| Trichlorofluoromethane | μg/L | - | 1/Year | ANR | ANR | ANR |
| Vinyl chloride | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| | | | | _ | | |
| Xylenes (Total) | μg/L | - | 1/Year | ANR | ANR | ANR |
| EFFLUENT MONITORING (NO LIMITATIONS) PO | | ı | | | L ND 0.50 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | μg/L | - | 1/Quarter | Grab | ND < 0.50 | U* |
| 1,2-Dichloro-1,1,2-trifluoroethane | μg/L | - | 1/Year | ANR | ANR | ANR |
| 1,4-Dioxane | μg/L | - | 1/Year | ANR | ANR | ANR |
| Boron | mg/L | - | 1/Year | ANR | ANR | ANR |
| cis-1,2-Dichloroethene | μg/L | - | 1/Year | Grab | ND < 0.25 | U* |
| Cobalt | μg/L | - | 1/Year | ANR | ANR | ANR |
| Conductivity | µmhos/cm | - | 1/Discharge | Grab | 380 | * |
| Cyclohexane | μg/L | - | 1/Year | ANR | ANR | ANR |
| Diesel Range Organics (DRO C13-C28) | mg/L | - | 1/Year | ANR | ANR | ANR |
| Dissolved Oxygen (Field) | mg/L | - | 1/Discharge | Grab | 12.95 | * |
| E. Coli | mpn/100mL | - | 1/Year | ANR | ANR | ANR |
| Gasoline Range Organics (GRO C4-C12) | mg/L | - | 1/Year | ANR | ANR | ANR |
| Hardness (as CaCO3) | mg/L | - | 1/Year | Composite | 91 | * |
| - (| | | | | | J |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2 | 020 12:30 - 4/10/2020 | 12:50 |
|--------------------------------|-----------|----------------------------------|----------------------|-------------|-----------------------|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER |
| Monomethyl hydrazine | μg/L | - | 1/Year | ANR | ANR | ANR |
| Total Organic Carbon | mg/L | - | 1/Year | ANR | ANR | ANR |
| Turbidity | NTU | - | 1/Discharge | Composite | 0.71 | * |
| Vanadium | μg/L | - | 1/Year | ANR | ANR | ANR |
| ADDITIONAL POLLUTANTS(2)(p) | , | | • | | | |
| Aluminum | μg/L | - | Additional | Composite | 520 | |
| Aluminum, dissolved | μg/L | - | Additional | Composite | 250 | |
| Antimony, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Arsenic, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Barium, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR |
| Beryllium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Boron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR |
| Cadmium, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.25 | U |
| Chromium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Cobalt, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Copper, dissolved | μg/L | - | Additional/Discharge | Composite | 2.0 | |
| Hardness, Dissolved (as CaCO3) | mg/L | - | Additional/Year | Composite | 83 | * |
| Human Bacteroides | CEs/100mL | - | Additional/Year | ANR | ANR | ANR |
| Iron, dissolved | mg/L | - | Additional/Year | ANR | ANR | ANR |
| Lead, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.50 | U |
| Manganese, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Mercury, dissolved | μg/L | - | Additional/Discharge | Composite | ND < 0.10 | U* |
| Nickel, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Selenium, dissolved | μg/L | - | Additional/Discharge | Composite | 0.66 | J (DNQ) |
| Silver, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Thallium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Vanadium, dissolved | μg/L | - | Additional/Year | ANR | ANR | ANR |
| Zinc, dissolved | μg/L | - | Additional/Discharge | Composite | 74 | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

| | | | | | 4/10/2020 12:50 (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 | 5.0E-07 | 6.0E-06 | U (B) | ND | |
| 1,2,3,4,6,7,8-HpCDF | 1/Discharge | 0.01 | 0.01 | μg/L | 4.8E-07 | 5.0E-06 | U (B) | ND | |
| 1,2,3,4,7,8,9-HpCDF | 1/Discharge | 0.01 | 0.4 | μg/L | 5.2E-07 | 4.7E-06 | J (DNQ) | ND | |
| 1,2,3,4,7,8-HxCDD | 1/Discharge | 0.1 | 0.3 | μg/L | 5.8E-07 | 5.5E-06 | U (B) | ND | |
| 1,2,3,4,7,8-HxCDF | 1/Discharge | 0.1 | 0.08 | μg/L | 8.3E-07 | 3.1E-06 | J (DNQ) | ND | |
| 1,2,3,6,7,8-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 5.8E-07 | 3.0E-06 | UJ (*III) | ND | |
| 1,2,3,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.2 | μg/L | 8.9E-07 | 2.9E-06 | UJ (*III) | ND | |
| 1,2,3,7,8,9-HxCDD | 1/Discharge | 0.1 | 0.1 | μg/L | 5.3E-07 | 3.8E-06 | U (B) | ND | |
| 1,2,3,7,8,9-HxCDF | 1/Discharge | 0.1 | 0.6 | μg/L | 5.1E-07 | 4.2E-06 | U (B) | ND | |
| 1,2,3,7,8-PeCDD | 1/Discharge | 1.0 | 0.9 | μg/L | 4.9E-07 | 2.3E-06 | U (B) | ND | |
| 1,2,3,7,8-PeCDF | 1/Discharge | 0.05 | 0.2 | μg/L | 4.5E-07 | 2.9E-06 | J (DNQ) | ND | |
| 2,3,4,6,7,8-HxCDF | 1/Discharge | 0.1 | 0.7 | μg/L | 5.6E-07 | 3.1E-06 | UJ (*III) | ND | |
| 2,3,4,7,8-PeCDF | 1/Discharge | 0.5 | 1.6 | μg/L | 4.7E-07 | 2.5E-06 | J (DNQ) | ND | |
| 2,3,7,8-TCDD | 1/Discharge | 1.0 | 1.0 | μg/L | 4.6E-07 | ND | UJ (*III) | ND | |
| 2,3,7,8-TCDF | 1/Discharge | 0.1 | 0.8 | μg/L | 7.4E-07 | ND | U | ND | |
| OCDD | 1/Discharge | 0.0001 | 0.01 | μg/L | 6.8E-07 | 2.9E-05 | U (B) | ND | |
| OCDF | 1/Discharge | 0.0001 | 0.02 | μg/L | 6.4E-07 | 1.4E-05 | U (B) | ND | |

| TCDD TEQ w/out DNQ Values ⁽⁴⁾ ND | | |
|---|--|----|
| . 000 . 124 00. 00. 00. 00. | TCDD TEQ w/out DNQ Values ⁽⁴⁾ | ND |

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/10/2020 12:50 (Composite) | | | |
|--------------------------------------|-------|-------------------------------|---------------------|-----------------------------|-------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | RESULT | MDA | LABORATORY/ VALIDATION QUALIFIER | |
| NON-CONVENTIONAL POLLUTANTS | | | | | | | |
| Gross Alpha | pCi/L | 15 | 1/Discharge | 0.775+/-1.23 | 2.11 | UJ (*III) | |
| Gross Beta | pCi/L | 50 | 1/Discharge | 1.95+/-0.719 | 0.920 | J+ (B) | |
| Combined Radium-226 & Radium-228 | pCi/L | 5 | 1/Discharge | 0.465+/-0.272 | NM | UJ (*III, B) | |
| Strontium-90 | pCi/L | 8 | 1/Discharge | 0.284+/-0.387 | 0.643 | U | |
| Tritium | pCi/L | 20,000 | 1/Discharge | 194+/-178 | 283 | U | |
| ADDITIONAL POLLUTANTS | | | | | | | |
| Cesium-137 | pCi/L | 200 | 1/Discharge | 2.76+/-2.34 | 3.59 | U | |
| Uranium | pCi/L | 20 | 1/Discharge | 0.337+/-0.167 | 0.117 | U (B) | |
| ADDITIONAL POLLUTANTS WITHOUT LIMITS | | | | | | | |
| Potassium-40 | pCi/L | = | 1/Discharge | 16.6+/-80.7 | 143 | U | |

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 4/9/2020 12:30 - 4/10/2020 12:50 | | | |
|--|--------------|-------------------------------|---------------------|----------------------------------|-----------------------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| Flow** | MGD | 117.83 | 1/Discharge | Meas | 1.37754 | * | |
| 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 | 26 | J (DNQ*) | |
| Total Suspended Solids# | LBS/DAY | 44,222 | 1/Discharge | Composite | 15 ^(c) | * | |
| PRIORITY POLLUTANTS | • | 1 | | 1 | | • | |
| 1,1-Dichloroethene | LBS/DAY | 5.9 | 1/Discharge | Grab | ND | U* | |
| 1,2-Dichloroethane | LBS/DAY | 0.49 | 1/Discharge | Grab | ND | U* | |
| 2,4,6-Trichlorophenol | LBS/DAY | 12.8 | 1/Discharge | Composite | ND | U* | |
| 2,4-Dinitrotoluene | LBS/DAY | 17.7 | 1/Discharge | Composite | ND | U* | |
| alpha-BHC | LBS/DAY | 0.03 | 1/Discharge | Composite | ND | U* | |
| Antimony | LBS/DAY | 5.9 | 1/Year | ANR | ANR | ANR | |
| Arsenic | LBS/DAY | 9.83 | 1/Year | ANR | ANR | ANR | |
| Beryllium | LBS/DAY | 3.93 | 1/Year | ANR | ANR | ANR | |
| Bis (2-Ethylhexyl) Phthalate | LBS/DAY | 3.93 | 1/Discharge | Composite | ND | U* | |
| Cadmium | LBS/DAY | (3.93) 3.05 | 1/Discharge | Composite | ND (b) | U | |
| Chromium VI (Hexavalent) | LBS/DAY | 15.72 | 1/Year | ANR | ANR | ANR | |
| Copper | LBS/DAY | 13.76 | 1/Discharge | Composite | 0.024 | | |
| Cyanide | LBS/DAY | 8.35 | 1/Discharge | Composite | ND | U* | |
| Lead | LBS/DAY | 5.11 | 1/Discharge | Composite | ND | U | |
| Mercury | LBS/DAY | 0.1 | 1/Discharge | Composite | ND | U* | |
| Nickel | LBS/DAY | 92.4 | 1/Year | ANR | ANR | ANR | |
| N-Nitrosodimethylamine | LBS/DAY | 15.72 | 1/Discharge | Composite | ND | U* | |
| Pentachlorophenol | LBS/DAY | 16.22 | 1/Discharge | Composite | ND | U* | |
| Selenium | LBS/DAY | (4.91) 8.06 | 1/Discharge | Composite | 0.0063 ^(f) | J (DNQ) | |
| Silver | LBS/DAY | 4.03 | 1/Year | ANR | ANR | ANR | |
| TCDD TEQ_NoDNQ ⁽⁴⁾ | LBS/DAY | 2.75E-08 | 1/Discharge | Composite | ND | U | |
| Thallium | LBS/DAY | 1.97 | 1/Year | ANR | ANR | ANR | |
| Trichloroethene | LBS/DAY | 4.91 | 1/Discharge | Grab | ND | U* | |
| Zinc | LBS/DAY | 117 | 1/Discharge | Composite | ND | U | |
| NON-CONVENTIONAL POLLUTANTS | | l | | | | | |
| Ammonia - N | LBS/DAY | 9,925.3 | 1/Discharge | Composite | ND | U* | |
| Barium | LBS/DAY | 983 | 1/Year | ANR | ANR | ANR | |
| Chloride | LBS/DAY | 147,405 | 1/Discharge | Composite | 68 | * | |
| Chlorine, Total Residual (Field) | LBS/DAY | 98.3 | 1/Year | ANR | ANR | ANR | |
| Detergents (as MBAS) | LBS/DAY | 491.4 | 1/Discharge | Composite | 0.99 | J (DNQ*) | |
| Fluoride | LBS/DAY | 1,572.3 | 1/Year | ANR | ANR | ANR | |
| Iron | LBS/DAY | 295 | 1/Year | ANR | ANR | ANR | |
| Manganese | LBS/DAY | 49.1 | 1/Year | ANR | ANR | ANR | |
| Nitrate - N | LBS/DAY | 7.862 | 1/Discharge | Composite | 1.7 | * | |
| Nitrate + Nitrite as Nitrogen (N) | LBS/DAY | 7,862 | 1/Discharge | Composite | 1.7 | * | |
| 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 | 1,011 | * | |
| Total Dissolved Solids | LBS/DAY | 933.567 | 1/Discharge | Composite | 3,102 | * | |
| Total Biodolfod Golido | LDOIDAI | 555,557 | 1/Discharge | Composite | 0,102 | ı | |

ARROYO SIMI DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | 4/6/2020 08:35 | |
|---------------------------|-----------|-------------------------------|---------------------|-------------|----------------|--|
| 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 < 0.0041 | U* |
| 4,4'-DDE | μg/L | 0.001 | 1/Quarter | Grab | ND < 0.0031 | U* |
| 4,4'-DDT | μg/L | 0.001 | 1/Quarter | Grab | ND < 0.0041 | U* |
| Aroclor 1016 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Aroclor 1221 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Aroclor 1232 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Aroclor 1242 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Aroclor 1248 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Aroclor 1254 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Aroclor 1260 | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.100 | U* |
| Chlordane | μg/L | 0.001 | 1/Quarter | Grab | ND < 0.082 | 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 < 0.0021 | U* |
| E. coli | mpn/100mL | 235 | 1/Year | ANR | ANR | ANR |
| pH (Field) | s.u. | 6.5-8.5 | 1/Quarter | Grab | 8.10 | * |
| Toxaphene | μg/L | 0.0003 | 1/Quarter | Grab | ND < 0.25 | U* |
| POLLUTANTS WITHOUT LIMITS | • | • | | • | | |
| Hardness (as CaCO3) | mg/L | - | 1/Quarter | Grab | 45 | * |
| Priority Pollutants | NA | - | 1/5 Years | ANR | ANR | ANR |
| Temperature (Field) | Deg F | - | 1/Quarter | Grab | 54.9 | * |
| 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 | 0.9 | * |

ARROYO SIMI, SEDIMENT DISCHARGE MONITORING DATA SUMMARY TABLE

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | 5/21/2020 08:30 | | | |
|--|----------------|-------------------------------|---------------------|-----------------|-------------|--|--|
| ANALYTE | UNITS | DAILY MAXIMUM PERMIT LIMIT | SAMPLE FREQUENCY | SAMPLE TYPE | RESULT | LABORATORY/ VALIDATION QUALIFIER | |
| POLLUTANTS WITH LIMITS | | | | | | W. | |
| 4,4'-DDD | μg/g | 0.002 | 1/Year | Grab | ND < 0.0015 | U | |
| 4,4'-DDE | μg/g | 0.0014 | 1/Year | Grab | ND < 0.0015 | U | |
| 4,4'-DDT | μg/g | 0.0003 | 1/Year | Grab | ND < 0.0015 | U | |
| Aroclor 1016 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0045 | U | |
| Aroclor 1221 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0057 | U | |
| Aroclor 1232 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0099 | U | |
| Aroclor 1242 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0041 | U | |
| Aroclor 1248 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0041 | U | |
| Aroclor 1254 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0041 | U | |
| Aroclor 1260 | μg/g | 0.12 | 1/Year | Grab | ND < 0.0061 | U | |
| Chlordane | μg/g | 0.0033 | 1/Year | Grab | ND < 0.015 | U | |
| Dieldrin | μg/g | 0.0002 | 1/Year | Grab | ND < 0.0015 | U | |
| Toxaphene | μg/g | 0.0006 | 1/Year | Grab | ND < 0.050 | U | |
| POLLUTANTS WITHOUT LIMITS | • | | | | | • | |
| Bivalve Embryo Toxicity (Mytilus edulis) | % Normal/Alive | - | 1/Year | Grab | 100 | | |
| Conductivity (Field) | umhos/cm | - | 1/Year | Grab | 1,190 | * | |
| Dissolved Oxygen (Field) | mg/L | - | 1/Year | Grab | 8.09 | * | |
| Percent Moisture | % | - | 1/Year | Grab | 19.6 | * | |
| pH (Field) | s.u. | - | 1/Year | Grab | 6.92 | * | |
| Sediment Toxicity (Eohaustorius estuarius) | % Survival | - | 1/Year | Grab | 100 | | |
| Temperature (Field) | Deg F | - | 1/Year | Grab | 67.7 | * | |
| Total Ammonia | mg/kg | - | 1/Year | Grab | 4.86 | J (DNQ) | |
| Total Organic Carbon | mg/kg | - | 1/Year | Grab | 790 | J (DNQ) | |
| Water Velocity | ft/sec | - | 1/Year | Meas | 0.0 | * | |
| PARTICLE SIZE DISTRIBUTION | | • | | | | • | |
| Clay (<0.00391 mm) | % | - | 1/Year | Grab | 0.10 | * | |
| Coarse Sand (0.5 mm to 1 mm) | % | - | 1/Year | Grab | 36.16 | * | |
| Fine Sand (0.125 mm to 0.25 mm) | % | - | 1/Year | Grab | 0.77 | * | |
| Gravel (greater than 2mm) | % | - | 1/Year | Grab | 29.18 | * | |
| Medium Sand (0.25 mm to 0.5 mm) | % | - | 1/Year | Grab | 9.21 | * | |
| Silt (0.00391 mm to 0.0625 mm) | % | - | 1/Year | Grab | 0.24 | * | |
| Total Silt and Clay (0 mm to 0.0626 mm) | % | - | 1/Year | Grab | 0.34 | * | |
| Very Coarse Sand (1 mm to 2 mm) | % | - | 1/Year | Grab | 24.17 | * | |
| Very Fine Sand (0.0625 mm to 0.125 mm) | % | - | 1/Year | Grab | 0.16 | * | |

APPENDIX D

Second Quarter 2020 Summary of Permit Limit Exceedances and/or Non-Compliance

APPENDIX D

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

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

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | DAIL | Y MAXIMUM BENCHMARK EXCEED | ANCES AND/OR NON- | COMPLIANCE | | |
|----------------------------|------------|---------|----------------------------------|---------------------|------------|--|--|
| OUTFALL SAMPLE SAMPLE TYPE | | ANALYTE | DAILY MAXIMUM BENCHMARK LIMIT | DAILY MAX RESULT | UNITS | LABORATORY/ VALIDATION QUALIFIER | |
| Outfall 001 | 04/10/2020 | Comp | Iron | 0.3 | 2.1 | mg/L | |

APPENDIX E Second Quarter 2020 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

APPENDIX E

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ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

Laboratory Job ID: 440-264463-1

Client Project/Site: Quarterly Outfall 001 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/22/2020 12:32:23 PM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Laboratory Job ID: 440-264463-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

4/22/2020 12:32:23 PM

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Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 001 Grab Laboratory Job ID: 440-264463-1

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Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Grab

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Asset ID

 440-264463-1
 Outfall001_20200409_Grab
 Water
 04/09/20 12:55
 04/10/20 11:30

 440-264463-3
 TB-20200410
 Water
 04/09/20 12:55
 04/10/20 11:30

Job ID: 440-264463-1

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Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Grab

Job ID: 440-264463-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264463-1

Comments

No additional comments.

Receipt

The samples were received on 4/10/2020 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

GC/MS VOA

Method 624.1: The following volatile sample was received and analyzed with significant headspace in the sample container(s): TB-20200410 (440-264463-3). Significant headspace is defined as a bubble greater than 6 mm in diameter.

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

General Chemistry

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 440-604637.

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

Organic Prep

Methods 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-605782 and analytical batch 440-605871. The laboratory control sample(LCS) was performed in duplicate 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.

VOA Pren

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

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Job ID: 440-264463-1

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Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

Client Sample ID: Outfall001_20200409_Grab

Date Collected: 04/09/20 12:55 Date Received: 04/10/20 11:30 Lab Sample ID: 440-264463-1

Matrix: Water

| Method: 624.1 - Volatile Orga Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|--|-------------|-----------|----------|------|------|---|----------|-----------------|---------|
| 1,1,1-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.50 | | ug/L | | | 04/11/20 02:15 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.50 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,1-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,2-Dichloropropane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Benzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Bromomethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Carbon tetrachloride | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Chlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Dibromochloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Chloroethane | ND | | 1.0 | 0.40 | ug/L | | | 04/11/20 02:15 | 1 |
| Chloroform | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Chloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Bromodichloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Ethylbenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Methylene Chloride | ND | | 2.0 | 0.88 | ug/L | | | 04/11/20 02:15 | 1 |
| Naphthalene | ND | | 1.0 | 0.40 | ug/L | | | 04/11/20 02:15 | 1 |
| Tetrachloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Toluene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| trans-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Trichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Vinyl chloride | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 02:15 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 109 | | 60 - 140 | | | • | | 04/11/20 02:15 | 1 |
| Dibromofluoromethane (Surr) | 95 | | 60 - 140 | | | | | 04/11/20 02:15 | 1 |
| Toluene-d8 (Surr) | 107 | | 60 - 140 | | | | | 04/11/20 02:15 | 1 |
| Method: 624.1 - Volatile Orga | anic Compou | nds (GC/N | IS) - RA | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromoform | ND | | 1.0 | 0.40 | ug/L | | | 04/13/20 09:00 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| | | | | | | | | 0.4/40/00 00 00 | |

| Genera | l Cr | nemi | istry |
|--------|------|------|-------|
|--------|------|------|-------|

Toluene-d8 (Surr)

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

| Analyte | Result Qualifie | er RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------|-----------------|-------|-----|------|---|----------------|----------------|---------|
| HEM (Oil & Grease) | ND | 5.2 | 1.5 | mg/L | | 04/21/20 06:08 | 04/21/20 11:20 | 1 |

60 - 140

60 - 140

60 - 140

96

108

103

Eurofins Calscience Irvine

04/13/20 09:00

04/13/20 09:00

04/13/20 09:00

1

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

Client Sample ID: Outfall001 20200409 Grab

Date Collected: 04/09/20 12:55 Date Received: 04/10/20 11:30

Lab Sample ID: 440-264463-1 **Matrix: Water**

Result Qualifier RL **RL Unit** D Prepared Dil Fac Analyzed **Specific Conductance** 130 1.0 1.0 04/21/20 12:35 umhos/cm Settleable Solids ND 0.10 0.10 mL/L/Hr 04/10/20 17:48

Client Sample ID: TB-20200410 Lab Sample ID: 440-264463-3 to Callactad: 04/09/20 12:55

cis-1,3-Dichloropropene

Bromodichloromethane

Methylene Chloride

Tetrachloroethene

Trichloroethene

Vinul oblorido

trans-1,2-Dichloroethene

trans-1,3-Dichloropropene

4-Bromofluorobenzene (Surr)

Ethylbenzene

Naphthalene

Toluene

| Date Received: 04/10/20 11:30 | Matrix | water | | | | | | |
|---------------------------------------|-----------|-------------|------|------|---|----------|----------------|---------|
| Method: 624.1 - Volatile Orga | | s (GC/MS) | | | | | | |
| Analyte | Result Qu | ialifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1-Trichloroethane | ND ND | 0.50 | 0.25 | ug/L | | | 04/11/20 02:43 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | 0.25 | ug/L | | | 04/11/20 02:43 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 2.0 | 0.50 | ug/L | | | 04/11/20 02:43 | 1 |

1,1,2-Trichloroethane ND 0.50 0.25 ug/L 04/11/20 02:43 1.1-Dichloroethane ND 0.50 0.25 ug/L 04/11/20 02:43 1,1-Dichloroethene ND 0.50 0.25 ug/L 04/11/20 02:43 1,2-Dichlorobenzene ND 0.50 0.25 ug/L 04/11/20 02:43 1,2-Dichloroethane ND 0.50 0.25 ug/L 04/11/20 02:43 1,2-Dichloropropane ND 0.50 0.25 ug/L 04/11/20 02:43 1,3-Dichlorobenzene ND 0.50 0.25 ug/L 04/11/20 02:43 1,4-Dichlorobenzene ND 0.50 0.25 ug/L 04/11/20 02:43 ND 0.50 Benzene 0.25 ug/L 04/11/20 02:43 Bromomethane ND 0.50 0.25 ug/L 04/11/20 02:43 0.25 ug/L Carbon tetrachloride ND 0.50 04/11/20 02:43 Chlorobenzene ND 0.50 0.25 ug/L 04/11/20 02:43 Dibromochloromethane ND 0.50 0.25 ug/L 04/11/20 02:43 Chloroethane ND 0.40 ug/L 1.0 04/11/20 02:43 Chloroform ND 0.50 0.25 ug/L 04/11/20 02:43 Chloromethane ND 0.50 0.25 ug/L 04/11/20 02:43 cis-1,2-Dichloroethene ND 0.50 0.25 ug/L 04/11/20 02:43

0.50

0.50

0.50

2.0

1.0

0.50

0.50

0.50

0.50

0.50

0.50

ND

ND

NΠ

ND

ND

ND

ND

ND

ND

ND

NID.

0.25 ug/L

0.25 ug/L

0.25 ug/L

0.88 ug/L

0.40 ug/L

0.25 ug/L

0.25 ug/L

0.25 ug/L

0.25 ug/L

0.25 ug/L

0.25/

| Viriyi Chloride | ND | 0.50 | 0.25 ug/L | | 04/11/20 02.43 | ' | |
|-----------------------------|---------------------|----------|-----------|----------|----------------|---------|--|
| Surrogate | %Recovery Qualifier | Limits | | Prepared | Analyzed | Dil Fac | |
| 4-Bromofluorobenzene (Surr) | 107 | 60 - 140 | | | 04/11/20 02:43 | 1 | |
| Dibromofluoromethane (Surr) | 95 | 60 - 140 | | | 04/11/20 02:43 | 1 | |
| Toluene-d8 (Surr) | 102 | 60 - 140 | | | 04/11/20 02:43 | 1 | |

| Method: 624.1 - Volatile Orç Analyte | • | inds (GC/N Qualifier | IS) - RA RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|-----------|-------------------------|----------------|------|------|---|----------|----------------|---------|
| Bromoform | ND | | 1.0 | 0.40 | ug/L | | | 04/13/20 09:24 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 91 | | 60 - 140 | | | - | | 04/13/20 09:24 | |

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04/11/20 02:43

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04/11/20 02:42

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

Client Sample ID: TB-20200410 Lab Sample ID: 440-264463-3

Date Collected: 04/09/20 12:55 Eas Sample 15: 1440 204400 G

Date Received: 04/10/20 11:30

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

| Surrogate | %Recovery (| Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-------------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 119 | | 60 - 140 | | 04/13/20 09:24 | 1 |
| Toluene-d8 (Surr) | 102 | | 60 - 140 | | 04/13/20 09:24 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Grab

Method **Method Description** Protocol Laboratory 40CFR136A TAL IRV 624.1 Volatile Organic Compounds (GC/MS) MCAWW 120.1 Conductivity, Specific Conductance TAL IRV HEM and SGT-HEM 1664A TAL IRV 1664A SM 2540F Solids, Settleable SM TAL IRV

Protocol References:

1664A

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.

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

HEM and SGT-HEM (SPE)

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264463-1

TAL IRV

1664A

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

Client Sample ID: Outfall001_20200409_Grab

Lab Sample ID: 440-264463-1 Date Collected: 04/09/20 12:55 **Matrix: Water**

Date Received: 04/10/20 11:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | RA | 1 | 10 mL | 10 mL | 604735 | 04/13/20 09:00 | OH1 | TAL IRV |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 604634 | 04/11/20 02:15 | GMA | TAL IRV |
| Total/NA | Analysis | 120.1 | | 1 | | | 605665 | 04/21/20 12:35 | XL | TAL IRV |
| Total/NA | Prep | 1664A | | | 955 mL | 1000 mL | 605782 | 04/21/20 06:08 | L1A | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 605871 | 04/21/20 11:20 | L1A | TAL IRV |
| Total/NA | Analysis | SM 2540F | | 1 | 1000 mL | 1 L | 604637 | 04/10/20 17:48 | HZ | TAL IRV |

Lab Sample ID: 440-264463-3 Client Sample ID: TB-20200410

Date Collected: 04/09/20 12:55

Date Received: 04/10/20 11:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|--------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | RA | 1 | 10 mL | 10 mL | 604735 | 04/13/20 09:24 | OH1 | TAL IRV |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 604634 | 04/11/20 02:43 | GMA | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Matrix: Water

Client: Haley & Aldrich, Inc. Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

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

Lab Sample ID: MB 440-604634/4

Matrix: Water

Analysis Batch: 604634

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

MR MR Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Analyte Result 0.50 04/10/20 18:52 1,1,1-Trichloroethane $\overline{\mathsf{ND}}$ 0.25 ug/L 1,1,2,2-Tetrachloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1,1,2-Trichloro-1,2,2-trifluoroethane ND 2.0 0.50 ug/L 04/10/20 18:52 1 1,1,2-Trichloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1.1-Dichloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1,1-Dichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 1,2-Dichlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 1,2-Dichloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1,2-Dichloropropane ND 0.50 0.25 ug/L 04/10/20 18:52 1,3-Dichlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 1,4-Dichlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 Benzene ND 0.50 0.25 ug/L 04/10/20 18:52 1 Bromomethane ND 0.50 0.25 ug/L 04/10/20 18:52 Carbon tetrachloride NΠ 0.50 0.25 ug/L 04/10/20 18:52 Chlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 Dibromochloromethane ND 0.50 0.25 ug/L 04/10/20 18:52 Chloroethane ND 1.0 0.40 ug/L 04/10/20 18:52 Chloroform ND 0.50 04/10/20 18:52 0.25 ug/L Chloromethane ND 0.50 0.25 ug/L 04/10/20 18:52 cis-1,2-Dichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 cis-1,3-Dichloropropene ND 0.50 0.25 ug/L 04/10/20 18:52 Bromodichloromethane ND 0.50 0.25 ug/L 04/10/20 18:52 Ethylbenzene ND 0.50 0.25 ug/L 04/10/20 18:52 Methylene Chloride ND 2.0 0.88 ug/L 04/10/20 18:52 Naphthalene ND 04/10/20 18:52 1.0 0.40 ug/L Tetrachloroethene 0.50 0.25 ug/L 04/10/20 18:52 ND Toluene ND 0.50 0.25 ug/L 04/10/20 18:52 trans-1,2-Dichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 trans-1,3-Dichloropropene ND 04/10/20 18:52 0.50 0.25 ug/L Trichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 0.25 ug/L Vinyl chloride ND 0.50 04/10/20 18:52

| | MB | MB | |
|-----------------------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 4-Bromofluorobenzene (Surr) | 108 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 96 | | 60 - 140 |
| Toluene-d8 (Surr) | 102 | | 60 - 140 |

| | Prepared | Analyzed | Dil Fac |
|---|----------|----------------|---------|
| _ | | 04/10/20 18:52 | 1 |
| | | 04/10/20 18:52 | 1 |
| | | 04/10/20 18:52 | 1 |

Lab Sample ID: LCS 440-604634/1002

Matrix: Water

Analysis Batch: 604634

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

| | Spike | LCS | LCS | | | | %Rec. | |
|---------------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1-Trichloroethane | 25.0 | 18.4 | | ug/L | | 73 | 69 - 151 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 30.3 | | ug/L | | 121 | 68 - 136 | |
| 1,1,2-Trichloroethane | 25.0 | 28.9 | | ug/L | | 116 | 75 - 136 | |
| 1,1-Dichloroethane | 25.0 | 25.2 | | ug/L | | 101 | 71 - 143 | |
| 1,1-Dichloroethene | 25.0 | 22.5 | | ug/L | | 90 | 19 - 212 | |
| 1,2-Dichlorobenzene | 25.0 | 25.9 | | ug/L | | 103 | 59 - 174 | |

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QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Grab

Job ID: 440-264463-1

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

Lab Sample ID: LCS 440-604634/1002

Matrix: Water

Analysis Batch: 604634

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| | Spike | LCS | LCS | | | %Rec. | |
|---------------------------|-------|--------|-----------|------|--------|-----------------------|--|
| Analyte | Added | Result | Qualifier | Unit | D %Red | Limits | |
| 1,2-Dichloroethane | 25.0 | 22.6 | | ug/L | 90 | 72 - 137 | |
| 1,2-Dichloropropane | 25.0 | 27.1 | | ug/L | 108 | 3 19 - 181 | |
| 1,3-Dichlorobenzene | 25.0 | 25.8 | | ug/L | 103 | 3 75 ₋ 144 | |
| 1,4-Dichlorobenzene | 25.0 | 25.8 | | ug/L | 103 | 3 59 ₋ 174 | |
| Benzene | 25.0 | 27.5 | | ug/L | 110 | 75 - 125 | |
| Bromomethane | 25.0 | 23.0 | | ug/L | 92 | 2 10 - 206 | |
| Carbon tetrachloride | 25.0 | 17.9 | | ug/L | 72 | 2 65 - 125 | |
| Chlorobenzene | 25.0 | 25.0 | | ug/L | 100 | 82 - 137 | |
| Dibromochloromethane | 25.0 | 20.4 | | ug/L | 82 | 2 69 - 133 | |
| Chloroethane | 25.0 | 26.5 | | ug/L | 106 | 6 42 - 202 | |
| Chloroform | 25.0 | 21.1 | | ug/L | 84 | 4 68 - 121 | |
| Chloromethane | 25.0 | 28.2 | | ug/L | 113 | 3 10 - 230 | |
| cis-1,2-Dichloroethene | 25.0 | 24.2 | | ug/L | 97 | 7 60 - 140 | |
| cis-1,3-Dichloropropene | 25.0 | 26.9 | | ug/L | 108 | 3 5 ₋ 195 | |
| Bromodichloromethane | 25.0 | 22.4 | | ug/L | 89 | 9 50 - 140 | |
| Ethylbenzene | 25.0 | 23.7 | | ug/L | 95 | 5 75 - 134 | |
| Methylene Chloride | 25.0 | 24.3 | | ug/L | 97 | 7 10 - 205 | |
| Naphthalene | 25.0 | 26.4 | | ug/L | 106 | 60 - 140 | |
| Tetrachloroethene | 25.0 | 22.7 | | ug/L | 9′ | 1 70 - 130 | |
| Toluene | 25.0 | 25.9 | | ug/L | 103 | 3 75 - 134 | |
| trans-1,2-Dichloroethene | 25.0 | 24.6 | | ug/L | 98 | 3 70 - 130 | |
| trans-1,3-Dichloropropene | 25.0 | 26.8 | | ug/L | 107 | 7 38 - 162 | |
| Trichloroethene | 25.0 | 24.1 | | ug/L | 96 | 5 75 ₋ 138 | |
| Vinyl chloride | 25.0 | 28.3 | | ug/L | 113 | 3 10 - 218 | |

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 109 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 94 | | 60 - 140 |
| Toluene-d8 (Surr) | 102 | | 60 - 140 |

Lab Sample ID: 440-264459-C-1 MS

Matrix: Water

Analysis Batch: 604634

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

| Analysis Batch: 604634 | | | | | | | | | | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1-Trichloroethane | ND | | 10.0 | 7.70 | | ug/L | | 77 | 52 - 162 | |
| 1,1,2,2-Tetrachloroethane | ND | | 10.0 | 13.2 | | ug/L | | 132 | 46 - 157 | |
| 1,1,2-Trichloroethane | ND | | 10.0 | 12.5 | | ug/L | | 125 | 52 - 150 | |
| 1,1-Dichloroethane | ND | | 10.0 | 10.5 | | ug/L | | 105 | 59 - 155 | |
| 1,1-Dichloroethene | ND | | 10.0 | 9.82 | | ug/L | | 98 | 10 - 234 | |
| 1,2-Dichlorobenzene | ND | | 10.0 | 11.1 | | ug/L | | 111 | 18 - 190 | |
| 1,2-Dichloroethane | ND | | 10.0 | 9.34 | | ug/L | | 93 | 49 - 155 | |
| 1,2-Dichloropropane | ND | | 10.0 | 11.6 | | ug/L | | 116 | 10 - 210 | |
| 1,3-Dichlorobenzene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 59 - 156 | |
| 1,4-Dichlorobenzene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 18 - 190 | |
| Benzene | ND | | 10.0 | 11.7 | | ug/L | | 117 | 37 - 151 | |
| Bromomethane | ND | | 10.0 | 9.98 | | ug/L | | 100 | 10 - 242 | |
| Carbon tetrachloride | ND | | 10.0 | 7.36 | | ug/L | | 74 | 70 - 140 | |
| | | | | | | | | | | |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Grab

Job ID: 440-264463-1

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

Lab Sample ID: 440-264459-C-1 MS

Matrix: Water

Analysis Batch: 604634

Client Sample ID: Matrix Spike

Prep Type: Total/NA

| Analysis Buton. 004004 | Sample | Sample | Spike | MS | MS | | | | %Rec. |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Chlorobenzene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 37 - 160 |
| Dibromochloromethane | ND | | 10.0 | 8.39 | | ug/L | | 84 | 53 - 149 |
| Chloroethane | ND | | 10.0 | 11.6 | | ug/L | | 116 | 14 - 230 |
| Chloroform | ND | | 10.0 | 8.75 | | ug/L | | 88 | 51 - 138 |
| Chloromethane | ND | | 10.0 | 12.1 | | ug/L | | 121 | 10 - 273 |
| cis-1,2-Dichloroethene | ND | | 10.0 | 10.3 | | ug/L | | 103 | 60 - 140 |
| cis-1,3-Dichloropropene | ND | | 10.0 | 11.2 | | ug/L | | 112 | 10 - 227 |
| Bromodichloromethane | ND | | 10.0 | 9.29 | | ug/L | | 93 | 35 - 155 |
| Ethylbenzene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 37 - 162 |
| Methylene Chloride | ND | | 10.0 | 10.1 | | ug/L | | 101 | 10 - 221 |
| Naphthalene | ND | | 10.0 | 11.0 | | ug/L | | 110 | 60 - 140 |
| Tetrachloroethene | ND | | 10.0 | 9.78 | | ug/L | | 98 | 64 - 148 |
| Toluene | ND | | 10.0 | 11.3 | | ug/L | | 113 | 47 - 150 |
| trans-1,2-Dichloroethene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 54 - 156 |
| trans-1,3-Dichloropropene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 17 - 183 |
| Trichloroethene | ND | | 10.0 | 10.4 | | ug/L | | 104 | 70 - 157 |
| Vinyl chloride | ND | | 10.0 | 11.5 | | ug/L | | 115 | 10 - 251 |

MS MS

| Surrogate | %Recovery Qualifier | Limits |
|-----------------------------|---------------------|----------|
| 4-Bromofluorobenzene (Surr) | 108 | 60 - 140 |
| Dibromofluoromethane (Surr) | 92 | 60 - 140 |
| Toluene-d8 (Surr) | 105 | 60 - 140 |

Lab Sample ID: 440-264459-C-1 MSD

Matrix: Water

Analysis Batch: 604634

| Client Sample | ID: | Matrix | Sp | oike | Du | olicate |
|----------------------|-----|---------------|-----|------|------|---------|
| | | Pre | o T | vpe | : To | tal/NA |

| 7 manyolo Batom oo loo . | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|---------------------------|--------|-----------|-------|------|-----------|------|---|------|----------|-----|-------|
| Analyte | • | Qualifier | Added | | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 1,1,1-Trichloroethane | ND | | 10.0 | 7.32 | | ug/L | | 73 | 52 - 162 | 5 | 36 |
| 1,1,2,2-Tetrachloroethane | ND | | 10.0 | 13.3 | | ug/L | | 133 | 46 - 157 | 1 | 61 |
| 1,1,2-Trichloroethane | ND | | 10.0 | 11.7 | | ug/L | | 117 | 52 - 150 | 7 | 45 |
| 1,1-Dichloroethane | ND | | 10.0 | 9.86 | | ug/L | | 99 | 59 - 155 | 7 | 40 |
| 1,1-Dichloroethene | ND | | 10.0 | 9.17 | | ug/L | | 92 | 10 - 234 | 7 | 32 |
| 1,2-Dichlorobenzene | ND | | 10.0 | 10.8 | | ug/L | | 108 | 18 - 190 | 3 | 57 |
| 1,2-Dichloroethane | ND | | 10.0 | 8.97 | | ug/L | | 90 | 49 - 155 | 4 | 49 |
| 1,2-Dichloropropane | ND | | 10.0 | 11.0 | | ug/L | | 110 | 10 - 210 | 5 | 55 |
| 1,3-Dichlorobenzene | ND | | 10.0 | 10.4 | | ug/L | | 104 | 59 - 156 | 4 | 43 |
| 1,4-Dichlorobenzene | ND | | 10.0 | 10.7 | | ug/L | | 107 | 18 - 190 | 2 | 57 |
| Benzene | ND | | 10.0 | 11.1 | | ug/L | | 111 | 37 - 151 | 5 | 61 |
| Bromomethane | ND | | 10.0 | 9.33 | | ug/L | | 93 | 10 - 242 | 7 | 61 |
| Carbon tetrachloride | ND | | 10.0 | 6.93 | LN | ug/L | | 69 | 70 - 140 | 6 | 41 |
| Chlorobenzene | ND | | 10.0 | 10.3 | | ug/L | | 103 | 37 - 160 | 5 | 53 |
| Dibromochloromethane | ND | | 10.0 | 7.99 | | ug/L | | 80 | 53 - 149 | 5 | 50 |
| Chloroethane | ND | | 10.0 | 10.6 | | ug/L | | 106 | 14 - 230 | 9 | 78 |
| Chloroform | ND | | 10.0 | 8.22 | | ug/L | | 82 | 51 - 138 | 6 | 54 |
| Chloromethane | ND | | 10.0 | 11.3 | | ug/L | | 113 | 10 - 273 | 7 | 60 |
| cis-1,2-Dichloroethene | ND | | 10.0 | 9.58 | | ug/L | | 96 | 60 - 140 | 7 | 35 |
| cis-1,3-Dichloropropene | ND | | 10.0 | 10.8 | | ug/L | | 108 | 10 - 227 | 3 | 58 |

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Client: Haley & Aldrich, Inc. Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

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

Lab Sample ID: 440-264459-C-1 MSD

Matrix: Water Analysis Batch: 604634 Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

| | Sample S | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|---------------------------|----------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result (| Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Bromodichloromethane | ND | | 10.0 | 8.71 | | ug/L | | 87 | 35 - 155 | 6 | 56 |
| Ethylbenzene | ND | | 10.0 | 9.84 | | ug/L | | 98 | 37 - 162 | 4 | 63 |
| Methylene Chloride | ND | | 10.0 | 9.43 | | ug/L | | 94 | 10 - 221 | 7 | 28 |
| Naphthalene | ND | | 10.0 | 11.3 | | ug/L | | 113 | 60 - 140 | 2 | 35 |
| Tetrachloroethene | ND | | 10.0 | 9.61 | | ug/L | | 96 | 64 - 148 | 2 | 39 |
| Toluene | ND | | 10.0 | 10.7 | | ug/L | | 107 | 47 - 150 | 5 | 41 |
| trans-1,2-Dichloroethene | ND | | 10.0 | 9.52 | | ug/L | | 95 | 54 - 156 | 7 | 45 |
| trans-1,3-Dichloropropene | ND | | 10.0 | 10.6 | | ug/L | | 106 | 17 - 183 | 3 | 86 |
| Trichloroethene | ND | | 10.0 | 9.71 | | ug/L | | 97 | 70 - 157 | 7 | 48 |
| Vinyl chloride | ND | | 10.0 | 11.1 | | ug/L | | 111 | 10 - 251 | 4 | 66 |

MSD MSD

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 108 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 92 | | 60 - 140 |
| Toluene-d8 (Surr) | 104 | | 60 - 140 |

Lab Sample ID: MB 440-604735/4

Matrix: Water

Analysis Batch: 604735

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

57 - 156

Client Sample ID: Matrix Spike

Prep Type: Total/NA

100

Prep Type: Total/NA

Prep Type: Total/NA

мв мв

Result Qualifier RL Analyte MDL Unit D Prepared Analyzed Dil Fac Bromoform ND 1.0 0.40 ug/L 04/13/20 08:36

MB MB

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 97 | | 60 - 140 | | 04/13/20 08:36 | 1 |
| Dibromofluoromethane (Surr) | 112 | | 60 - 140 | | 04/13/20 08:36 | 1 |
| Toluene-d8 (Surr) | 116 | | 60 - 140 | | 04/13/20 08:36 | 1 |

Lab Sample ID: LCS 440-604735/1002

Matrix: Water

Bromoform

| Analysis Batch: 604735 | | | | |
|------------------------|-------|-----------------------|--------|--------|
| - | Spike | LCS LCS | | %Rec. |
| Analyte | Added | Result Qualifier Unit | D %Rec | Limits |

25.1

ug/L

25.0

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 97 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 104 | | 60 - 140 |
| Toluene-d8 (Surr) | 98 | | 60 - 140 |

Lab Sample ID: 440-264459-A-1 MS

Matrix: Water

| Analysis Batch: 604735 | | | | | | | | | | |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Bromoform | ND | | 10.0 | 10.5 | | ug/L | | 105 | 45 - 169 | |

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4/22/2020

Job ID: 440-264463-1

Prep Type: Total/NA

Project/Site: Quarterly Outfall 001 Grab

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

Lab Sample ID: 440-264459-A-1 MS

Matrix: Water

Analysis Batch: 604735

Client: Haley & Aldrich, Inc.

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

MS MS Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 60 - 140 81 Dibromofluoromethane (Surr) 107 60 - 140 Toluene-d8 (Surr) 120 60 - 140

Lab Sample ID: 440-264459-A-1 MSD

Analysis Batch: 604735

Matrix: Water

| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|-----------|--------|-----------|-------|--------|-----------|------|-----|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit |) % | %Rec | Limits | RPD | Limit |
| Bromoform | ND | | 10.0 | 9.99 | | ug/L | | 100 | 45 - 169 | 5 | 42 |

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 93 60 - 140 Dibromofluoromethane (Surr) 105 60 - 140 Toluene-d8 (Surr) 102 60 - 140

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 440-605665/3 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605665

MB MB Analyte RL **RL** Unit Result Qualifier Prepared Analyzed Dil Fac Specific Conductance ND 1.0 1.0 umhos/cm 04/21/20 12:34

Lab Sample ID: LCS 440-605665/4 **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 605665

| | Spike | LCS | LCS | | | | %Rec. | |
|----------------------|---------|--------|-----------|----------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Specific Conductance | 946 | 917 | | umhos/cm | _ | 97 | 90 - 110 | |

Lab Sample ID: 440-264678-A-1 DU **Client Sample ID: Duplicate**

Matrix: Water

Analysis Batch: 605665

| Alialysis Datcii. 000000 | | | | | | | | | |
|--------------------------|--------|-----------|--------|-----------|----------|---|------|-----|-------|
| - | Sample | Sample | DU | DU | | | | | RPD |
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | | RPD | Limit |
| Specific Conductance | 110 | | 110 | | umhos/cm | _ | | 0 | 5 |

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-605782/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 605871

MB MB Analyte Result Qualifier **MDL** Unit RL Prepared Analyzed HEM (Oil & Grease) ND 5.0 1.4 mg/L 04/21/20 06:08 04/21/20 11:20

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Prep Type: Total/NA

Prep Type: Total/NA

QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

HEM (Oil & Grease)

Method: 1664A - HEM and SGT-HEM (Continued)

| Lab Sample ID: LCS 440-605782/2-A | | | | Clie | ent Sar | mple ID | : Lab Control Sample |
|-----------------------------------|-------|--------|-----------|------|---------|---------|----------------------|
| Matrix: Water | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 605871 | | | | | | | Prep Batch: 605782 |
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |

32.3

mg/L

40.0

| Lab Sample ID: LCSD 440-605782/3-A Matrix: Water Analysis Batch: 605871 | Spike | LCSD | LCSD | Client S | ample | ID: Lal | Prep Ba %Rec. | pe: Tot | al/NA |
|---|------------|-------------|-----------|--------------|-------|----------------|---------------------|--------------|-------------|
| Analyte HEM (Oil & Grease) | Added 40.0 | Result 34.0 | Qualifier | Unit mg/L | D | %Rec 85 | 78 ₋ 114 | RPD 5 | Limit 11 |

2

3

4

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81

78 - 114

Q

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Grab

GC/MS VOA

Analysis Batch: 604634

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264463-1 | Outfall001_20200409_Grab | Total/NA | Water | 624.1 | |
| 440-264463-3 | TB-20200410 | Total/NA | Water | 624.1 | |
| MB 440-604634/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-604634/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264459-C-1 MS | Matrix Spike | Total/NA | Water | 624.1 | |
| 440-264459-C-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 624.1 | |

Analysis Batch: 604735

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264463-1 - RA | Outfall001_20200409_Grab | Total/NA | Water | 624.1 | |
| 440-264463-3 - RA | TB-20200410 | Total/NA | Water | 624.1 | |
| MB 440-604735/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-604735/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264459-A-1 MS | Matrix Spike | Total/NA | Water | 624.1 | |
| 440-264459-A-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 624.1 | |
| | · | | | | |

General Chemistry

Analysis Batch: 604637

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|----------|------------|
| 440-264463-1 | Outfall001_20200409_Grab | Total/NA | Water | SM 2540F | |

Analysis Batch: 605665

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264463-1 | Outfall001_20200409_Grab | Total/NA | Water | 120.1 | |
| MB 440-605665/3 | Method Blank | Total/NA | Water | 120.1 | |
| LCS 440-605665/4 | Lab Control Sample | Total/NA | Water | 120.1 | |
| 440-264678-A-1 DU | Duplicate | Total/NA | Water | 120.1 | |

Prep Batch: 605782

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264463-1 | Outfall001_20200409_Grab | Total/NA | Water | 1664A | |
| MB 440-605782/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-605782/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-605782/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |

Analysis Batch: 605871

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264463-1 | Outfall001_20200409_Grab | Total/NA | Water | 1664A | 605782 |
| MB 440-605782/1-A | Method Blank | Total/NA | Water | 1664A | 605782 |
| LCS 440-605782/2-A | Lab Control Sample | Total/NA | Water | 1664A | 605782 |
| LCSD 440-605782/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 605782 |

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4/22/2020

Job ID: 440-264463-1

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

Qualifiers

GC/MS VOA

Qualifier Qualifier Description

LN MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264463-1

Project/Site: Quarterly Outfall 001 Grab

Laboratory: Eurofins Calscience Irvine

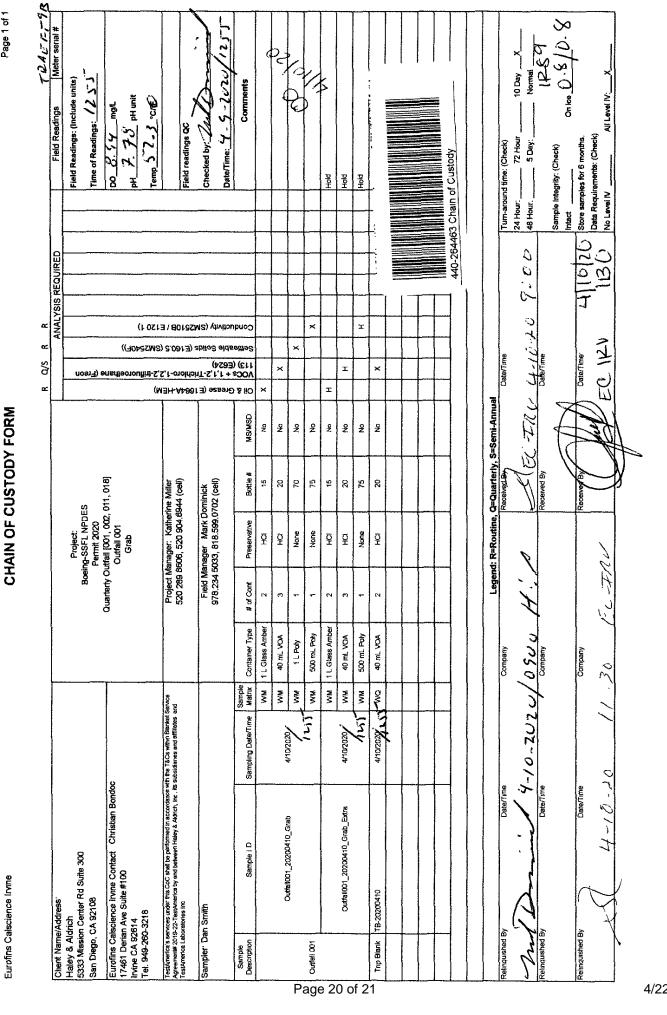
Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Pro | ogram | Identification Nu | mber Expiration Date | |
|---|-----------------------------|---------------------------------------|---|---------------------------------|------------------|
| California | Sta | ate | 2706 | 06-30-20 | |
| The following analyte | s are included in this repo | rt, but the laboratory is r | ot certified by the governing aut | hority. This list may include a | analytes for whi |
| The following analyte the agency does not | • | rt, but the laboratory is r | not certified by the governing aut | hority. This list may include a | analytes for wh |
| • , | • | rt, but the laboratory is r Matrix | not certified by the governing aut Analyte | hority. This list may include a | analytes for wh |

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Page 19 of 21 4/22/2020

| 2/2 | 2019-2020 Rainy Season | OVersion 5 | |
|-----|------------------------|------------|--|



Page 1 of 1

Client: Haley & Aldrich, Inc.

Job Number: 440-264463-1

Login Number: 264463 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |
| | | |

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264510-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

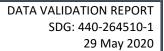
29 May 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264510-1





INTRODUCTION

Task Order Title: Boeing SSFL NPDES Contract: 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003D.01 002 Sample Delivery Group: 440-264510-1

Project Manager: Katherine Miller

Matrix: Water QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 Laboratory: TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|--------------------------------|--------------------|----------------------|--------|--------------------|---------------------------|---------------------|
| OUTFALL001_2020041 0_COMP | 440-264510-1 | N/A | WM | 4/10/20 9:30 AM | E1613B, E200.7, E200.8 | II |
| OUTFALL001_2020041 0 COMP F | 440-264510-3 | N/A | WM | 4/10/20 9:30 AM | E200.7, E200.8 | II |

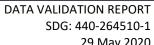
DATA VALIDATION REPORT SDG: 440-264510-1 29 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264510-1:

- The laboratories received the samples in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA- Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-Sacramento.
- Strikethroughs on the original COC were initialed but not dated.



29 May 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



III. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 8, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDD, 2,3,7,8-TCDF, OCDD and OCDF, and for all totals except PeCDF and TCDD. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. The result above the RL for OCDD but <10× the method blank concentration was also qualified as a nondetect (U). Totals PeCDD and TCDF in the sample matched the concentration of the qualified isomer (isomer 2,3,7,8-TCDF would have been qualified if retained) and were also qualified as nondetects (U). The result for total HxCDD (containing both qualified method blank isomers and a qualified EMPC isomer) was qualified as an estimated nondetect (UJ). The sample totals for HpCDD, HpCDF and HxCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

111.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.



III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.

III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. The second-column confirmation analysis for isomer 2,3,7,8-TCDF did not confirm the initial result. As the confirmation column is more specific for the detection of 2,3,7,8-TCDF, the confirmation result was retained and the initial result rejected (R) as duplicate data. The confirmation result was subsequently qualified as an EMPC.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects (UJ) at the level of the EMPC. Total HxCDD in the sample (containing both qualified method blank isomers and a qualified EMPC isomer) was qualified as an estimated nondetect (UJ). The concentration of total TCDD in the sample matched the qualified isomer and was therefore also qualified as an estimated nondetect (UJ). Remaining totals HpCDF and HxCDF flagged by the laboratory as including one or more EMPC peaks were qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^X reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL001_20200410_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.



IV.3. QUALITY CONTROL SAMPLES

IV.3.1. **METHOD BLANKS**

There were no target analyte detections in the method blanks or calibration blanks.

IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. No non-spiked target analytes were present in the ICP-MS ICSA at greater than MDL; therefore, matrix interference was not suspected. Interferents in site samples were not summarized for ICP-AES analyses; therefore, interference was not evaluated for Method 200.7.

IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the samples in this SDG (total and dissolved) for Method 200.7. Recoveries were within the QAPP control limits of 70-130% and RPDs were ≤20%. MS/MSD analyses were not performed on the samples in this SDG for Method 200.8.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. Internal Standards Performance

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402645101

Analysis Method E1613B

Sample Name OUTFALL001_20200410_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

| Analyte I | Fraction: | CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Oualifier | Validation Notes |
|---|-----------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N | 39001-02-0 | 0.000039 | 0.00010 | 0.00000097 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo- dioxin (OCDD) | p- N | 3268-87-9 | 0.00018 | 0.00010 | 0.0000014 | ug/L | MB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | | 67562-39-4 | 0.000020 | 0.000051 | 0.00000083 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-pdioxin (HpCDD) | o- N | 35822-46-9 | 0.000026 | 0.000051 | 0.0000012 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | | 55673-89-7 | 0.0000074 | 0.000051 | 0.0000010 | ug/L | J,DXq | UJ | *Ш |
| 1,2,3,4,7,8-Hexachlorodibenzofura: (HxCDF) | n N | 70648-26-9 | 0.0000070 | 0.000051 | 0.0000016 | ug/L | J,DX | J | DNQ |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 39227-28-6 | 0.0000083 | 0.000051 | 0.00000094 | ug/L | J,DXqMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofura: (HxCDF) | n N | 57117-44-9 | 0.0000073 | 0.000051 | 0.0000018 | ug/L | J,DX | J | DNQ |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 57653-85-7 | 0.0000063 | 0.000051 | 0.00000096 | ug/L | J,DXq | UJ | *III |
| 1,2,3,7,8,9-Hexachlorodibenzofura: (HxCDF) | n N | 72918-21-9 | 0.0000067 | 0.000051 | 0.0000011 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 19408-74-3 | 0.0000054 | 0.000051 | 0.00000087 | ug/L | J,DXqMB | U | В |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-41-6 | 0.0000064 | 0.000051 | 0.00000075 | ug/L | J,DX | J | DNQ |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N · | 40321-76-4 | 0.0000073 | 0.000051 | 0.00000084 | ug/L | J,DXMB | U | В |
| 2,3,4,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 60851-34-5 | 0.0000062 | 0.000051 | 0.0000011 | ug/L | J,DXq | UJ | *Ⅲ |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-31-4 | 0.0000062 | 0.000051 | 0.00000071 | ug/L | J,DX | J | DNQ |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | 0.0000017 | 0.000010 | 0.00000039 | ug/L | J,DXMB | R | D |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | 0.0000015 | 0.000010 | 0.0000011 | ug/L | J,DXq | UJ | *III |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxi | n N | 1746-01-6 | 0.0000038 | 0.000010 | 0.00000065 | ug/L | J,DXq | UJ | *III |
| Total Heptachlorodibenzofuran (HpCDF) | N | 38998-75-3 | 0.000037 | 0.000051 | 0.00000083 | ug/L | J,DXqMB | J | B, DNQ, *III |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | . N | 37871-00-4 | 0.000046 | 0.000051 | 0.0000012 | ug/L | J,DXMB | J | B, DNQ |
| Total Hexachlorodibenzofuran (HxCDF) | N | 55684-94-1 | 0.000031 | 0.000051 | 0.0000011 | ug/L | J,DXqMB | J | B, DNQ, *III |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N : | 34465-46-8 | 0.000020 | 0.000051 | 0.00000087 | ug/L | J,DXqMB | UJ | В, *Ш |
| Total Pentachlorodibenzofuran (PeCDF) | N : | 30402-15-4 | 0.000013 | 0.000051 | 0.00000071 | ug/L | J,DX | J | DNQ |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N : | 36088-22-9 | 0.0000073 | 0.000051 | 0.00000084 | ug/L | J,DXMB | U | В |
| Total Tetrachlorodibenzofuran (TCDF) | N : | 55722-27-5 | 0.0000017 | 0.000010 | 0.00000039 | ug/L | J,DXMB | U | В |

Wednesday, July 15, 2020 Page 1 of 2

Analysis Method E1613B

Total Tetrachlorodibenzo-p-dioxin N 41903-57-5 0.0000038 0.000010 0.00000065 ug/L J,DXq UJ *III

(TCDD)

Analysis Method E200.7

Sample Name OUTFALL001 20200410 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

Analyte Fraction: CAS No Result RLMDL Result Lab Validation Validation Value Units **Qualifier Qualifier** Notes Iron 7439-89-6 2100 100 50 ug/L 7440-66-6 Zinc 15 20 12 ug/L J,DX J DNQ

Sample Name OUTFALL001 20200410 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-3

Fraction: CAS No Result RLMDL Result **Analyte** Lab Validation Validation Qualifier Units Value Qualifier Notes Iron D 7439-89-6 0.20 0.10 0.050 mg/L Zinc D 7440-66-6 16 20 12 DNQ ug/L J,DX

Analysis Method E200.8

Sample Name OUTFALL001_20200410_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

Analyte Fraction: CAS No Result RL**MDL** Result Lab Validation Validation Value Units **Oualifier** Qualifier Notes Cadmium 7440-43-9 ND 0.25 T 1.0 ug/L U U Copper Т 7440-50-8 3.8 2.0 0.50 ug/L Т 7439-92-1 0.50 Lead 1.6 1.0 ug/L 0.50 Selenium 7782-49-2 2.0 ug/L

Sample Name OUTFALL001 20200410 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-3

| Analyte | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|--------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 1.8 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | 1.2 | 2.0 | 0.50 | ug/L | J.DX | J | DNO |

Wednesday, July 15, 2020 Page 2 of 2



Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264510-1

Client Project/Site: Quarterly Outfall 001 Comp

Revision: 1

For:

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

Attn: Katherine Miller

Authorized for release by: 6/18/2020 4:53:36 PM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

.....LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Laboratory Job ID: 440-264510-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

6/18/2020 4:53:36 PM

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Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Asset ID

 440-264510-1
 Outfall001_20200410_Comp
 Water
 04/10/20 09:30
 04/10/20 16:45

 440-264510-3
 Outfall001_20200410_Comp_F
 Water
 04/10/20 09:30
 04/10/20 16:45

Job ID: 440-264510-1

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Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

Job ID: 440-264510-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264510-1

Comments

Revised to report Mn for total and dissolved.

The samples were received on 4/10/2020 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 2.6° C and 4.8° C.

GC/MS Semi VOA

Method 625.1: Surrogate Phenol-d5 recovery for the following sample was outside control limits: (440-264517-M-1-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. Low recovery is possibly due to less than optimal extraction conditions. Data is reported with a possible low bias.

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

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-604707 and analytical batch 440-604795. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-604707/5-A)

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

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: Outfall001 20200410 Comp (440-264510-1), (CCV 320-373674/2), (LCS 320-372899/2-A) and (MB 320-372899/1-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

Method FILTRATION: The following sample requested dissolved metals and was not filtered in the field: Outfall001_20200410 Comp F (440-264510-3). This sample was filtered and preserved upon receipt to the laboratory.

04/11/20 by CDH/HZ 2.5mL of HNO3 HNO3 Lot # 0000234822

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.

Subcontract non-Sister

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

Organic Prep

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

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

Job ID: 440-264510-1 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B_Sox_Sep_P preparation/analysis: Sample Outfall001_20200410_Comp (440-264510-1) were received in a wide-mouth amber glass bottle.

Prep Batch: 372899

Method: 1613 (Waste Water)

Matrix: Water

No additional analytical or quality issues were noted, other than those described above or 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.

Client Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp Lab Sample ID: 440-264510-1

Date Collected: 04/10/20 09:30 Date Received: 04/10/20 16:45

Matrix: Water

Job ID: 440-264510-1

| | e Organic Cor Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|---|---|---|-------------------------------------|--|--|----|---|---|--------|
| 2,4,6-Trichlorophenol | ND | | 6.6 | 0.11 | ug/L | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Bis(2-ethylhexyl) phthalate | ND | | 5.5 | 2.2 | ug/L | | 04/13/20 08:58 | 04/15/20 11:41 | |
| N-Nitrosodimethylamine | ND | | 5.5 | 0.33 | ug/L | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Pentachlorophenol | ND | | 5.5 | 1.1 | ug/L | | 04/13/20 08:58 | 04/15/20 11:41 | |
| 2,4-Dinitrotoluene | ND | | 5.5 | 2.2 | ug/L | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| 2,4,6-Tribromophenol | 77 | | 60 - 120 | | | | 04/13/20 08:58 | 04/15/20 11:41 | |
| 2-Fluorobiphenyl | 72 | | 51 - 120 | | | | 04/13/20 08:58 | 04/15/20 11:41 | |
| 2-Fluorophenol | 83 | | 43 - 120 | | | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Nitrobenzene-d5 | 85 | | 53 - 150 | | | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Terphenyl-d14 | 59 | | 12 - 142 | | | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Phenol-d5 | 70 | | 45 - 150 | | | | 04/13/20 08:58 | 04/15/20 11:41 | |
| Method: 608.3 - Organochlo | orine Pesticide | es in Water | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| alpha-BHC | ND | | 0.0053 | 0.0026 | ug/L | | 04/13/20 05:29 | 04/14/20 14:51 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| Tetrachloro-m-xylene | 54 | | 10 - 104 | | | | 04/13/20 05:29 | 04/14/20 14:51 | |
| DCB Decachlorobiphenyl (Surr) | 71 | | 18 - 134 | | | | 04/13/20 05:29 | 04/14/20 14:51 | |
| Method: 300.0 - Anions, Ion | Chromatogra | phy | | | | | | | |
| Analyte | _ | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| Chloride | 4.0 | | 0.50 | 0.25 | mg/L | | | 04/11/20 00:00 | |
| Nitrate as N | 0.13 | | 0.11 | 0.055 | mg/L | | | 04/11/20 00:00 | |
| Nitrite as N | ND | | 0.15 | 0.025 | mg/L | | | 04/11/20 00:00 | |
| Sulfate | 5.9 | | 0.50 | 0.25 | mg/L | | | 04/11/20 00:00 | |
| Method: 314.0 - Perchlorate | (IC) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| Perchlorate | ND | | 4.0 | 0.95 | ug/L | | | 04/14/20 11:39 | |
| Made at Northogon C. C. C. | rogen. Nitrate | -Nitrito | | | | | | | |
| vietnoa: NO3NO2 Calc - Niti | 9 | -ivitiite | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil F |
| Analyte | Result | | RL 0.15 | MDL 0.055 | | D | Prepared | Analyzed 04/14/20 10:37 | Dil F |
| Method: NO3NO2 Calc - Niti Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an | Result 0.13 ad Furans (HR | Qualifier J,DX GC/HRMS) | 0.15 | 0.055 | mg/L | | <u> </u> | 04/14/20 10:37 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte | Result 0.13 od Furans (HR Result | Qualifier J,DX GC/HRMS) Qualifier | 0.15 | 0.055 EDL | mg/L Unit | D_ | Prepared | 04/14/20 10:37 Analyzed | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte | Result 0.13 ad Furans (HR | Qualifier J,DX GC/HRMS) Qualifier | 0.15 | 0.055 EDL 0.0000006 | mg/L Unit | | Prepared | 04/14/20 10:37 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD | Result 0.13 od Furans (HR Result | Qualifier J,DX GC/HRMS) Qualifier J,DX q | 0.15 | 0.055 EDL 0.0000006 5 0.0000008 | mg/L Unit ug/L | | Prepared 04/16/20 12:05 | 04/14/20 10:37 Analyzed | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD | Result 0.13 od Furans (HR Result 0.0000038 | Qualifier J,DX GC/HRMS) Qualifier J,DX q J,DX MB | 0.15 RL 0.000010 | 0.055 EDL 0.0000006 5 | mg/L Unit ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 | 04/14/20 10:37 Analyzed 04/20/20 18:12 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF | Result 0.13 od Furans (HR Result 0.0000038 0.0000073 0.0000064 | Qualifier J,DX GC/HRMS) Qualifier J,DX q J,DX MB J,DX | 0.15 RL 0.000010 0.000051 0.000051 | 0.055 EDL 0.0000006 5 0.0000008 4 0.0000007 5 | mg/L Unit ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 | 04/14/20 10:37 Analyzed 04/20/20 18:12 04/20/20 18:12 | Dil Fa |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF | Result 0.13 od Furans (HR Result 0.0000038 0.0000073 0.0000064 0.0000062 | Qualifier J,DX GC/HRMS) Qualifier J,DX q J,DX MB J,DX J,DX | 0.15 RL 0.000010 0.000051 0.000051 | 0.055 EDL 0.0000006 5 0.0000008 4 0.0000007 5 0.0000007 | mg/L Unit ug/L ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 | 04/14/20 10:37 Analyzed 04/20/20 18:12 04/20/20 18:12 04/20/20 18:12 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF | Result 0.13 od Furans (HR Result 0.0000038 0.0000073 0.0000064 0.0000062 | Qualifier J,DX GC/HRMS) Qualifier J,DX q J,DX MB J,DX | 0.15 RL 0.000010 0.000051 0.000051 | 0.055 EDL 0.0000006 5 0.0000008 4 0.0000007 5 | mg/L Unit ug/L ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 | 04/14/20 10:37 Analyzed 04/20/20 18:12 04/20/20 18:12 04/20/20 18:12 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF | Result 0.13 od Furans (HR Result 0.0000038 0.0000073 0.0000064 0.0000062 | Qualifier J,DX GC/HRMS) Qualifier J,DX q J,DX MB J,DX J,DX J,DX J,DX q MB | 0.15 RL 0.000010 0.000051 0.000051 | 0.055 EDL 0.0000006 5 0.0000008 4 0.0000007 5 0.0000007 1 0.0000009 | mg/L Unit ug/L ug/L ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 | 04/14/20 10:37 Analyzed 04/20/20 18:12 04/20/20 18:12 04/20/20 18:12 | |

Eurofins Calscience Irvine

Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp Lab Sample ID: 440-264510-1

Date Collected: 04/10/20 09:30 Lab Sample 15. 440-254510-1

Date Received: 04/10/20 09:30 Matrix: V

| 13C-2,3,7,8-TCDD | Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fa |
|--|--|--|--------------------|--|-----------|------|----------|--|--|--------|
| 1,2,3,7,8,9-HxCDF | 1,2,3,4,7,8-HxCDF | 0.0000070 | J,DX | 0.000051 | 0.0000016 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 2,3,4,6,7,8-HxCDF | 1,2,3,6,7,8-HxCDF | 0.0000073 | J,DX | 0.000051 | 0.000018 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 1,2,3,4,67,8-HpCDP | 1,2,3,7,8,9-HxCDF | 0.0000067 | J,DX MB | 0.000051 | 0.0000011 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 1,2,3,4,6,7,8-HpCDF | 2,3,4,6,7,8-HxCDF | 0.0000062 | J,DX q | 0.000051 | 0.0000011 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 1.2.3.4,7.8,9-HpCDF | 1,2,3,4,6,7,8-HpCDD | 0.000026 | J,DX MB | 0.000051 | 0.0000012 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 1,2,3,4,7,8,9-HpCDF | 1,2,3,4,6,7,8-HpCDF | 0.000020 | J,DX MB | 0.000051 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total PCDF 0.000038 J,DX MB 0.00010 0.0000006 ug/L 04/16/20 12:05 04/20/20 18:12 | 1,2,3,4,7,8,9-HpCDF | 0.0000074 | J,DX q | 0.000051 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total TCDP | OCDD | 0.00018 | MB | 0.00010 | 0.0000014 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total TCDP | OCDF | 0.000039 | J,DX MB | 0.00010 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total PCDF | Total TCDD | 0.0000038 | J,DX q | 0.000010 | 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total PeCDP 0.000073 | Total TCDF | 0.0000017 | J,DX MB | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total HxCDD | Total PeCDD | 0.0000073 | J,DX MB | 0.000051 | 0.0000008 | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total HxCDF | Total PeCDF | 0.000013 | J,DX | 0.000051 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total HxCDF | Total HxCDD | 0.000020 | J,DX q MB | 0.000051 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total HpCDF 0.000046 J,D X MB 0.000051 0.0000012 ug/L 0.0016/12 0.0016/12 0.000008 ug/L 0.0016/12 0.0016/12 0.000008 ug/L 0.0016/12 0.0016/12 0.000008 ug/L 0.0016/12 0.0016/12 0.000008 ug/L 0.0016/12 | Total HxCDF | 0.000031 | J.DX a MB | 0.000051 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Total HpCDF 0.000037 | | | | | | - | | 04/16/20 12:05 | 04/20/20 18:12 | |
| | • | | * | | 0.0000008 | - | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-2,3,7,8-PCDF 55 24-169 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,7,8-PeCDD 45 25-181 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,7,8-PeCDF 45 24-185 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-PeCDF 50 21-178 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDD 50 32-141 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDD 51 28-130 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 52 26-152 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 50 26-123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 50 26-123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 50 28-136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28-136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28-136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDD 56 23-140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDF 56 28-143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 56 28-143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 56 12 26-138 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 56 28-143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 56 12 26-138 04/16/20 | Isotope Dilution | %Recovery | Qualifier | Limits | 3 | | | Prepared | Analyzed | Dil Fa |
| 13C-1,2,3,7,8-PeCDD | 13C-2,3,7,8-TCDD | 55 | | 25 - 164 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,7,8-PeCDF | 13C-2,3,7,8-TCDF | 55 | | 24 - 169 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-2,3,4,7,8-PeCDF 50 21.178 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDD 50 32.141 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDD 51 28.130 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 52 26.152 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 50 26.123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 29.147 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28.136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28.136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28.140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 56 28.143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 56 28.143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HxCDF 61 26.138 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HxCDF 61 26.138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17.157 04/16/20 12:05 04/20/20 18:12 1 | 13C-1,2,3,7,8-PeCDD | 45 | | 25 - 181 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,4,7,8-HxCDD 50 32 - 141 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,6,7,8-HxCDD 51 28 - 130 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 52 26 - 152 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 50 26 - 123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 29 - 147 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28 - 136 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28 - 136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28 - 136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 56 23 - 140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 56 28 - 143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HxCDF 61 26 - 138 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HxCDF 61 26 - 138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-TCDD 84 35 - 197 04/16/20 12:05 04/20/20 18:12 04/16/20 12: | 13C-1,2,3,7,8-PeCDF | 45 | | 24 - 185 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,6,7,8-HxCDD 51 28.130 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8-HxCDF 52 26.152 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,6,7,8-HxCDF 50 26.123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,7,8,9-HxCDF 50 29.147 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28.136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 50 28.136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HxCDF 56 23.140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HyCDF 56 28.143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HyCDF 61 26.138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17.157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17.157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 84 35.197 Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12 13C-0CDD 84 Result Qualifier RL EDL Unit D Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12 12:05 04/20/20 18:12 12:05 04/20/2 | 13C-2,3,4,7,8-PeCDF | 50 | | 21 - 178 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,4,7,8-HxCDF 52 26-152 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,6,7,8-HxCDF 50 26-123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,7,8,9-HxCDF 50 29-147 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28-136 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28-136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HyCDD 56 23-140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HyCDF 56 28-143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HyCDF 61 26-138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17-157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17-157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17-157 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,7,8-TCDD 84 35-197 Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12 13C-1,2,3,7,8-TCDD 84 Result Qualifier RL EDL Unit D Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12:05 04/20 | 13C-1,2,3,4,7,8-HxCDD | 50 | | 32 - 141 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,6,7,8-HxCDF 50 26 - 123 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,7,8,9-HxCDF 50 29 - 147 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28 - 136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDD 56 23 - 140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDF 56 28 - 143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 61 26 - 138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 84 35 - 197 04/16/20 12:05 04/20/20 18:12 12 12 13C-0CDD 84 12 12 12 12 12 12 12 12 12 12 12 12 12 | 13C-1,2,3,6,7,8-HxCDD | 51 | | 28 - 130 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,7,8,9-HxCDF 50 29 - 147 04/16/20 12:05 04/20/20 18:12 13C-2,3,4,6,7,8-HxCDF 50 28 - 136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDD 56 23 - 140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDF 56 28 - 143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 61 26 - 138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 84 35 - 197 04/16/20 12:05 04/20/20 18:12 12 12 12 12 12 12 12 12 12 12 12 12 1 | 13C-1,2,3,4,7,8-HxCDF | 52 | | 26 - 152 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-2,3,4,6,7,8-HxCDF 50 28-136 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDD 56 23-140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDF 56 28-143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 61 26-138 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17-157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 54 17-157 04/16/20 12:05 04/20/20 18:12 13C-0CDD 84 35-197 Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12 12 12 12 12 12 12 12 12 12 12 12 1 | 13C-1,2,3,6,7,8-HxCDF | 50 | | 26 - 123 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,4,6,7,8-HpCDD 56 23 - 140 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,6,7,8-HpCDF 56 28 - 143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 61 26 - 138 04/16/20 12:05 04/20/20 18:12 13C-OCDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-OCDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 13C-OCDD 84 35 - 197 Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12 13C-OCDD 84 B4 | 13C-1,2,3,7,8,9-HxCDF | 50 | | 29 - 147 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,4,6,7,8-HpCDF 56 28-143 04/16/20 12:05 04/20/20 18:12 13C-1,2,3,4,7,8,9-HpCDF 61 26-138 04/16/20 12:05 04/20/20 18:12 13C-OCDD 54 17-157 04/16/20 12:05 04/20/20 18:12 12 13C-OCDD 54 17-157 04/16/20 12:05 04/20/20 18:12 12 13C-OCDD 84 35-197 Prepared Analyzed Dil 04/16/20 12:05 04/20/20 18:12 12 12 12 12 12 12 12 12 12 12 12 12 1 | | | | 28 - 136 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| 13C-1,2,3,4,7,8,9-HpCDF | 13C-2,3,4,6,7,8-HxCDF | 50 | | | | | | 04/40/00 40:05 | 04/00/00 40:40 | |
| 13C-OCDD 54 17 - 157 04/16/20 12:05 04/20/20 18:12 | | | | | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Surrogate %Recovery Qualifier Limits 37.014-2,3,7,8-TCDD 84 35 - 197 704/16/20 12:05 04/20/20 18:12 18.01 18 | 13C-1,2,3,4,6,7,8-HpCDD | 56 | | 23 - 140 | | | | | | |
| Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA Result Qualifier RL EDL Unit D Did | 13C-1,2,3,4,6,7,8-HpCDD 13C-1,2,3,4,6,7,8-HpCDF | 56 56 | | 23 - 140 28 - 143 | | | | 04/16/20 12:05 | 04/20/20 18:12 | |
| Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA Analyte Result 0.0000015 Qualifier Qualifier 0.000010 RL 0.000011 EDL Unit ug/L D 04/16/20 12:05 Prepared 0.04/21/20 14:23 Dil 0.000011 | 13C-1,2,3,4,6,7,8-HpCDD 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF | 56 56 61 | | 23 - 140 28 - 143 26 - 138 | | | | 04/16/20 12:05 04/16/20 12:05 | 04/20/20 18:12 04/20/20 18:12 | |
| 2,3,7,8-TCDF 0.0000015 J,DX q 0.000010 0.0000011 ug/L 04/16/20 12:05 04/21/20 14:23 | 13C-1,2,3,4,6,7,8-HpCDD 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF | 56 56 61 | | 23 - 140 28 - 143 26 - 138 | | | | 04/16/20 12:05 04/16/20 12:05 | 04/20/20 18:12 04/20/20 18:12 | |
| | 13C-1,2,3,4,6,7,8-HpCDD 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF 13C-OCDD Surrogate 37Cl4-2,3,7,8-TCDD | 56 56 61 54 <u>%Recovery</u> 84 and Furans (HR | GC/HRMS) | 23 - 140 28 - 143 26 - 138 17 - 157 Limits 35 - 197 | | | | 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 Prepared 04/16/20 12:05 | 04/20/20 18:12 04/20/20 18:12 04/20/20 18:12 Analyzed 04/20/20 18:12 | |
| Isotope Dilution %Recovery Qualifier Limits Prepared Analyzed Dil | 13C-1,2,3,4,6,7,8-HpCDD 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF 13C-OCDD Surrogate 37CI4-2,3,7,8-TCDD Method: 1613B - Dioxins Analyte | 56 56 61 54 <u>%Recovery</u> 84 and Furans (HR Result | GC/HRMS) Qualifier | 23 - 140 28 - 143 26 - 138 17 - 157 Limits 35 - 197 | | | D | 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 Prepared 04/16/20 12:05 Prepared | 04/20/20 18:12 04/20/20 18:12 04/20/20 18:12 Analyzed 04/20/20 18:12 Analyzed | |
| Troparou Analyzou Dir | 13C-1,2,3,4,6,7,8-HpCDD 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF 13C-OCDD Surrogate 37CI4-2,3,7,8-TCDD Method: 1613B - Dioxins Analyte | 56 56 61 54 <u>%Recovery</u> 84 and Furans (HR Result | GC/HRMS) Qualifier | 23 - 140 28 - 143 26 - 138 17 - 157 Limits 35 - 197 | | | D | 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 Prepared 04/16/20 12:05 Prepared | 04/20/20 18:12 04/20/20 18:12 04/20/20 18:12 Analyzed 04/20/20 18:12 Analyzed | Dil Fa |

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Client: Haley & Aldrich, Inc. Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp

Date Collected: 04/10/20 09:30 Date Received: 04/10/20 16:45 Lab Sample ID: 440-264510-1

Matrix: Water

| Surrogate | %Recovery Qu | ualifier | Limits | Prepared Analyzed | Dil Fac |
|--------------------|--------------|----------|----------|-------------------------------|---------|
| 37Cl4-2,3,7,8-TCDD | 88 | | 35 - 197 | 04/16/20 12:05 04/21/20 14:23 | 1 |

| Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable | | | | | | | | | | |
|--|-----------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| | Zinc | 15 | J,DX | 20 | 12 | ug/L | | 04/14/20 09:31 | 04/14/20 15:54 | 1 |
| | Iron | 2100 | | 100 | 50 | ug/L | | 04/14/20 09:31 | 04/14/20 15:54 | 1 |
| | Manganese | 37 | | 20 | 15 | ug/L | | 04/14/20 09:31 | 04/14/20 15:54 | 1 |

| Method: 200.8 - Metals (| ICP/MS) - Total Recoverable | | | | | | | |
|--------------------------|-----------------------------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND — | 1.0 | 0.25 | ug/L | | 04/16/20 09:22 | 04/16/20 15:51 | 1 |
| Copper | 3.8 | 2.0 | 0.50 | ug/L | | 04/16/20 09:22 | 04/16/20 15:51 | 1 |
| Lead | 1.6 | 1.0 | 0.50 | ug/L | | 04/16/20 09:22 | 04/16/20 15:51 | 1 |
| Selenium | ND | 2.0 | 0.50 | ug/L | | 04/16/20 09:22 | 04/16/20 15:51 | 1 |

| Method: 245.1 - Mercury (CVAA | () | | | | | | | | | |
|-------------------------------|------------|-----------|------|------|------|---|---|---------------|----------------|---------|
| Analyte | Result C | Qualifier | RL | MDL | Unit | D |) | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.20 | 0.10 | ug/L | | 0 | 4/13/20 13:07 | 04/13/20 17:18 | 1 |

| Method: SM 2340B - Total Hard | • | | | | | | | |
|-------------------------------|------------------|------|--------|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL (| Jnit | D | Prepared | Analyzed | Dil Fac |
| Hardness, as CaCO3 | 44 | 0.33 | 0.17 r | ng/L | _ | | 04/29/20 12:47 | 1 |

| General Chemistry Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Turbidity | 51 | | 1.0 | 0.40 | NTU | | | 04/10/20 19:22 | 10 |
| Total Dissolved Solids | 110 | | 10 | 5.0 | mg/L | | | 04/16/20 10:31 | 1 |
| Total Suspended Solids | 22 | | 1.4 | 0.71 | mg/L | | | 04/16/20 12:59 | 1 |
| Cyanide, Total | ND | | 5.0 | 2.5 | ug/L | | 04/15/20 09:51 | 04/16/20 13:39 | 1 |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | | | 04/20/20 14:49 | 1 |
| Methylene Blue Active Substances | 0.074 | J,DX | 0.10 | 0.050 | mg/L | | | 04/11/20 11:05 | 1 |
| Biochemical Oxygen Demand | ND | | 2.0 | 2.0 | mg/L | | | 04/12/20 08:14 | 1 |

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Date Received: 04/10/20 16:45

| Client Sample ID: Outfall001_20200410_Comp_F | Lab Sample ID: 440-264510-3 |
|--|-----------------------------|
| Date Collected: 04/10/20 09:30 | Matrix: Water |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|-----------|-----------|----------|--------|------|---|----------------|----------------|---------|
| Chlordane (technical) | ND | | 0.10 | 0.083 | ug/L | | 04/13/20 05:29 | 04/14/20 15:06 | 1 |
| Toxaphene | ND | | 0.52 | 0.25 | ug/L | | 04/13/20 05:29 | 04/14/20 15:06 | 1 |
| 4,4'-DDD | ND | | 0.0052 | 0.0041 | ug/L | | 04/13/20 05:29 | 04/14/20 15:06 | 1 |
| 4,4'-DDE | ND | | 0.0052 | 0.0031 | ug/L | | 04/13/20 05:29 | 04/14/20 15:06 | 1 |
| 4,4'-DDT | ND | | 0.010 | 0.0041 | ug/L | | 04/13/20 05:29 | 04/14/20 15:06 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| Tetrachloro-m-xylene | 62 | | 10 - 104 | | | | 04/13/20 05:29 | 04/14/20 15:06 | 1 |

| Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) | | | | | | | | | | |
|---|----|-----|------|------|----------|----------|----------------|----------------|---|--|
| Analyte | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | | | |
| Aroclor 1016 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 | |

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Client Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp_F Lab Sample ID: 440-264510-3

Date Collected: 04/10/20 09:30 **Matrix: Water**

Date Received: 04/10/20 16:45

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--|---|---------------------------|---|--------------------------------------|-------------------------------|----------|--|--|--------------------------|
| Aroclor 1221 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Aroclor 1232 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Aroclor 1242 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Aroclor 1248 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Aroclor 1254 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Aroclor 1260 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| DCB Decachlorobiphenyl (Surr) | 107 | | 18 - 134 | | | | 04/13/20 05:29 | 04/13/20 15:43 | 1 |
| Method: 200.7 Rev 4.4 - Met | tals (ICP) - Dis | solved | | | | | | | |
| Analyte | , , | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Zinc | <u></u> | J,DX | | 12 | ug/L | | 04/13/20 14:58 | 04/13/20 19:25 | 1 |
| Iron | 0.20 | | 0.10 | 0.050 | mg/L | | 04/13/20 14:58 | 04/13/20 19:25 | 1 |
| Manganese | ND | | 0.020 | 0.015 | mg/L | | 04/13/20 14:58 | 04/13/20 19:25 | 1 |
| Method: 200.8 - Metals (ICP | /MS) - Dissolv | ned. | | | | | | | |
| • | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| | Result ND | Qualifier | | MDL 0.25 | Unit ug/L | D | Prepared 04/13/20 15:02 | Analyzed 04/13/20 15:39 | Dil Fac |
| Cadmium | | | | 0.25 | ug/L | D | • | • | Dil Fac |
| Cadmium Copper | ND | | 1.0 | 0.25 0.50 | | <u>D</u> | 04/13/20 15:02 | 04/13/20 15:39 04/13/20 15:39 | 1 1 1 |
| Cadmium Copper Lead | ND 1.8 ND | | 1.0 | 0.25 0.50 0.50 | ug/L ug/L | <u>D</u> | 04/13/20 15:02 04/13/20 15:02 | 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 | 1 1 1 1 |
| Analyte Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C) | ND 1.8 ND 1.2 | J,DX J,DX | 1.0 2.0 1.0 | 0.25 0.50 0.50 | ug/L ug/L ug/L | <u>D</u> | 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 | 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 | Dil Fac 1 1 1 1 |
| Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C) | ND 1.8 ND 1.2 VAA) - Dissolv | J,DX J,DX | 1.0 2.0 1.0 | 0.25 0.50 0.50 | ug/L ug/L ug/L ug/L | D_ | 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 | 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 | Dil Fac 1 1 1 1 Dil Fac |
| Cadmium Copper Lead | ND 1.8 ND 1.2 VAA) - Dissolv | J,DX J,DX /ed | 1.0 2.0 1.0 2.0 | 0.25 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L | | 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 | 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 | 1 1 1 |
| Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C'Analyte Mercury | ND 1.8 ND 1.2 VAA) - Dissolv Result ND | J,DX J,DX /ed Qualifier | 1.0 2.0 1.0 2.0 RL 0.20 | 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L | | 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 Prepared | 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 Analyzed | 1 1 1 |
| Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C'Analyte | ND 1.8 ND 1.2 VAA) - Dissolv Result ND lardness (as 0 | J,DX J,DX /ed Qualifier | 1.0 2.0 1.0 2.0 RL 0.20 | 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L | | 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 04/13/20 15:02 Prepared | 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 04/13/20 15:39 Analyzed | 1 1 1 |

Job ID: 440-264510-1

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

| Method | Method Description | Protocol | Laboratory |
|---------------|---|-----------|------------|
| 625.1 | Semivolatile Organic Compounds (GC/MS) | 40CFR136A | TAL IRV |
| 608.3 | Organochlorine Pesticides in Water | 40CFR136A | TAL IRV |
| 608.3 | Polychlorinated Biphenyls (PCBs) (GC) | 40CFR136A | TAL IRV |
| 300.0 | Anions, Ion Chromatography | MCAWW | TAL IRV |
| 314.0 | Perchlorate (IC) | EPA | TAL IRV |
| NO3NO2 Calc | Nitrogen, Nitrate-Nitrite | EPA | TAL IRV |
| 1613B | Dioxins and Furans (HRGC/HRMS) | EPA | TAL SAC |
| 200.7 Rev 4.4 | Metals (ICP) | EPA | TAL IRV |
| 200.8 | Metals (ICP/MS) | EPA | TAL IRV |
| 245.1 | Mercury (CVAA) | EPA | TAL IRV |
| SM 2340B | Total Hardness (as CaCO3) by calculation | SM | TAL IRV |
| 80.1 | Turbidity, Nephelometric | MCAWW | TAL IRV |
| SM 2540C | Solids, Total Dissolved (TDS) | SM | TAL IRV |
| SM 2540D | Solids, Total Suspended (TSS) | SM | TAL IRV |
| SM 4500 CN E | Cyanide, Total (Low Level) | SM | TAL IRV |
| SM 4500 NH3 G | Ammonia | SM | TAL IRV |
| SM 5540C | Methylene Blue Active Substances (MBAS) | SM | TAL IRV |
| SM5210B | BOD, 5 Day | SM | TAL IRV |
| PA | Bioassay | EPA | Aquatic |
| 613B | Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans | EPA | TAL SAC |
| 200.2 | Preparation, Total Recoverable Metals | EPA | TAL IRV |
| 45.1 | Preparation, Mercury | EPA | TAL IRV |
| 08 | Liquid-Liquid Extraction (Separatory Funnel) | 40CFR136A | TAL IRV |
| 25 | Liquid-Liquid Extraction | 40CFR136A | TAL IRV |
| Distill/CN | Distillation, Cyanide | None | TAL IRV |
| ILTRATION | Sample Filtration | None | TAL IRV |

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.

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

Laboratory References:

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

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp

Date Collected: 04/10/20 09:30 Date Received: 04/10/20 16:45

Lab Sample ID: 440-264510-1

Matrix: Water

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|---------------|-----|--------|----------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 625 | | | 915 mL | 2.0 mL | 604752 | 04/13/20 08:58 | NAM | TAL IRV |
| Total/NA | Analysis | 625.1 | | 1 | | | 605078 | 04/15/20 11:41 | L1B | TAL IRV |
| Total/NA | Prep | 608 | | | 945 mL | 2 mL | 604707 | 04/13/20 05:29 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604824 | 04/14/20 14:51 | D1D | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | 5 mL | 1.0 mL | 604533 | 04/11/20 00:00 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | 5 mL | 1.0 mL | 604534 | 04/11/20 00:00 | NTN | TAL IRV |
| Total/NA | Analysis | 314.0 | | 1 | | | 604910 | 04/14/20 11:39 | PS | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 604940 | 04/14/20 10:37 | TLN | TAL IRV |
| Total/NA | Prep | 1613B | | | 981.9 mL | 20.0 uL | 372899 | 04/16/20 12:05 | NR | TAL SAC |
| Total/NA | Analysis | 1613B | | 1 | | | 373674 | 04/20/20 18:12 | ALM | TAL SAC |
| Total/NA | Prep | 1613B | RA | | 981.9 mL | 20.0 uL | 372899 | 04/16/20 12:05 | NR | TAL SAC |
| Total/NA | Analysis | 1613B | RA | 1 | | | 373924 | 04/21/20 14:23 | ALM | TAL SAC |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604924 | 04/14/20 09:31 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 605112 | 04/14/20 15:54 | VS | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605317 | 04/16/20 09:22 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 605400 | 04/16/20 15:51 | MQP | TAL IRV |
| Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 604651 | 04/13/20 13:07 | DB | TAL IRV |
| Total/NA | Analysis | 245.1 | | 1 | | | 604855 | 04/13/20 17:18 | MEM | TAL IRV |
| Total Recoverable | Analysis | SM 2340B | | 1 | | | 606968 | 04/29/20 12:47 | B1H | TAL IRV |
| Total/NA | Analysis | 180.1 | | 10 | | | 604643 | 04/10/20 19:22 | HZ | TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 605339 | 04/16/20 10:31 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 700 mL | 1000 mL | 605370 | 04/16/20 12:59 | XL | TAL IRV |
| Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 605119 | 04/15/20 09:51 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 CN E | | 1 | | | 605374 | 04/16/20 13:39 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 NH3 G | | 1 | 0.8 mL | 8.0 mL | 605752 | 04/20/20 14:49 | KMY | TAL IRV |
| Total/NA | Analysis | SM 5540C | | 1 | 100 mL | 100 mL | 604672 | 04/11/20 11:05 | KMY | TAL IRV |
| Total/NA | Analysis | SM5210B | | 1 | 300 mL | 300 mL | 604686 | 04/12/20 08:14 | KYP | TAL IRV |

Client Sample ID: Outfall001_20200410_Comp_F

Date Collected: 04/10/20 09:30 Date Received: 04/10/20 16:45

Lab Sample ID: 440-264510-3 **Matrix: Water**

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 608 | | | 965 mL | 2 mL | 604707 | 04/13/20 05:29 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604824 | 04/14/20 15:06 | D1D | TAL IRV |
| Total/NA | Prep | 608 | | | 965 mL | 2 mL | 604707 | 04/13/20 05:29 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604795 | 04/13/20 15:43 | JM | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604667 | 04/11/20 10:07 | A1S | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604811 | 04/13/20 14:58 | M1G | TAL IRV |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 604849 | 04/13/20 19:25 | P1R | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604667 | 04/11/20 10:07 | A1S | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604812 | 04/13/20 15:02 | M1G | TAL IRV |
| Dissolved | Analysis | 200.8 | | 1 | | | 604819 | 04/13/20 15:39 | MQP | TAL IRV |

Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp_F Lab Sample ID: 440-264510-3

Date Collected: 04/10/20 09:30 Matrix: Water Date Received: 04/10/20 16:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 604794 | 04/13/20 12:41 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 604830 | 04/13/20 16:56 | DB | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 604853 | 04/13/20 20:06 | MEM | TAL IRV |
| Dissolved | Analysis | SM 2340B | | 1 | | | 603739 | 04/15/20 00:02 | P1R | TAL IRV |

Laboratory References:

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

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Project/Site: Quarterly Outfall 001 Comp

Client: Haley & Aldrich, Inc. Job ID: 440-264510-1

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

Lab Sample ID: MB 440-604752/1-A

Matrix: Water

Analysis Batch: 605078

| Client Sai | mple ID: | Method | Blank |
|------------|----------|--------|-------|
|------------|----------|--------|-------|

Prep Type: Total/NA

Prep Batch: 604752

| ı | | MB | MB | | | | | | | |
|---|-----------------------------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| | 2,4,6-Trichlorophenol | ND | | 6.0 | 0.10 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| | Bis(2-ethylhexyl) phthalate | ND | | 5.0 | 2.0 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| | N-Nitrosodimethylamine | ND | | 5.0 | 0.30 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| ı | Pentachlorophenol | ND | | 5.0 | 1.0 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| | 2,4-Dinitrotoluene | ND | | 5.0 | 2.0 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| | | | | | | | | | | |

| | MB | MB | | | | |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 2,4,6-Tribromophenol | 80 | | 60 - 120 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| 2-Fluorobiphenyl | 73 | | 51 - 120 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| 2-Fluorophenol | 89 | | 43 - 120 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Nitrobenzene-d5 | 85 | | 53 - 150 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Terphenyl-d14 | 116 | | 12 - 142 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Phenol-d5 | 83 | | 45 - 150 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |

Lab Sample ID: LCS 440-604752/2-A

Lab Sample ID: 440-264517-I-1-A MSD

Matrix: Water

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec

Prep Batch: 604752

| | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 2,4,6-Trichlorophenol | 15.0 | 12.3 | | ug/L | | 82 | 52 - 129 | |
| Bis(2-ethylhexyl) phthalate | 15.0 | 14.5 | | ug/L | | 97 | 29 - 137 | |
| N-Nitrosodimethylamine | 15.0 | 13.4 | | ug/L | | 89 | 60 - 140 | |
| Pentachlorophenol | 30.0 | 27.3 | | ua/L | | 91 | 38 - 152 | |

| | LCS | LCS |
|------|------|-------|
| Reco | verv | Quali |

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 88 | | 60 - 120 |
| 2-Fluorobiphenyl | 74 | | 51 - 120 |
| 2-Fluorophenol | 89 | | 43 - 120 |
| Nitrobenzene-d5 | 91 | | 53 - 150 |
| Terphenyl-d14 | 113 | | 12 - 142 |
| Phenol-d5 | 82 | | 45 - 150 |
| | | | |

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 604752**

Analysis Batch: 605078 Sample Sample Spike MSD MSD %Rec. **RPD** Added Result Qualifier Result Qualifier RPD Limit Analyte Unit D %Rec Limits 2,4,6-Trichlorophenol ND 16.0 13.6 ug/L 85 37 - 144 5 58 Bis(2-ethylhexyl) phthalate ND 16.0 8 - 158 16.0 ug/L 100 3 82 N-Nitrosodimethylamine ND 16.0 14.3 ug/L 89 60 - 140 35 Pentachlorophenol ND 32.1 33.4 ug/L 104 14 - 176 86

MSD MSD

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 87 | | 60 - 120 |
| 2-Fluorobiphenyl | 69 | | 51 - 120 |
| 2-Fluorophenol | 82 | | 43 - 120 |
| Nitrobenzene-d5 | 87 | | 53 - 150 |

Project/Site: Quarterly Outfall 001 Comp

Lab Sample ID: 440-264517-I-1-A MSD

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

Sample Sample

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 604752

MSD MSD Limits Surrogate %Recovery Qualifier Terphenyl-d14 12 - 142 114 Phenol-d5 71 45 - 150

Lab Sample ID: 440-264517-K-1-A MS

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 604752

%Rec. Limits 37 - 144 81 96 8 - 158

Analyte Result Qualifier Added Result Qualifier Unit D %Rec 2,4,6-Trichlorophenol ND 16.0 13.0 ug/L Bis(2-ethylhexyl) phthalate ND 16.0 15.4 ug/L N-Nitrosodimethylamine ND 16.0 13.2 ug/L 82 60 - 140ND 31.7 99 14 - 176 Pentachlorophenol 32.1 ug/L

Spike

MS MS

MS MS Qualifier Surrogate %Recovery Limits 2,4,6-Tribromophenol 60 - 120 83 2-Fluorobiphenyl 67 51 - 120 2-Fluorophenol 81 43 - 120 85 Nitrobenzene-d5 53 - 150 Terphenyl-d14 108 12 - 142 Phenol-d5 74 45 - 150

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-604707/1-A

Matrix: Water

Analysis Batch: 604824

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

Prep Batch: 604707

| | MIR IV | MB | | | | | | | |
|-----------------------|----------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Analyte | Result C | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| alpha-BHC | ND ND | | 0.0050 | 0.0025 | ug/L | | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| Chlordane (technical) | ND | | 0.10 | 0.080 | ug/L | | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| Toxaphene | ND | | 0.50 | 0.24 | ug/L | | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| 4,4'-DDD | ND | | 0.0050 | 0.0040 | ug/L | | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| 4,4'-DDE | ND | | 0.0050 | 0.0030 | ug/L | | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| 4,4'-DDT | ND | | 0.010 | 0.0040 | ug/L | | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| | | | | | | | | | |

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac DCB Decachlorobiphenyl (Surr) 04/13/20 05:29 04/14/20 13:36 89 18 - 134 10 - 104 04/13/20 05:29 04/14/20 13:36 Tetrachloro-m-xylene 64

Lab Sample ID: LCS 440-604707/2-A

Matrix: Water

Analysis Batch: 604824

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 604707

| | Spike | LCS | LCS | | | | %Rec. | |
|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Aldrin | 0.400 | 0.281 | | ug/L | | 70 | 42 - 140 | |
| alpha-BHC | 0.400 | 0.254 | | ug/L | | 64 | 37 - 140 | |
| beta-BHC | 0.400 | 0.271 | | ug/L | | 68 | 17 - 147 | |
| delta-BHC | 0.400 | 0.275 | | ug/L | | 69 | 19 - 140 | |

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

LCS LCS

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 440-604707/2-A

Matrix: Water

Analysis Batch: 604824

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

| riep | туре. т | Otallita |
|-------|---------------|----------|
| Prep | Batch: | 604707 |
| %Rec. | | |

| Analyte | Added | Result Qualifier | Unit | D %Rec | Limits | |
|---------------------|-------|------------------|------|--------|----------|--|
| Dieldrin | 0.400 | 0.293 | ug/L | 73 | 36 - 146 | |
| Endosulfan I | 0.400 | 0.276 | ug/L | 69 | 45 - 153 | |
| Endosulfan II | 0.400 | 0.292 | ug/L | 73 | 10 - 202 | |
| Endosulfan sulfate | 0.400 | 0.290 | ug/L | 73 | 26 - 144 | |
| Endrin | 0.400 | 0.272 | ug/L | 68 | 30 - 147 | |
| Endrin aldehyde | 0.400 | 0.276 | ug/L | 69 | 60 - 140 | |
| gamma-BHC (Lindane) | 0.400 | 0.274 | ug/L | 69 | 32 - 140 | |
| Heptachlor | 0.400 | 0.269 | ug/L | 67 | 34 - 140 | |
| Heptachlor epoxide | 0.400 | 0.281 | ug/L | 70 | 37 - 142 | |
| 4,4'-DDD | 0.400 | 0.322 | ug/L | 80 | 31 - 141 | |
| 4,4'-DDE | 0.400 | 0.298 | ug/L | 75 | 30 - 145 | |
| 4,4'-DDT | 0.400 | 0.310 | ug/L | 78 | 25 - 160 | |
| | | | | | | |

Spike

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-------------------------------|-----------|-----------|----------|
| DCB Decachlorobiphenyl (Surr) | 96 | | 18 - 134 |
| Tetrachloro-m-xylene | 72 | | 10 - 104 |

Lab Sample ID: 440-264517-H-1-B MSD

Matrix: Water

4,4'-DDD

4,4'-DDE

4,4'-DDT

Analysis Batch: 604824

Client Sample ID: Matrix Spike Duplicate

69

62

67

31 - 141

30 - 145

25 - 160

Prep Type: Total/NA Prep Batch: 604707

39

35

42

3

| , many one Datem of 102 i | | | | | | | | | | | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Aldrin | ND | | 0.415 | 0.251 | | ug/L | | 61 | 42 - 140 | 4 | 35 |
| alpha-BHC | ND | | 0.415 | 0.242 | | ug/L | | 58 | 37 - 140 | 4 | 36 |
| beta-BHC | ND | | 0.415 | 0.238 | | ug/L | | 57 | 17 - 147 | 4 | 44 |
| delta-BHC | ND | | 0.415 | 0.252 | | ug/L | | 61 | 19 - 140 | 4 | 52 |
| Dieldrin | ND | | 0.415 | 0.267 | | ug/L | | 64 | 36 - 146 | 3 | 49 |
| Endosulfan I | ND | | 0.415 | 0.257 | | ug/L | | 62 | 45 - 153 | 4 | 28 |
| Endosulfan II | ND | | 0.415 | 0.263 | | ug/L | | 64 | 10 - 202 | 3 | 53 |
| Endosulfan sulfate | ND | | 0.415 | 0.275 | | ug/L | | 66 | 26 - 144 | 3 | 38 |
| Endrin | ND | | 0.415 | 0.277 | | ug/L | | 67 | 30 - 147 | 3 | 48 |
| Endrin aldehyde | ND | | 0.415 | 0.252 | | ug/L | | 61 | 60 - 140 | 3 | 30 |
| gamma-BHC (Lindane) | ND | | 0.415 | 0.252 | | ug/L | | 61 | 32 - 140 | 4 | 39 |
| Heptachlor | ND | | 0.415 | 0.264 | | ug/L | | 64 | 34 - 140 | 4 | 43 |
| Heptachlor epoxide | ND | | 0.415 | 0.263 | | ug/L | | 63 | 37 - 142 | 4 | 26 |
| | | | | | | | | | | | |

0.415

0.415

0.415

0.288

0.257

0.280

ug/L

ug/L

ug/L

ND

ND

ND

| Surrogate | %Recovery | Qualifier | Limits |
|-------------------------------|-----------|-----------|----------|
| DCB Decachlorobiphenyl (Surr) | 90 | | 18 - 134 |
| Tetrachloro-m-xylene | 68 | | 10 - 104 |

Client: Haley & Aldrich, Inc.

Job ID: 440-264510-1 Project/Site: Quarterly Outfall 001 Comp

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: 440-264517-J-1-A MS

Matrix: Water

Analysis Batch: 604824

Client Sample ID: Matrix Spike

Prep Type: Total/NA **Prep Batch: 604707**

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|---------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Aldrin | ND | | 0.408 | 0.242 | | ug/L | | 59 | 42 - 140 | |
| alpha-BHC | ND | | 0.408 | 0.233 | | ug/L | | 57 | 37 - 140 | |
| beta-BHC | ND | | 0.408 | 0.229 | | ug/L | | 56 | 17 - 147 | |
| delta-BHC | ND | | 0.408 | 0.243 | | ug/L | | 59 | 19 - 140 | |
| Dieldrin | ND | | 0.408 | 0.258 | | ug/L | | 63 | 36 - 146 | |
| Endosulfan I | ND | | 0.408 | 0.247 | | ug/L | | 61 | 45 - 153 | |
| Endosulfan II | ND | | 0.408 | 0.254 | | ug/L | | 62 | 10 - 202 | |
| Endosulfan sulfate | ND | | 0.408 | 0.266 | | ug/L | | 65 | 26 - 144 | |
| Endrin | ND | | 0.408 | 0.270 | | ug/L | | 66 | 30 - 147 | |
| Endrin aldehyde | ND | | 0.408 | 0.245 | | ug/L | | 60 | 60 - 140 | |
| gamma-BHC (Lindane) | ND | | 0.408 | 0.243 | | ug/L | | 60 | 32 - 140 | |
| Heptachlor | ND | | 0.408 | 0.253 | | ug/L | | 62 | 34 - 140 | |
| Heptachlor epoxide | ND | | 0.408 | 0.253 | | ug/L | | 62 | 37 - 142 | |
| 4,4'-DDD | ND | | 0.408 | 0.279 | | ug/L | | 68 | 31 - 141 | |
| 4,4'-DDE | ND | | 0.408 | 0.248 | | ug/L | | 61 | 30 - 145 | |
| 4,4'-DDT | ND | | 0.408 | 0.269 | | ug/L | | 66 | 25 - 160 | |

MS MS

Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl (Surr) 89 18 - 134 Tetrachloro-m-xylene 67 10 - 104

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

Lab Sample ID: MB 440-604707/1-A

Matrix: Water

Analysis Batch: 604795

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

Prep Batch: 604707

| | MB N | MB | | | | | | | |
|--------------|----------|---------------|------|------|------|---|----------------|----------------|---------|
| Analyte | Result 0 | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aroclor 1016 | ND | - | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1221 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1232 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1242 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1248 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1254 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1260 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |

MB MB

Dil Fac Surrogate %Recovery Qualifier Limits Prepared Analyzed DCB Decachlorobiphenyl (Surr) 18 - 134 04/13/20 05:29 04/13/20 14:46 80

Lab Sample ID: LCS 440-604707/5-A

Matrix: Water

Analysis Batch: 604795

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 604707**

| 7 , 0.0 | Spike | LCS | LCS | | | | %Rec. | |
|----------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Aroclor 1016 | 4.00 | 3.02 | | ug/L | | 75 | 50 - 140 | |
| Aroclor 1260 | 4.00 | 3.33 | | ug/L | | 83 | 8 - 140 | |

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

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

Lab Sample ID: LCS 440-604707/5-A

Lab Sample ID: LCSD 440-604707/6-A

Matrix: Water Analysis Batch: 604795

Analysis Batch: 604795

LCS LCS

Limits Surrogate %Recovery Qualifier DCB Decachlorobiphenyl (Surr) 97 18 - 134

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 604707 %Rec. **RPD**

Prep Type: Total/NA

Prep Batch: 604707

LCSD LCSD Spike Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Aroclor 1016 74 36 4.00 2.96 2 ug/L 50 - 140 Aroclor 1260 4.00 3.27 82 8 - 140 38 ug/L 2

LCSD LCSD

Limits Surrogate %Recovery Qualifier DCB Decachlorobiphenyl (Surr) 93 18 - 134

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604533/6

Matrix: Water

Matrix: Water

Analysis Batch: 604533

Prep Type: Total/NA

MB MB Analyte Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac 0.11 0.055 mg/L Nitrate as N ND 04/10/20 10:00 Nitrite as N ND 0.15 0.025 mg/L 04/10/20 10:00

Lab Sample ID: LCS 440-604533/5

Matrix: Water

Analysis Batch: 604533

| , | Spike | LCS | LCS | | | | %Rec. | |
|--------------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nitrate as N | 1.13 | 1.07 | | mg/L | | 95 | 90 - 110 | |
| Nitrite as N | 1.52 | 1.51 | | mg/L | | 99 | 90 - 110 | |

Lab Sample ID: 440-264517-A-1 MS

Matrix: Water

Analysis Batch: 604533

| 7 maryono Batom oo 1000 | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|-------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nitrate as N | ND | | 5.65 | 5.34 | | mg/L | | 95 | 80 - 120 | |
| Nitrite as N | ND | | 7.61 | 7.03 | | mg/L | | 92 | 80 - 120 | |

Lab Sample ID: 440-264517-A-1 MSD

Matrix: Water

Analysis Batch: 604533

| Analysis Daton. 004000 | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Nitrate as N | ND | | 5.65 | 5.33 | | mg/L | | 94 | 80 - 120 | 0 | 20 |
| Nitrite as N | ND | | 7.61 | 7.01 | | mg/L | | 92 | 80 - 120 | 0 | 20 |

Job ID: 440-264510-1

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike Duplicate

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-604534/6

Matrix: Water

Analysis Batch: 604534

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

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Chloride 0.50 0.25 mg/L 04/10/20 10:00 $\overline{\mathsf{ND}}$ 04/10/20 10:00 Sulfate ND 0.50 0.25 mg/L

Lab Sample ID: LCS 440-604534/5

Matrix: Water

Analysis Batch: 604534

Spike LCS LCS %Rec. Added Result Qualifier D %Rec Limits Analyte Unit Chloride 5.00 4.78 96 90 - 110 mg/L Sulfate 5.00 4.97 99 90 - 110 mg/L

Lab Sample ID: 440-264517-A-1 MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604534

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Analyte Unit %Rec Limits Chloride 25.0 28.9 5.9 mg/L 92 80 - 120 Sulfate 88 25.0 115 mg/L 110 80 - 120

Lab Sample ID: 440-264517-A-1 MSD

Matrix: Water

Analysis Batch: 604534

| Analysis Daten. 004004 | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloride | 5.9 | | 25.0 | 28.8 | | mg/L | | 92 | 80 - 120 | 0 | 20 |
| Sulfate | 88 | | 25.0 | 115 | | mg/L | | 110 | 80 - 120 | 0 | 20 |

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-604910/6 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604910

MB MB

Result Qualifier RL **MDL** Unit Dil Fac Analyte Prepared Analyzed 4.0 0.95 ug/L Perchlorate ND 04/14/20 10:38

Lab Sample ID: LCS 440-604910/5 **Client Sample ID: Lab Control Sample Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 604910

| | Spike | LCS | LCS | | | | %Rec. | |
|-------------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Perchlorate | 25.0 | 24.5 | | ug/L | | 98 | 85 - 115 | |

Lab Sample ID: MRL 440-604910/4 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604910

| | Spike | MRL | MRL | | | | | %Rec. | | |
|-------------|----------|--------|-----------|------|---|---|------|----------|--|--|
| Analyte | Added | Result | Qualifier | Unit | I | כ | %Rec | Limits | | |
| Perchlorate | 1.00 | 1.23 | J,DX | ug/L | | | 123 | 75 - 125 | | |

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-604910/8

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

Matrix: Water Analysis Batch: 604910

Spike MRL MRL %Rec. Added Result Qualifier Analyte Unit %Rec Limits Perchlorate 4.00 3.86 J.DX 97 75 - 125 ug/L

Lab Sample ID: 440-264510-1 MS

Client Sample ID: Outfall001_20200410_Comp

Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604910

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Perchlorate ND 25.0 25.5 ug/L 102 80 - 120

Lab Sample ID: 440-264510-1 MSD

Client Sample ID: Outfall001 20200410 Comp

Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604910

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Unit Limits RPD Limit Analyte D %Rec Perchlorate ND 25.0 25.4 ug/L 102 80 - 120 O 15

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

Lab Sample ID: MB 320-372899/1-A

Matrix: Water

Analysis Batch: 373674

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

Prep Batch: 372899

Analyzed Dil Fac

MB MB Analyte Result Qualifier RI **EDL Unit** Prepared 2,3,7,8-TCDD $\overline{\mathsf{ND}}$ 0.000010 0.0000003 ug/L 04/16/20 12:05 04/20/20 16:41 0.000000862 J,DX 0.000050 04/16/20 12:05 04/20/20 16:41 1,2,3,7,8-PeCDD 0.0000004 ug/L 1,2,3,7,8-PeCDF ND 0.000050 0.0000004 ug/L 04/16/20 12:05 04/20/20 16:41 2.3.4.7.8-PeCDF ND 0.000050 04/16/20 12:05 04/20/20 16:41 0.0000004 ug/L 1,2,3,4,7,8-HxCDD 0.00000189 J,DX q 0.000050 0.0000004 ug/L 04/16/20 12:05 04/20/20 16:41 1,2,3,6,7,8-HxCDD ND 0.000050 0.0000005 ug/L 04/16/20 12:05 04/20/20 16:41 1,2,3,7,8,9-HxCDD 0.000000710 J,DX q 0.000050 0.0000004 ug/L 04/16/20 12:05 04/20/20 16:41 ND 0.000050 04/16/20 12:05 04/20/20 16:41 1,2,3,4,7,8-HxCDF 0.0000007 ug/L 1,2,3,6,7,8-HxCDF ND 0.000050 0.0000007 ug/L 04/16/20 12:05 04/20/20 16:41 0.000000893 J,DX 0.000050 04/16/20 12:05 04/20/20 16:41 1,2,3,7,8,9-HxCDF 0.0000005 ug/L 2,3,4,6,7,8-HxCDF ND 0.000050 0.0000005 ug/L 04/16/20 12:05 04/20/20 16:41 3 0.00000730 J,DX 0.000050 04/16/20 12:05 04/20/20 16:41 1,2,3,4,6,7,8-HpCDD 0.0000004 ug/L 0.00000720 J,DX 0.000050 04/16/20 12:05 04/20/20 16:41 1,2,3,4,6,7,8-HpCDF 0.0000005 ug/L 1,2,3,4,7,8,9-HpCDF ND 0.000050 04/16/20 12:05 04/20/20 16:41 0.0000006 ug/L 0 OCDD 0.0000663 J,DX 0.00010 0.0000007 ug/L 04/16/20 12:05 04/20/20 16:41 8

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

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

Lab Sample ID: MB 320-372899/1-A Client Sample ID: Method Blank Prep Type: Total/NA

| Matrix: Water | 2033/ I-A | | | | | | | Prep Type: T | |
|-------------------------|-------------|-------------------|----------|----------------|------|---|------------------|-----------------|---------|
| Analysis Batch: 373674 | | | | | | | | Prep Batch: | |
| 7 maryolo Batom 070014 | MB | МВ | | | | | | r rop Batom | 0.2000 |
| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| OCDF | 0.0000257 | $\overline{J,DX}$ | 0.00010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | 2 | | | | | |
| Total TCDD | ND | | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDF | 0.000000636 | J,DX | 0.000010 | 8 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total BaCDD | 0.000000862 | | 0.000050 | 0 | / | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDD | 0.000000662 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12.05 | 04/20/20 16.41 | ' |
| Total PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | 1 | Ū | | | | |
| Total HxCDD | 0.00000260 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | ,, | | | | | | | |
| Total HxCDF | 0.000000893 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HpCDD | 0.0000130 | J DX | 0.000050 | 0.0000004 | ua/l | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 100.119022 | 0.0000100 | 0,57 | 0.000000 | 6.0000004 | ug/L | | 0 11 10/20 12:00 | 0 1/20/20 10:11 | |
| Total HpCDF | 0.0000152 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | 1 | | | | | |
| | | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | 76 | | 25 - 164 | | | | | 04/20/20 16:41 | 1 |
| 13C-2,3,7,8-TCDF | 72 | | 24 - 169 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8-PeCDD | 65 | | 25 - 181 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8-PeCDF | 64 | | 24 - 185 | | | | | 04/20/20 16:41 | 1 |
| 13C-2,3,4,7,8-PeCDF | 72 | | 21 - 178 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDD | 70 | | 32 - 141 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 70 | | 28 - 130 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 72 | | 26 - 152 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 69 | | 26 - 123 | | | | | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 68 | | 29 - 147 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,4,6,7,8-HxCDF | 67 | | 28 - 136 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 72 | | 23 - 140 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 72 | | 28 - 143 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 79 | | 26 - 138 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-OCDD | 73 | | 17 - 157 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | МВ | MB | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |

37CI4-2,3,7,8-TCDD 04/16/20 12:05 04/20/20 16:41 86 35 - 197 Lab Sample ID: LCS 320-372899/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Analysis Batch: 373674

| Analysis Batch: 373674 | | | | | | | Prep Batch: 372899 |
|------------------------|----------|----------|-----------|------|---|------|---------------------------|
| _ | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 2,3,7,8-TCDD | 0.000200 | 0.000199 | | ug/L | | 99 | 67 - 158 |
| 2,3,7,8-TCDF | 0.000200 | 0.000207 | MB | ug/L | | 104 | 75 - 158 |
| 1,2,3,7,8-PeCDD | 0.00100 | 0.00105 | MB | ug/L | | 105 | 70 - 142 |
| 1,2,3,7,8-PeCDF | 0.00100 | 0.00106 | | ug/L | | 106 | 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 | 0.000959 | MB | ug/L | | 96 | 70 - 164 |
| 1.2.3.6.7.8-HxCDD | 0.00100 | 0.00107 | | ua/L | | 107 | 76 - 134 |

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Prep Type: Total/NA

Job ID: 440-264510-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

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

| Lab Sample ID | LCS 320-372899/2-A |
|-----------------|--------------------|
| Bandalan Marken | |

Ma

| _ab Sample ID: LCS 320-372899/2-A | | | | Clie | nt Sar | nple ID | : Lab Control Sample |
|-----------------------------------|---------|---------|-----------|------|--------|---------|---------------------------|
| Matrix: Water | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 373674 | | | | | | | Prep Batch: 372899 |
| • | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| ,2,3,7,8,9-HxCDD | 0.00100 | 0.00104 | MB | ug/L | | 104 | 64 - 162 |

| | Opinc | | _00 | | | | /01 to 0. | |
|---------------------|---------|----------|-----------|------|---|------|---------------------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,2,3,7,8,9-HxCDD | 0.00100 | 0.00104 | MB | ug/L | | 104 | 64 - 162 | |
| 1,2,3,4,7,8-HxCDF | 0.00100 | 0.000915 | | ug/L | | 91 | 72 - 134 | |
| 1,2,3,6,7,8-HxCDF | 0.00100 | 0.00101 | | ug/L | | 101 | 84 - 130 | |
| 1,2,3,7,8,9-HxCDF | 0.00100 | 0.00103 | MB | ug/L | | 103 | 78 ₋ 130 | |
| 2,3,4,6,7,8-HxCDF | 0.00100 | 0.00102 | | ug/L | | 102 | 70 - 156 | |
| 1,2,3,4,6,7,8-HpCDD | 0.00100 | 0.00101 | MB | ug/L | | 101 | 70 - 140 | |
| 1,2,3,4,6,7,8-HpCDF | 0.00100 | 0.00104 | MB | ug/L | | 104 | 82 - 122 | |
| 1,2,3,4,7,8,9-HpCDF | 0.00100 | 0.000964 | | ug/L | | 96 | 78 ₋ 138 | |
| OCDD | 0.00200 | 0.00199 | MB | ug/L | | 100 | 78 - 144 | |
| OCDF | 0.00200 | 0.00217 | MB | ug/L | | 108 | 63 - 170 | |
| | 100 100 | | | | | | | |

| OOD. | | | 0.00200 |
|-------------------------|-----------|-----------|----------|
| | LCS | LCS | |
| Isotope Dilution | %Recovery | Qualifier | Limits |
| 13C-2,3,7,8-TCDD | 69 | | 20 - 175 |
| 13C-2,3,7,8-TCDF | 64 | | 22 - 152 |
| 13C-1,2,3,7,8-PeCDD | 59 | | 21 - 227 |
| 13C-1,2,3,7,8-PeCDF | 60 | | 21 - 192 |
| 13C-2,3,4,7,8-PeCDF | 64 | | 13 - 328 |
| 13C-1,2,3,4,7,8-HxCDD | 62 | | 21 - 193 |
| 13C-1,2,3,6,7,8-HxCDD | 63 | | 25 - 163 |
| 13C-1,2,3,4,7,8-HxCDF | 64 | | 19 - 202 |
| 13C-1,2,3,6,7,8-HxCDF | 61 | | 21 - 159 |
| 13C-1,2,3,7,8,9-HxCDF | 63 | | 17 - 205 |
| 13C-2,3,4,6,7,8-HxCDF | 63 | | 22 - 176 |
| 13C-1,2,3,4,6,7,8-HpCDD | 68 | | 26 - 166 |
| 13C-1,2,3,4,6,7,8-HpCDF | 66 | | 21 - 158 |
| | | | |

LCS LCS

75

67

Surrogate %Recovery Qualifier Limits 37CI4-2,3,7,8-TCDD 84 31 - 191

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

Lab Sample ID: MB 3

Matrix: Water

13C-1,2,3,4,7,8,9-HpCDF

13C-OCDD

Analysis Batch: 3739

| 320-372899/1-A | Client Sample ID: Method Blank |
|----------------|--------------------------------|
| | Prep Type: Total/NA |
| 924 | Prep Batch: 372899 |
| MB MB | · |

| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------|-----------|-----------|----------|-----------|------|---|----------------|----------------|---------|
| 2,3,7,8-TCDF - RA | ND | | 0.000010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |
| | | | | 6 | | | | | |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDF - RA | 67 | | 24 - 169 | | | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |
| | MB | МВ | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 37CI4-2,3,7,8-TCDD - RA | 85 | | 35 - 197 | | | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |

20 - 186

13 - 199

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6/18/2020 (Rev. 1)

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-604924/1-A

Matrix: Water

Analysis Batch: 605112

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 604924

Job ID: 440-264510-1

| | INIB | MR | | | | | | | |
|-----------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Zinc | ND | | 20 | 12 | ug/L | | 04/14/20 09:31 | 04/14/20 15:49 | 1 |
| Iron | ND | | 100 | 50 | ug/L | | 04/14/20 09:31 | 04/14/20 15:49 | 1 |
| Manganese | ND | | 20 | 15 | ug/L | | 04/14/20 09:31 | 04/14/20 15:49 | 1 |

Lab Sample ID: LCS 440-604924/2-A

Matrix: Water

Analysis Batch: 605112

| | | i | | Prep Batch: 604924 %Rec. |
|-----|------|---|------|-----------------------------|
| ier | Unit | D | %Rec | Limits |
| | ug/L | _ | 100 | 85 - 115 |
| | | | | |

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

| • | Spike | LCS | LCS | | | | %Rec. | |
|-------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Zinc | 1000 | 1000 | | ug/L | | 100 | 85 - 115 | |
| Iron | 1000 | 938 | | ug/L | | 94 | 85 - 115 | |
| Manganese | 1000 | 984 | | ug/L | | 98 | 85 - 115 | |
| | | | | | | | | |

Lab Sample ID: 440-264510-1 MS

Matrix: Water

Analysis Batch: 605112

Client Sample ID: Outfall001_20200410_Comp **Prep Type: Total Recoverable**

Prep Batch: 604924

| 7 , 0.0 _ 2 000 | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Zinc | 15 | J,DX | 1000 | 1010 | | ug/L | | 100 | 70 - 130 | |
| Iron | 2100 | | 1000 | 3270 | | ug/L | | 114 | 70 - 130 | |
| Manganese | 37 | | 1000 | 1020 | | ug/L | | 98 | 70 - 130 | |

Lab Sample ID: 440-264510-1 MSD

Matrix: Water

Analysis Batch: 605112

| Client Sample ID | : Outfall001 | _20200410 | Comp |
|------------------|---------------|-------------|--|
| | Duam Trumas I | takal Daasa | and the latest terminal to the latest terminal t |

Prep Type: Total Recoverable Prep Batch: 604924

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|-----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Zinc | 15 | J,DX | 1000 | 1030 | | ug/L | | 102 | 70 - 130 | 2 | 20 |
| Iron | 2100 | | 1000 | 3350 | | ug/L | | 122 | 70 - 130 | 2 | 20 |
| Manganese | 37 | | 1000 | 1040 | | ug/L | | 100 | 70 - 130 | 2 | 20 |

Lab Sample ID: MB 440-604667/1-B

Matrix: Water

Analysis Batch: 604849

Client Sample ID: Method Blank Prep Type: Dissolved

Client Sample ID: Lab Control Sample

Prep Batch: 604811

Prep Batch: 604811

| | MR | MR | | | | | | | |
|-----------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Zinc | ND | | 20 | 12 | ug/L | | 04/13/20 14:57 | 04/13/20 19:10 | 1 |
| Iron | ND | | 0.10 | 0.050 | mg/L | | 04/13/20 14:57 | 04/13/20 19:10 | 1 |
| Manganese | ND | | 0.020 | 0.015 | mg/L | | 04/13/20 14:57 | 04/13/20 19:10 | 1 |

Lab Sample ID: LCS 440-604667/2-B

Matrix: Water

Analysis Batch: 604849

Prep Type: Dissolved

| , | Spike | LCS | LCS | | | | %Rec. | |
|---|---------|--------|-----------|------|---|------|---------------------|-------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Zinc | 500 | 494 | | ug/L | | 99 | 85 - 115 | |
| Iron | 0.500 | 0.488 | | mg/L | | 98 | 85 - 115 | |
| Manganese | 0.500 | 0.492 | | mg/L | | 98 | 85 ₋ 115 | |

MS MS

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

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

Sample Sample

Lab Sample ID: 440-264517-A-3-E MS

Matrix: Water

Analysis Batch: 604849

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 604811 %Rec. Limits

Analyte Result Qualifier Added Result Qualifier %Rec Unit Zinc 74 500 70 - 130 503 ug/L 86 ND Iron 0.500 0.477 mg/L 95 70 - 130 Manganese ND 0.500 0.477 mg/L 95 70 - 130

Spike

Lab Sample ID: 440-264517-A-3-F MSD

Matrix: Water

Analysis Batch: 604849

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 604811

MSD MSD **RPD** Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier D %Rec Limits RPD Limit Unit Zinc 74 500 497 ug/L 85 70 - 130 20 Iron ND 0.500 0.478 mg/L 96 70 - 130 0 20 ND 0.500 0.477 95 70 - 130 20 Manganese mg/L n

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-605317/1-A

Matrix: Water

Analysis Batch: 605400

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 605317

мв мв Analyte Result Qualifier RLMDL Unit **Prepared** Analyzed Dil Fac Cadmium ND 1.0 0.25 ug/L 04/16/20 09:22 04/16/20 15:05 Copper ND 2.0 0.50 ug/L 04/16/20 09:22 04/16/20 15:05 Lead ND 1.0 04/16/20 09:22 04/16/20 15:05 0.50 ug/L Selenium ND 2.0 0.50 ug/L 04/16/20 09:22 04/16/20 15:05

Lab Sample ID: LCS 440-605317/2-A

Matrix: Water

Analysis Batch: 605400

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

Prep Batch: 605317

| | Spike | LCS | LCS | | | | %Rec. | |
|----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cadmium | 80.0 | 77.3 | | ug/L | | 97 | 85 - 115 | |
| Copper | 80.0 | 77.9 | | ug/L | | 97 | 85 - 115 | |
| Lead | 80.0 | 75.9 | | ug/L | | 95 | 85 - 115 | |
| Selenium | 80.0 | 79.1 | | ug/L | | 99 | 85 - 115 | |

Lab Sample ID: 440-264736-I-2-F MS

Matrix: Water

Analysis Batch: 605400

Client Sample ID: Matrix Spike Prep Type: Total Recoverable Prep Batch: 605317

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cadmium | ND | | 80.0 | 78.5 | | ug/L | | 98 | 70 - 130 | |
| Copper | 2.7 | | 80.0 | 78.1 | | ug/L | | 94 | 70 - 130 | |
| Lead | ND | | 80.0 | 76.9 | | ug/L | | 96 | 70 - 130 | |
| Selenium | ND | | 80.0 | 75.0 | | ug/L | | 94 | 70 - 130 | |

Spike

Added

80.0

0.08

80.0

80.0

Client: Haley & Aldrich, Inc.

Sample Sample

ND

2.7

ND

ND

Result Qualifier

Project/Site: Quarterly Outfall 001 Comp

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

Lab Sample ID: 440-264736-I-2-G MSD

Matrix: Water

Analyte

Copper

Lead

Cadmium

Selenium

Analysis Batch: 605400

Client Sample ID: Matrix Spike Duplicate

106

99

Prep Type: Total Recoverable Prep Batch: 605317

Job ID: 440-264510-1

RPD %Rec. %Rec Limits RPD Limit 70 - 130 20 105 103 70 - 130 8 20

70 - 130

70 - 130

Lab Sample ID: MB 440-604667/1-C Client Sample ID: Method Blank

MSD MSD

83.9

84.7

84.7

79.0

Result Qualifier

Unit

ug/L

ug/L

ug/L

ug/L

Matrix: Water

Analysis Batch: 604819 MB MB **Prep Type: Dissolved**

10

5

20

20

Prep Batch: 604812

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| | | | | | | | | | |

Lab Sample ID: LCS 440-604667/2-C

Matrix: Water

Analysis Batch: 604819

Client Sample ID: Lab Control Sample Prep Type: Dissolved

Prep Batch: 604812

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cadmium 80.0 71.5 ug/L 89 85 - 115 Copper 80.0 72.5 ug/L 91 85 - 115 80.0 Lead ug/L 90 85 - 115 71.8 ug/L Selenium 80.0 70.3 88 85 - 115

Lab Sample ID: 440-264517-A-3-H MS

Matrix: Water

Analysis Batch: 604819

Client Sample ID: Matrix Spike

Prep Type: Dissolved Prep Batch: 604812

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Cadmium ND 80.0 70.0 ug/L 88 70 - 130 Copper 2.0 0.08 74.4 ug/L 91 70 - 130 Lead ND 80.0 71.4 ug/L 89 70 - 130 Selenium 0.66 J,DX 80.0 72.2 89 70 - 130 ug/L

Lab Sample ID: 440-264517-A-3-I MSD

Matrix: Water

Analysis Batch: 604819

Client Sample ID: Matrix Spike Duplicate Prep Type: Dissolved

Prep Batch: 604812

| • | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cadmium | ND | | 80.0 | 68.1 | | ug/L | | 85 | 70 - 130 | 3 | 20 |
| Copper | 2.0 | | 80.0 | 72.1 | | ug/L | | 88 | 70 - 130 | 3 | 20 |
| Lead | ND | | 80.0 | 69.9 | | ug/L | | 87 | 70 - 130 | 2 | 20 |
| Selenium | 0.66 | J,DX | 80.0 | 65.8 | | ug/L | | 81 | 70 - 130 | 9 | 20 |

Job ID: 440-264510-1

Prep Batch: 604651

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-604651/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water Analysis Batch: 604855

Mercury

| | MR | MR | | | | | | | | |
|---------|--------|-----------|------|------|------|---|----------------|----------------|---------|--|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | |
| Mercury | ND | | 0.20 | 0.10 | ua/l | | 04/13/20 13:07 | 04/13/20 17:07 | | |

Lab Sample ID: LCS 440-604651/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604855 Prep Batch: 604651** LCS LCS %Rec. Spike Analyte Added Result Qualifier Unit D %Rec Limits

3.82

ug/L

ug/L

95

85 - 115

4.00

Lab Sample ID: 440-264517-G-1-A MS Client Sample ID: Matrix Spike **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604855 Prep Batch: 604651** Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit Limits Analyte D %Rec 4.00 75 - 125 Mercury ND 3.89 ug/L 97

Lab Sample ID: 440-264517-G-1-B MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604855 Prep Batch: 604651** Spike MSD MSD Sample Sample %Rec. **RPD** Added Result Qualifier Result Qualifier Limits RPD Limit Analyte Unit D %Rec Mercury $\overline{\mathsf{ND}}$ 4.00 4.01 100 75 - 125 ug/L

Lab Sample ID: MB 440-604794/1-B Client Sample ID: Method Blank **Matrix: Water Prep Type: Dissolved** Analysis Batch: 604853 Prep Batch: 604830

MB MB **Analyte** Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.20 0.10 ug/L 04/13/20 16:56 04/13/20 19:55 Mercury ND

Lab Sample ID: LCS 440-604794/2-B **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Dissolved Analysis Batch: 604853 Prep Batch: 604830** LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Mercury 4.00 3.78 ug/L 85 - 115

Lab Sample ID: 440-264517-B-3-E MS Client Sample ID: Matrix Spike **Matrix: Water Prep Type: Dissolved** Prep Batch: 604830 **Analysis Batch: 604853** Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Mercury ND 4 00 3.81 95 75 - 125

Lab Sample ID: 440-264517-B-3-F MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water Prep Type: Dissolved Analysis Batch: 604853** Prep Batch: 604830 Spike MSD MSD %Rec. **RPD** Sample Sample Result Qualifier Added RPD Analyte Result Qualifier Unit %Rec Limits Limit Mercury ND 4.00 3.68 ug/L 75 - 125 3 20

Client: Haley & Aldrich, Inc. Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-604643/5 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 604643

MR MR

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Turbidity 0.10 0.040 NTU 04/10/20 19:22 $\overline{\mathsf{ND}}$

Lab Sample ID: 440-264517-A-1 DU **Client Sample ID: Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604643

RPD DU DU Sample Sample Analyte Result Qualifier Result Qualifier Unit D RPD Limit **Turbidity** 0.71 0.730 NTU 3

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

Lab Sample ID: MB 440-605339/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605339

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 10 Total Dissolved Solids $\overline{\mathsf{ND}}$ 5.0 mg/L 04/16/20 10:31

Lab Sample ID: LCS 440-605339/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605339

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits Total Dissolved Solids 1000 996 mg/L 100 90 - 110

Lab Sample ID: 440-264449-A-3 DU

Matrix: Water

Analysis Batch: 605339

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit ח RPD Limit **Total Dissolved Solids** 3000 2900 mg/L

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

Lab Sample ID: MB 440-605370/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605370

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac **Total Suspended Solids** $\overline{\mathsf{ND}}$ 1.0 0.50 mg/L 04/16/20 12:59

Lab Sample ID: LCS 440-605370/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605370

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Total Suspended Solids 1000 981 mg/L 85 - 115

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Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Type: Total/NA

Job ID: 440-264510-1

Prep Batch: 605119

Prep Type: Total/NA Prep Batch: 605119

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Lab Control Sample

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

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

Lab Sample ID: 580-93979-B-1 DU Client Sample ID: Duplicate Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605370

DU DU **RPD** Sample Sample Result Qualifier Result Qualifier RPD Analyte Unit Limit Total Suspended Solids 130 140 mg/L 10

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

Lab Sample ID: MB 440-605119/1-A **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605374

MR MR

Result Qualifier RL **MDL** Unit **Prepared** Analyzed 5.0 04/15/20 09:51 04/16/20 13:39 Cyanide, Total ND 2.5 ug/L

Lab Sample ID: LCS 440-605119/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605374 Prep Batch: 605119**

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

Cyanide, Total 100 101 80 - 120 101 ug/L

Lab Sample ID: 440-264517-F-1-B MS **Client Sample ID: Matrix Spike** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605374

Prep Batch: 605119 Sample Sample Spike MS MS %Rec. Added Result Qualifier Result Qualifier Unit D %Rec Limits

Analyte 75 - 125 Cyanide, Total ND 100 69.3 LN ug/L 69

Lab Sample ID: 440-264517-F-1-C MSD

Matrix: Water

Analysis Batch: 605374

Sample Sample Spike MSD MSD %Rec. **RPD Result Qualifier** Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Cyanide, Total $\overline{\mathsf{ND}}$ 100 68.5 LN ug/L 69 75 - 125 20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-605752/10 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605752

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Ammonia (as N) $\overline{\mathsf{ND}}$ 0.200 0.100 mg/L 04/20/20 13:20

Lab Sample ID: LCS 440-605752/11

Matrix: Water

Analysis Batch: 605752

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits 4.980 Ammonia (as N) 5.00 mg/L 100 90 - 110

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Prep Type: Total/NA

Job ID: 440-264510-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: MRL 440-605752/9 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Spike MRL MRL %Rec. Added Result Qualifier %Rec Analyte Unit Limits 0.200 0.1720 J,DX 86 50 - 150 Ammonia (as N) mg/L

Lab Sample ID: 440-264517-F-1 MS Client Sample ID: Matrix Spike **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Ammonia (as N) ND 5.00 5.270 mg/L 105 90 - 110

Lab Sample ID: 440-264517-F-1 MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Ammonia (as N) ND 5.00 5.450 mg/L 109 90 - 110 15

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

Lab Sample ID: MB 440-604672/4 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604672

MB MB **Analyte** Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Methylene Blue Active Substances $\overline{\mathsf{ND}}$ 0.10 0.050 mg/L 04/11/20 11:04

Lab Sample ID: LCS 440-604672/5 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 604672

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits 90 - 110 Methylene Blue Active 0.250 0.263 mg/L 105 Substances

Lab Sample ID: MRL 440-604672/3 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604672

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.100 0.122 mg/L 122 50 - 150 Methylene Blue Active

Lab Sample ID: 440-264517-B-1 MS **Client Sample ID: Matrix Spike** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604672

Sample Sample Spike MS MS %Rec. Result Qualifier Added Limits Analyte Result Qualifier Unit %Rec 0.086 J,DX 0.250 0.349 105 50 - 125 mg/L Methylene Blue Active

Substances

Substances

Client: Haley & Aldrich, Inc. Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

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

Lab Sample ID: 440-264517-B-1 MSD **Client Sample ID: Matrix Spike Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604672

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits Limit Analyte Unit %Rec **RPD** 0.086 J,DX 0.250 94 50 - 125 0.320 mg/L 9 20 Methylene Blue Active

Substances

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-604686/3 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604686

USB USB

MDL Unit Analyte Result Qualifier RL Analyzed Dil Fac D Prepared Biochemical Oxygen Demand 2.0 2.0 mg/L 04/12/20 08:14 ND

Lab Sample ID: LCS 440-604686/7 **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 604686

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits Biochemical Oxygen Demand 199 193 mg/L 97 85 - 115

Lab Sample ID: LCSD 440-604686/8

Matrix: Water

Analysis Batch: 604686

Spike LCSD LCSD **RPD** %Rec Added Result Qualifier Unit D %Rec Limits RPD Limit 199 198 100 85 - 115 **Biochemical Oxygen Demand** mg/L

Lab Sample ID: LCSD 440-604686/9

Matrix: Water

Analysis Batch: 604686

LCSD LCSD Spike %Rec. RPD Added Result Qualifier Limits Analyte Unit %Rec **RPD** Limit **Biochemical Oxygen Demand** 199 203 102 85 - 115 mg/L

Lab Sample ID: 440-264510-1 DU

Matrix: Water

Analysis Batch: 604686

DU DU **RPD** Sample Sample Analyte Result Qualifier Result Qualifier Unit D RPD Limit **Biochemical Oxygen Demand** ND ND mg/L NC 20

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6/18/2020 (Rev. 1)

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Outfall001_20200410_Comp

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

GC/MS Semi VOA

Prep Batch: 604752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 625 | |
| MB 440-604752/1-A | Method Blank | Total/NA | Water | 625 | |
| LCS 440-604752/2-A | Lab Control Sample | Total/NA | Water | 625 | |
| 440-264517-I-1-A MSD | Matrix Spike Duplicate | Total/NA | Water | 625 | |
| 440-264517-K-1-A MS | Matrix Spike | Total/NA | Water | 625 | |

Analysis Batch: 605078

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 625.1 | 604752 |
| MB 440-604752/1-A | Method Blank | Total/NA | Water | 625.1 | 604752 |
| LCS 440-604752/2-A | Lab Control Sample | Total/NA | Water | 625.1 | 604752 |
| 440-264517-I-1-A MSD | Matrix Spike Duplicate | Total/NA | Water | 625.1 | 604752 |
| 440-264517-K-1-A MS | Matrix Spike | Total/NA | Water | 625.1 | 604752 |

GC Semi VOA

Prep Batch: 604707

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 608 | |
| 440-264510-3 | Outfall001_20200410_Comp_F | Total/NA | Water | 608 | |
| MB 440-604707/1-A | Method Blank | Total/NA | Water | 608 | |
| LCS 440-604707/2-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCS 440-604707/5-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCSD 440-604707/6-A | Lab Control Sample Dup | Total/NA | Water | 608 | |
| 440-264517-H-1-B MSD | Matrix Spike Duplicate | Total/NA | Water | 608 | |
| 440-264517-J-1-A MS | Matrix Spike | Total/NA | Water | 608 | |

Analysis Batch: 604795

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Total/NA | Water | 608.3 | 604707 |
| MB 440-604707/1-A | Method Blank | Total/NA | Water | 608.3 | 604707 |
| LCS 440-604707/5-A | Lab Control Sample | Total/NA | Water | 608.3 | 604707 |
| LCSD 440-604707/6-A | Lab Control Sample Dup | Total/NA | Water | 608.3 | 604707 |

Analysis Batch: 604824

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 608.3 | 604707 |
| 440-264510-3 | Outfall001_20200410_Comp_F | Total/NA | Water | 608.3 | 604707 |
| MB 440-604707/1-A | Method Blank | Total/NA | Water | 608.3 | 604707 |
| LCS 440-604707/2-A | Lab Control Sample | Total/NA | Water | 608.3 | 604707 |
| 440-264517-H-1-B MSD | Matrix Spike Duplicate | Total/NA | Water | 608.3 | 604707 |
| 440-264517-J-1-A MS | Matrix Spike | Total/NA | Water | 608.3 | 604707 |

HPLC/IC

Analysis Batch: 604533

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 300.0 | |
| MB 440-604533/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604533/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264517-A-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264517-A-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

HPLC/IC

Analysis Batch: 604534

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 300.0 | |
| MB 440-604534/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604534/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264517-A-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264517-A-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

Analysis Batch: 604910

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 314.0 | |
| MB 440-604910/6 | Method Blank | Total/NA | Water | 314.0 | |
| LCS 440-604910/5 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604910/4 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604910/8 | Lab Control Sample | Total/NA | Water | 314.0 | |
| 440-264510-1 MS | Outfall001_20200410_Comp | Total/NA | Water | 314.0 | |
| 440-264510-1 MSD | Outfall001_20200410_Comp | Total/NA | Water | 314.0 | |

Analysis Batch: 604940

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | NO3NO2 Calc | |

Specialty Organics

Prep Batch: 372899

| _ • | | | | | |
|------------------------|--------------------------|-----------|--------|--------|------------|
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 1613B | |
| 440-264510-1 - RA | Outfall001_20200410_Comp | Total/NA | Water | 1613B | |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | |
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 373674

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 1613B | 372899 |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | 372899 |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | 372899 |

Analysis Batch: 373924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 - RA | Outfall001_20200410_Comp | Total/NA | Water | 1613B | 372899 |
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | 372899 |

Metals

Analysis Batch: 603739

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|----------------------------|-----------|--------|----------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | SM 2340B | |

Prep Batch: 604651

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 245.1 | |
| MB 440-604651/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-604651/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |

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Job ID: 440-264510-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Metals (Continued)

| Prep | Batch: | 604651 | (Continued) | ١ |
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| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|--------|------------|
| 440-264517-G-1-A MS | Matrix Spike | Total/NA | Water | 245.1 | |
| 440-264517-G-1-B MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | |

Filtration Batch: 604667

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|------------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604667/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-604667/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604667/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-604667/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264517-A-3-E MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264517-A-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |
| 440-264517-A-3-H MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264517-A-3-I MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Filtration Batch: 604794

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|------------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604794/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604794/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264517-B-3-E MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264517-B-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Prep Batch: 604811

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |
| MB 440-604667/1-B | Method Blank | Dissolved | Water | 200.2 | 604667 |
| LCS 440-604667/2-B | Lab Control Sample | Dissolved | Water | 200.2 | 604667 |
| 440-264517-A-3-E MS | Matrix Spike | Dissolved | Water | 200.2 | 604667 |
| 440-264517-A-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 604667 |

Prep Batch: 604812

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |
| MB 440-604667/1-C | Method Blank | Dissolved | Water | 200.2 | 604667 |
| LCS 440-604667/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 604667 |
| 440-264517-A-3-H MS | Matrix Spike | Dissolved | Water | 200.2 | 604667 |
| 440-264517-A-3-I MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 604667 |

Analysis Batch: 604819

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | 200.8 | 604812 |
| MB 440-604667/1-C | Method Blank | Dissolved | Water | 200.8 | 604812 |
| LCS 440-604667/2-C | Lab Control Sample | Dissolved | Water | 200.8 | 604812 |
| 440-264517-A-3-H MS | Matrix Spike | Dissolved | Water | 200.8 | 604812 |
| 440-264517-A-3-I MSD | Matrix Spike Duplicate | Dissolved | Water | 200.8 | 604812 |

Prep Batch: 604830

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch | |
|-------------------|----------------------------|-----------|--------|--------|------------|--|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | 245.1 | 604794 | |
| MB 440-604794/1-B | Method Blank | Dissolved | Water | 245.1 | 604794 | |

Job ID: 440-264510-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Metals (Continued)

| Prep Batch: 604830 (C | Continued) |
|-----------------------|------------|
|-----------------------|------------|

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|--------|------------|
| LCS 440-604794/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604794 |
| 440-264517-B-3-E MS | Matrix Spike | Dissolved | Water | 245.1 | 604794 |
| 440-264517-B-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 245.1 | 604794 |

Analysis Batch: 604849

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|---------------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| MB 440-604667/1-B | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| LCS 440-604667/2-B | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| 440-264517-A-3-E MS | Matrix Spike | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| 440-264517-A-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 200.7 Rev 4.4 | 604811 |

Analysis Batch: 604853

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264510-3 | Outfall001_20200410_Comp_F | Dissolved | Water | 245.1 | 604830 |
| MB 440-604794/1-B | Method Blank | Dissolved | Water | 245.1 | 604830 |
| LCS 440-604794/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604830 |
| 440-264517-B-3-E MS | Matrix Spike | Dissolved | Water | 245.1 | 604830 |
| 440-264517-B-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 245.1 | 604830 |

Analysis Batch: 604855

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 245.1 | 604651 |
| MB 440-604651/1-A | Method Blank | Total/NA | Water | 245.1 | 604651 |
| LCS 440-604651/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 604651 |
| 440-264517-G-1-A MS | Matrix Spike | Total/NA | Water | 245.1 | 604651 |
| 440-264517-G-1-B MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | 604651 |

Prep Batch: 604924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604924/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604924/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264510-1 MS | Outfall001_20200410_Comp | Total Recoverable | Water | 200.2 | |
| 440-264510-1 MSD | Outfall001_20200410_Comp | Total Recoverable | Water | 200.2 | |

Analysis Batch: 605112

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604924 |
| MB 440-604924/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 604924 |
| LCS 440-604924/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 604924 |
| 440-264510-1 MS | Outfall001_20200410_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604924 |
| 440-264510-1 MSD | Outfall001_20200410_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604924 |

Prep Batch: 605317

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total Recoverable | Water | 200.2 | _ |
| MB 440-605317/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605317/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264736-I-2-F MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264736-I-2-G MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

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Job ID: 440-264510-1

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Metals

Analysis Batch: 605400

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total Recoverable | Water | 200.8 | 605317 |
| MB 440-605317/1-A | Method Blank | Total Recoverable | Water | 200.8 | 605317 |
| LCS 440-605317/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 605317 |
| 440-264736-I-2-F MS | Matrix Spike | Total Recoverable | Water | 200.8 | 605317 |
| 440-264736-I-2-G MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.8 | 605317 |

Analysis Batch: 606968

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-------------------|--------|----------|------------|
| 440-264510-1 | Outfall001 20200410 Comp | Total Recoverable | Water | SM 2340B | |

General Chemistry

Analysis Batch: 604643

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | 180.1 | |
| MB 440-604643/5 | Method Blank | Total/NA | Water | 180.1 | |
| 440-264517-A-1 DU | Duplicate | Total/NA | Water | 180.1 | |

Analysis Batch: 604672

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|----------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | SM 5540C | |
| MB 440-604672/4 | Method Blank | Total/NA | Water | SM 5540C | |
| LCS 440-604672/5 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| MRL 440-604672/3 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| 440-264517-B-1 MS | Matrix Spike | Total/NA | Water | SM 5540C | |
| 440-264517-B-1 MSD | Matrix Spike Duplicate | Total/NA | Water | SM 5540C | |

Analysis Batch: 604686

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | SM5210B | _ |
| USB 440-604686/3 | Method Blank | Total/NA | Water | SM5210B | |
| LCS 440-604686/7 | Lab Control Sample | Total/NA | Water | SM5210B | |
| LCSD 440-604686/8 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| LCSD 440-604686/9 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| 440-264510-1 DU | Outfall001_20200410_Comp | Total/NA | Water | SM5210B | |

Prep Batch: 605119

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Bat | tch |
|----------------------|--------------------------|-----------|--------|-----------------|-----|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | Distill/CN | |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| 440-264517-F-1-B MS | Matrix Spike | Total/NA | Water | Distill/CN | |
| 440-264517-F-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | Distill/CN | |

Analysis Batch: 605339

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | SM 2540C | |
| MB 440-605339/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-605339/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 440-264449-A-3 DU | Duplicate | Total/NA | Water | SM 2540C | |

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Job ID: 440-264510-1

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6/18/2020 (Rev. 1)

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

General Chemistry

Analysis Batch: 605370

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|------------------|--------------------------|-----------|--------|-------------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | SM 2540D |
| MB 440-605370/1 | Method Blank | Total/NA | Water | SM 2540D |
| LCS 440-605370/2 | Lab Control Sample | Total/NA | Water | SM 2540D |
| 580-93979-B-1 DU | Duplicate | Total/NA | Water | SM 2540D |

Analysis Batch: 605374

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | SM 4500 CN E | 605119 |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 605119 |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-F-1-B MS | Matrix Spike | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-F-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 CN E | 605119 |

Analysis Batch: 605752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | SM 4500 NH3 G | |
| MB 440-605752/10 | Method Blank | Total/NA | Water | SM 4500 NH3 G | |
| LCS 440-605752/11 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| MRL 440-605752/9 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MS | Matrix Spike | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 NH3 G | |

Job ID: 440-264510-1

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264510-1

Project/Site: Quarterly Outfall 001 Comp

Qualifiers

| HDI C/IC | | |
|----------|-----|--|
| | 110 | |
| | ни | |

Qualifier Qualifier Description

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

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.

Metals

Qualifier Qualifier Description

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

General Chemistry

Qualifier Qualifier Description

J,DX

Estimated value; value < lowest standard (MQL), but >than MDL

LN

MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

| Abbreviation | These commonly | used abbreviations ma | y or may no | ot be presen | t in this report |
|--------------|----------------|-----------------------|-------------|--------------|------------------|
| | | | | | |

Eisted 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

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | | rogram ate | Identification Number 2706 | Expiration Date 06-30-20 |
|--|---------------|------------------------------|---|--|
| The following analyte the agency does not do | | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method | Prep Method | Matrix | Analyte | |
| NO3NO2 Calc | - | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 06-07-20 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 07-01-21 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-21 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-22 |
| Michigan | State | 9947 | 01-31-22 |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Hampshire | NELAP | 2997 | 04-18-21 |
| New Jersey | NELAP | CA005 | 05-03-20 |
| New York | NELAP | 11666 | 04-01-21 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-21 |
| Virginia | NELAP | 460278 | 03-14-21 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

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



April 28, 2020

Mr. Christian Bondoc Eurofins Calscience Irvine 17461 Derian Ave., Suite 100 Irvine, CA 92614-5817

Dear Mr. Bondoc:

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 Irvine

SAMPLE I.D.:

Outfall001_20200410_Comp (440-264510-1)

DATE RECEIVED:

13 April - 2020

ABC LAB. NO.:

CSE0420.079

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00%

TST RESULT

GROWTH = PASS% EFFECT = -12.55 %

Scott Johnson

Laboratory Director

ery truly,

28 Apr-20 14:11 (p 1 of 1)

| 79 / | 11- | 159 | 0-442 | 24 | |
|------|-----|-----|-------|----|--|
| | | | | | |

| Labs, | Inc. | |
|-------|------|--|
| | | |

| | | | | | | | Test (| Code/ID: | CSE04 | 20.079 / 1 | 1-1590-4424 |
|----------------|-----------------|----------|-----------|----------------|-------------|----------|----------|------------|---------------|------------|-------------|
| Selenastrum | Growth Test | | | | | | | Aquatic Bi | oassay & C | onsulting | Labs, Inc. |
| Batch ID: | 14-8642-0690 | Test | Type: Ce | II Growth | | | Analy | st: | | | |
| Start Date: | 13 Apr-20 13:00 | Proto | col: EP | A/821/R-02-0 | 013 (2002) | | Dilue | nt: Labo | ratory Wate | r | |
| Ending Date: | 17 Apr-20 11:30 | Spec | ies: Se | lenastrum ca | pricornutum | | Brine | : Not A | Applicable | | |
| Test Length: | 94h | Taxo | n: Ch | lorophyta | | | Sour | e: Aqua | atic Biosyste | ms, CO | Age: |
| Sample ID: | 18-6792-6786 | Code | : CS | E0420.079 | | | Proje | ct: Boei | ng-SSFL NF | PDES | |
| Sample Date: | 10 Apr-20 09:30 | Mate | rial: Sa | mple Water | | | Sour | ce: Bioa | ssay Report | | |
| Receipt Date: | 13 Apr-20 12:15 | CAS | (PC): | | | | Statio | n: Outfa | all001_2020 | 0410_Coi | np |
| Sample Age: | 75h (1.3 °C) | Clien | ıt: Eu | rofins Calscie | ence | | | | | | |
| Single Compa | arison Summary | | | | - | | | | | | |
| Analysis ID | Endpoint | | Compari | son Method | | | P-Value | Comparis | on Result | | |
| 14-9129-1166 | Cell Density | | TST-Weld | ch's t Test | | | <1.0E-37 | 100% pass | sed cell den | sity | 19 |
| Test Accepta | bility | | | | | TAC L | mits | | | | |
| Analysis ID | Endpoint | | Attribute | | Test Stat | Lower | Upper | Overlap | Decision | | |
| 14-9129-1166 | Cell Density | | Control C | :V | 0.05421 | << | 0.2 | Yes | Passes Cr | iteria | |
| 14-9129-1166 | Cell Density | | Control R | tesp | 1.17E+6 | 1000000 | >> | Yes | Passes Cr | iteria | |
| Cell Density | Summary | | | | - | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | %Effect |
| 0 | N | 8 | 1.166E+6 | 1.113E+6 | 1.219E+6 | 1.057E+6 | 1.242E+6 | 2.235E+4 | 6.322E+4 | 5.42% | 0.00% |
| 100 | | 8 | 1.312E+6 | 1.264E+6 | 1.361E+6 | 1.247E+6 | 1.407E+6 | 2.067E+4 | 5.846E+4 | 4.45% | -12.55% |
| Cell Density I | Detail | | | | | | | | | | |
| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | Rep 6 | Rep 7 | Rep 8 | | |
| 0 | N | 1.204E+6 | 1.211E+6 | 1.122E+6 | 1.242E+6 | 1.201E+6 | 1.108E+6 | 1.184E+6 | 1.057E+6 | | |
| 100 | | 1.250E+6 | 4 240546 | 1.329E+6 | 1.334E+6 | 4.0475.0 | 1.407E+6 | 1.354E+6 | 1.330E+6 | | |

Report Date: Test Code/ID:

28 Apr-20 14:12 (p 1 of 2) CSE0420.079 / 11-1590-4424

| Selenastrum | Grow | th Test | | | | | | | Aquatic Bio | oassay & Co | onsulting | Labs, Inc |
|---|--------|--|---|---|---------------------------------|---|--|--|---|--|-----------|-----------|
| Analysis ID: Analyzed: | | 129-1166 pr-20 15:44 | Endp Anal | | l Density ametric Bioe | quivalence- | Two Sample | | S Version: s Level: | CETISv1.9 |).5 | |
| Batch ID: | 14-86 | 642-0690 | Test | Type: Cel | I Growth | | | Analy | st: | | | |
| Start Date: | 13 A | pr-20 13:00 | Prote | ocol: EP/ | A/821/R-02-0 | 13 (2002) | | Dilue | nt: Labo | ratory Water | • | |
| Ending Date: | 17 A | pr-20 11:30 | Spec | ies: Sel | enastrum ca | oricornutum | | Brine | : Not A | Applicable | | |
| Test Length: | 94h | | Taxo | n: Chl | orophyta | | | Sourc | e: Aqua | tic Biosyster | ms, CO | Age: |
| Sample ID: | 18-6 | 792-6786 | Code | e: CS | E0420.079 | | | Proje | ct: Boeir | ng-SSFL NP | DES | |
| Sample Date: | 10 A | pr-20 09:30 | Mate | rial: Sar | mple Water | | | Sourc | e: Bioas | ssay Report | | |
| Receipt Date: | 13 A | pr-20 12:15 | CAS | (PC): | | | | Statio | n: Outfa | all001_20200 | 0410_Con | np |
| Sample Age: | 75h (| (1.3 °C) | Clier | nt: Eur | ofins Calscie | nce | | | | | | |
| Data Transfor | m | | Alt Hyp | | | TST_b | | Compariso | on Result | | | |
| Untransformed | 1 | | C*b < T | | | 0.75 | | 100% pass | ed cell dens | sity | | |
| TST-Welch's | t Test | | | | | | | | | | | |
| Control | vs | Control II | | Test Stat | Critical | DF | P-Type | P-Value | Decision(| x:25%) | | |
| Negative Cont | rol | 100* | | 16.46 | 0.6938 | 13 | CDF | <1.0E-37 | Non-Signifi | icant Effect | | |
| Test Accepta | bility | Criteria | TAC Li | mite | | | | | | | | |
| | _ | | | Upper | Overlap | Decision | | | | | | |
| Attribute | | Test Stat | LOWEI | | Overlan | | | | | | | |
| | | 0.05421 | << | 0.2 | Yes | Passes Cri | iteria | | | | | |
| Attribute Control CV Control Resp | | | | | | | | | | | | |
| Control CV | | 0.05421 | << | 0.2 | Yes | Passes Cri | | | | | | |
| Control CV Control Resp ANOVA Table | | 0.05421 | 1000000 | 0.2 | Yes Yes | Passes Cri | | P-Value | Decision(c | a:5%) | | |
| Control CV Control Resp ANOVA Table Source | | 0.05421 1.17E+6 | << 1000000 | 0.2 | Yes Yes uare | Passes Cr Passes Cr | iteria | P-Value 2.8E-04 | Decision(o | | | |
| Control CV Control Resp ANOVA Table Source Between | | 0.05421 1.17E+6 Sum Squa | << 1000000 | 0.2 >> Mean Squ | Yes Yes uare | Passes Cri Passes Cri DF | F Stat | | | | | |
| Control CV Control Resp ANOVA Table Source Between Error | | 0.05421 1.17E+6 Sum Squa 8.570E+10 | << 1000000 | 0.2 >> Mean Squ 8.570E+1 | Yes Yes uare | Passes Cri Passes Cr DF | F Stat | | | | | |
| Control CV Control Resp ANOVA Table Source Between Error Total | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 | << 1000000 | 0.2 >> Mean Squ 8.570E+1 | Yes Yes uare | Passes Cri Passes Cr DF 1 | F Stat | | | | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 | << 1000000 | 0.2 >> Mean Squ 8.570E+1 | Yes Yes uare | Passes Cri Passes Cr DF 1 | F Stat 23.12 | | | Effect | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests | << 1000000 | 0.2 >> Mean Sq 8.570E+1 3.707E+0 | Yes Yes Ware | Passes Cri Passes Cri DF 1 14 15 | F Stat 23.12 | 2.8E-04 | Significant | Effect α:1%) | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests Test Levene Eq | 1000000 ares | 0.2 >> Mean Squ 8.570E+1 3.707E+0 | Yes Yes uare 0 | Passes Cri Passes Cri DF 1 14 15 | F Stat 23.12 Critical | 2.8E-04 P-Value | Significant Decision(| Effect α:1%) ances | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests Test Levene Eq Mod Lever | 1000000 ares | 0.2 >> Mean Squ 8.570E+1 3.707E+0 riance Test of Variance | Yes Yes uare 0 | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 | F Stat 23.12 Critical 8.862 | 2.8E-04 P-Value 0.7308 | Significant Decision(e | Effect α:1%) ances ances | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute Variance | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests Test Levene Eq Mod Lever Variance F | 1000000 Ires Juality of Va | 0.2 >> Mean Squ 8.570E+1 3.707E+0 riance Test of Variance | Yes Yes uare 0 9 | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 0.7367 | F Stat 23.12 Critical 8.862 8.862 | P-Value 0.7308 0.8323 | Decision(Equal Vari Equal Vari | α:1%) ances ances ances | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests Test Levene Eq Mod Lever Variance F Anderson- | 1000000 Ires Juality of Value Equality of Ratio F Test | 0.2 >> Mean Squ 8.570E+1 3.707E+0 riance Test of Variance Normality T | Yes Yes uare 0 9 | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 | F Stat 23.12 Critical 8.862 8.862 8.885 | P-Value 0.7308 0.8323 0.8417 | Decision(e Equal Vari Equal Vari Equal Vari | α:1%) ances ances ances stribution | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute Variance | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests Test Levene Eq Mod Lever Variance F Anderson- D'Agostino | uality of Vane Equality of Ratio F Test | 0.2 >> Mean Squ 8.570E+1 3.707E+0 riance Test of Variance Normality T. Test | Yes Yes uare 0 9 | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 0.7367 | F Stat 23.12 Critical 8.862 8.862 8.885 3.878 | P-Value 0.7308 0.8323 0.8417 0.0546 | Decision(e Equal Vari Equal Vari Equal Vari Normal Dis | α:1%) ances ances ances stribution stribution | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute Variance | | 0.05421 1.17E+6 Sum Squa 8.570E+10 5.19E+10 1.376E+11 ons Tests Test Levene Eq Mod Lever Variance F Anderson- D'Agostino Kolmogoro | uality of Vance Equality of Ratio F Test Darling A2 No Skewness | Mean Squ 8.570E+1 3.707E+0 riance Test of Variance Normality Toest D Test | Yes Yes uare 0 9 | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 0.7367 0.5578 | F Stat 23.12 Critical 8.862 8.862 8.885 3.878 2.576 | P-Value 0.7308 0.8323 0.8417 0.0546 0.5770 | Decision(e) Equal Vari Equal Vari Equal Vari Normal Dis | α:1%) ances ances ances stribution stribution | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute Variance Distribution | mptic | Sum Squa 8.570E+10 5.19E+10 1.376E+11 bns Tests Test Levene Eq Mod Lever Variance F Anderson- D'Agostino Kolmogoro Shapiro-W | uality of Vance Equality of Ratio F Test Darling A2 I o Skewness ov-Smirnov | Mean Squ 8.570E+1 3.707E+0 riance Test of Variance Normality Toest D Test | Yes Yes uare 0 9 | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 0.7367 0.5578 0.2355 | F Stat 23.12 Critical 8.862 8.862 8.885 3.878 2.576 0.2471 | P-Value 0.7308 0.8323 0.8417 0.0546 0.5770 0.0180 | Decision(Equal Vari Equal Vari Equal Vari Normal Dis Normal Dis | α:1%) ances ances ances stribution stribution | | |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute Variance | mptic | Sum Squa 8.570E+10 5.19E+10 1.376E+11 bns Tests Test Levene Eq Mod Lever Variance F Anderson- D'Agostino Kolmogoro Shapiro-W | uality of Vance Equality of Ratio F Test Darling A2 I o Skewness ov-Smirnov | Mean Squ 8.570E+1 3.707E+0 riance Test of Variance Normality Toest D Test | Yes Yes Ware O 9 Test est | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 0.7367 0.5578 0.2355 | F Stat 23.12 Critical 8.862 8.862 8.862 8.885 3.878 2.576 0.2471 0.8408 | P-Value 0.7308 0.8323 0.8417 0.0546 0.5770 0.0180 | Decision(Equal Vari Equal Vari Equal Vari Normal Dis Normal Dis | α:1%) ances ances ances stribution stribution | CV% | %Effec |
| Control CV Control Resp ANOVA Table Source Between Error Total ANOVA Assu Attribute Variance Distribution | mptic | Sum Squa 8.570E+10 5.19E+10 1.376E+11 Levene Eq Mod Lever Variance F Anderson- D'Agostino Kolmogoro Shapiro-W | quality of Va ne Equality of Ratio F Test Darling A2 I o Skewness ov-Smirnov | Mean Squ 8.570E+1 3.707E+0 riance Test of Variance Normality Total Test D Test ality Test | Yes Yes Yes Uare 0 9 Test est | Passes Cri Passes Cri DF 1 14 15 Test Stat 0.1232 0.04654 1.169 0.7367 0.5578 0.2355 0.925 | F Stat 23.12 Critical 8.862 8.862 8.862 8.885 3.878 2.576 0.2471 0.8408 | P-Value 0.7308 0.8323 0.8417 0.0546 0.5770 0.0180 0.2031 | Decision(e Equal Vari Equal Vari Equal Vari Normal Dis Normal Dis Normal Dis | α:1%) ances ances ances stribution stribution stribution | | %Effect |

Conc-%

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Code

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Rep 1

Rep 2

Rep 3

Rep 4

Rep 5

1.204E+6 1.211E+6 1.122E+6 1.242E+6 1.201E+6 1.108E+6 1.184E+6 1.057E+6

1.250E+6 1.249E+6 1.329E+6 1.334E+6 1.247E+6 1.407E+6 1.354E+6 1.330E+6

Rep 6

Rep 7

Rep 8

28 Apr-20 14:12 (p 2 of 2)

Test Code/ID:

CSE0420.079 / 11-1590-4424

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analyzed:

000-189-126-0

Analysis ID: 14-9129-1166 20 Apr-20 15:44 Endpoint: Cell Density

Analysis:

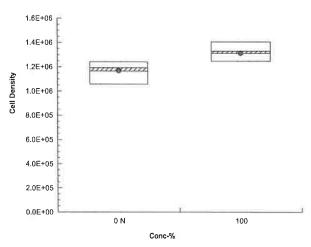
Parametric Bioequivalence-Two Sample

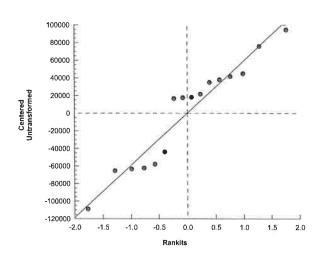
CETIS Version: Status Level:

CETISv1.9.5

1







28 Apr-20 14:11 (p 1 of 2)

Test Code/ID:

CSE0420.079 / 11-1590-4424

| Selenastrum | Growth Test | | | | | | | Aquatic | Bioassay & | | Labs, Inc. |
|--|---|-------|---|---|---------|-----|-----------|-------------|--|--------|------------|
| Batch ID: Start Date: Ending Date: Test Length: | e: 13 Apr-20 13:00 | | | Cell Growth EPA/821/R-02-013 (2002) Selenastrum capricornutum Chlorophyta | | | | rine: No | Laboratory Water Not Applicable Aquatic Biosystems, CO | | Age: |
| - | 18-6792-6786 : 10 Apr-20 09:30 : 13 Apr-20 12:15 75h (1.3°C) | N N | ode: laterial: AS (PC): lient: | CSE0420.079 Sample Water Eurofins Calso | | s | ource: Bi | oassay Repo | ing-SSFL NPDES assay Report fall001_20200410_Comp | | |
| Alkalinity (Ca | CO3)-mg/L | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Count |
| 0 | N | 1 | 63 | | | 63 | 63 | 0 | 0 | 0.0% | 0 |
| 100 | | 1 | 52 | | | 52 | 52 | 0 | 0 | 0.0% | 0 |
| Overall | | 2 | 57.5 | -12.38 | 127.4 | 52 | 63 | 5.5 | 7.778 | 13.53% | 0 (0%) |
| Conductivity- | -µmhos | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 5 | 447.4 | 422.7 | 472.1 | 429 | 479 | 8.914 | 19.93 | 4.46% | 0 |
| 100 | | 5 | 249.6 | 229.1 | 270.1 | 234 | 275 | 7.366 | 16.47 | 6.6% | 0 |
| Overall | | 10 | 348.5 | 272.9 | 424.1 | 234 | 479 | 33.41 | 105.7 | 30.32% | 0 (0%) |
| Hardness (Ca | aCO3)-mg/L | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 1 | 120 | | | 120 | 120 | 0 | 0 | 0.0% | 0 |
| 100 | | 1 | 48 | | | 48 | 48 | 0 | 0 | 0.0% | 0 |
| Overall | | 2 | 84 | -373.4 | 541.4 | 48 | 120 | 36 | 50.91 | 60.61% | 0 (0%) |
| pH-Units | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 5 | 7.78 | 7.618 | 7.942 | 7.7 | 8 | 0.05831 | 0.1304 | 1.68% | 0 |
| 100 | | 5 | 7.9 | 7.668 | 8.132 | 7.7 | 8.1 | 0.08367 | 0.1871 | 2.37% | 0 |
| Overall | | 10 | 7.84 | 7.722 | 7.958 | 7.7 | 8.1 | 0.05207 | 0.1647 | 2.10% | 0 (0%) |
| Temperature | -°C | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 5 | 24.36 | 23.94 | 24.78 | 24 | 24.8 | 0.1503 | 0.3362 | 1.38% | 0 |
| 100 | | 5 | 24.36 | 23.94 | 24.78 | 24 | 24.8 | 0.1503 | 0.3362 | 1.38% | 0 |
| Overall | | 10 | 24.36 | 24.13 | 24.59 | 24 | 24.8 | 0.1002 | 0.3169 | 1.30% | 0 (0%) |

28 Apr-20 14:11 (p 2 of 2)

Test Code/ID:

CSE0420.079 / 11-1590-4424

| | | | | | | 211 | | Test C | ode/ID: | CSE0420.079 / 11-1590-442 |
|-----------------|------------|------|------|---------|----|--------|---------|---------|-----------|--------------------------------|
| Selenastrum G | rowth Test | | | | | | | | Aquatic B | ioassay & Consulting Labs, Inc |
| Alkalinity (CaC | O3)-mg/L | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 63 | | | | | | |
| 100 | | | | 52 | | | | | | |
| Conductivity-µ | mhos | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 429 | | | | | | |
| 100 | | | | 234 | | | | | | |
| 0 | N | 2 | | 435 | | | | | | |
| 100 | | | | 238 | | | | | | |
| 0 | N | 3 | | 454 | | | | | | |
| 100 | | | | 245 | | | | | | |
| 0 | N | 4 | | 479 | | | | | | |
| 100 | | | | 256 | | | | | | |
| 0 | N | 5 | | 440 | | | | | | |
| 100 | | | | 275 | | | | | | |
| Hardness (Ca | CO3)-mg/L | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 120 | | | | | | |
| 100 | | | | 48 | | | | | | |
| pH-Units | | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 7.8 | | | | | | |
| 100 | | | | 8.1 | | | | | | |
| 0 | N | 2 | | 7.7 | | | | | | |
| 100 | | | | 7.7 | | | | | | |
| 0 | N | 3 | | 7.7 | | | | | | |
| 100 | | | | 7.8 | | | | | | |
| 0 | N | 4 | | 7.7 | | | | | | |
| 100 | | | | 7.8 | | | | | | |
| 0 | N | 5 | | 8 | | | | | | |
| 100 | | | | 8.1 | | | | | | |
| Temperature-° | С | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 24 | | | | | | |
| 100 | | | | 24 | | | | | | |
| 0 | N | 2 | | 24.6 | | | | | | |
| 100 | | | | 24.6 | | | | | | |
| 0 | N | 3 | | 24.3 | | | | | | |
| 100 | | | | 24.3 | | | | | | |
| 0 | N | 4 | | 24.8 | | | | | | |
| 100 | | | | 24.8 | | | | | | |
| | | | | | | | | | | |
| 0 | N | 5 | | 24.1 | | | | | | |

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| Market 4 | J. C. | | | | | | | | 100 | | COMMON | | | | | Sample Description | Semple: Dan Simith | Total Series service a | Haley & Ald-Not \$33 Mission Corpor field Soils 300 Summary Contractor From Differt 17 461 Decksy Ave Suite 8100 Note: CA 3081 4 14 945 200 3 2 10 | Chief Manus/Actions |
|---|--|--------------------|---------|------------|----|------|---|--------------|---------------------------------|--------------------|--|---|--|-------------------------|--|---|--|--|---|----------------------|
| Compliance Company | Sand L | | | | | | CHERTY, ADDIN'T CHEE | | | | | | Outhatton_3225541D_Geng_F | | | X demonstration | 9 | enem a serie de en la lacidad de destruct é apparet en de "EX Aco trans tento apparent L'Antica en la selectura vary à dévit (C. D'appellant pel ellator, sel l'enempire apparent | Haley & Aleyko) SIST Minwant Certain Rd Suite 300 Suit Deligo, CA 37108 Suite Concerned Have Object Chindson 35/000 17481 Concern Ave Suite 8100 Hales CA 30614 Rd 348-200-0219 | 1004 |
| 2 company | 4-10-2020 6 4-13-20 | | | | | | 08.89 | /ozzan | | 100000 | | 0000 | wanted or | | | Sangang Delational | | and official and Testerocke case | | |
| 1 5533 | 3 5 | | | | | 101 | ž. | 2 | 1 | | 3 | N. N. | 199 | ž | MA | Sorry S | | Section of the last | | |
| Manager Stations 1 | 1118 | Lagar | | | | | iece | ICOM NOW | 24 Owl Cube | | Boronificato vesti | 1 L Gassa Arrow | ğ | 500 rst. Poly | ¥Ne 74 | Corminer Type | | | | |
| 21 10 | W.A | idi CaCopdilli | 188 | | | | | | 100 | | , | ** | | 1 | 3 | 976 234 DU | PASS MET | From 44 | Sceni Guartes Out | |
| 1 6.7 | | MAL EPHENDI | | N STATE OF | | | Ī | None | Name of | | Note | 1 | NO SE | MCNE | ray e | inesenance | Feel Mercour West Common | Project Marriager: Katherina Miles F20 288 9866 520 904 9844 (ce) | Project Sceny SSPL HPDES Print 2000 Guaries Control (Control Control (Control Control Control Control | |
| Apparent | JEN | rt Panel, Russ | SUVI IN | | | | H | 230 | ¥ 1 | | g g | 260 | UM. | 8 | 1900 | F 92.08 | masek | na Mer 44 (cel) | S 212 | |
| 3 | and the | outine, ORSWINGHAM | | | | | * | 8 | E . | | 5 | No | X 9 | 70 | 88 | WS3M3D) | | | e cia | |
| Dassilline | 1 | -Quarter | | | | | | | | | 101 | | × | | | Timbal (349 (5/200 T) (5/200 B) | Scho Zn Ca | e Meul Pu da | No. | 20 |
| | 4 | y Bacel | | 0 | | E | | | | к | | | | | | - | | | 1E1E3962) | N. |
| 199 | 3/10 | Trueta Guas | | doring | 6 | emp. | | , | | | 1000 | | | | | Tistum () Contiena Rodram CS-127 | 14-3) (14-3) (15-3) | EROD OF E | Gross Bess (E500.0) I, Sr 60 (E505 0). Tenar 10 (E503 0 or E505 1) 6 II. Uranium (E506 0), K-40. 901.1) | 34 |
| | 2 3 | (山) | - | | 1 | leg | H | | - | 1 | | | | | | (EPA-02 | 1464 | 15-013[| STREET, IN COMPANY CA. | ATWAY & |
| 3 | D 3 | | | 9 | | 13 | | | 1 | 1 | Я | - | | | | Pesscia | es: C | thiorday | e 44000 44008 1,4 reae + 2085 outriE1031 | R CREW CREW CREW CEP |
| FFF | See and See an | 7 | - | | | 11 | 5 | 1 | | - | | | | ж | | Yele He | COVE | rable M | eta n | W CRE |
| Recolumn to | How 72 Ha | | | | T | | | 1 | 1 | | | | | | 90 | Yester De Hearther | sson o | ez Meta Caloos | 7 | CRISN |
| 1 1 | SDay SDay | | | 1 | | | | 100 | | | | | - × | | | futer De (EDOC 7 | è, | en tëste Mil Fa | ile. | 680 |
| | | 0 | 1 | | | 0 | ٥ | | | | | | | | | | | 58 | | |
| OL T NO | Normal X | | | | | | Day see 1 and 1 | Armyon duplo | (Application) | The Post of Street | Appropriation of the | H 075 | Contraction of the party of the | 100 m | The ext year | | | | | |
| ALLER OF A STATE OF A | 1 | | | | 13 | | Doy had I feet or securables overess of the | THE THE WEST | Control operation (Application) | | Nice consigning Manager Propulating Season | Oracles, 000, 005, 001, 000, 001, 002,011, 002,011, 002,011, 002,011, 002,011 | | STATES THERES (COS) III | And process of the process of the party of | | | | Comments | |



CHRONIC SELENASTRUM GROWTH BIOASSAY

DATE:

9 April - 2020

STANDARD TOXICANT: Cadmium Chloride

NOEC =

80.00 ug/l

IC25 =

120.00 ug/l

IC50 =

164.20 ug/l

Yours very truly,

Scott Johnson

Laboratory Director

29 north olive st. ventura, ca 93001 (805) 643 5621 aquabio.org

Report Date:

16 Apr-20 14:49 (p 1 of 1)

55.97%

| JETIS Sull | imary Repor | L | | | | | | Code/ID: | |)40920 / 11- | | |
|------------------------------|---------------------------------|-------------------------|---------|-------------------------|-------------|----------|----------------|----------|--------------------------------|--------------|--------|----|
| Selenastrum (| Growth Test | | | | | | 1031 | | Bioassay & C | | | _ |
| | 20-6997-9852 09 Apr-20 11:08 | Test Type: Protocol: | EPA | /821/R-02-0 | ` ' | | Analy Dilue | nt: Lab | oratory Wate | r | | - |
| Ending Date: Test Length: | 13 Apr-20 13:00 4d 2h | Species: Taxon: | | enastrum ca prophyta | pricornutum | | Brine Sour | | : Applicable uatic Biosyste | ms, CO | Age: | |
| Sample ID: | 00-5873-8955 | Code: | SEL | 040920 | | | Proje | ct: RE | F TOX | | | |
| Sample Date: | 09 Apr-20 11:08 | Material: | Cad | mium chlori | de | | Sourc | e: Ref | erence Toxic | ant | | |
| Receipt Date: | | CAS (PC): | | | | | Statio | n: RE | F TOX | | | |
| Sample Age: | n/a | Client: | Inter | rnal Lab | | | | | | | | |
| Multiple Com | parison Summar | у | | | | | | | | | | |
| Analysis ID | Endpoint | Com | pariso | on Method | | ✓ | NOEL | LOEL | TOEL | TU | PMSD | 5 |
| 04-2863-7215 | Cell Density | Dunn | ett Mu | ultiple Comp | arison Test | | 80 | 140 | 105.8 | | 9.8% | 1 |
| Point Estimat | e Summary | | | | | | | | | | | |
| Analysis ID | Endpoint | Poin | t Estir | mate Metho | d | √ | Level | μg/L | 95% LCL | 95% UCL | TU | , |
| 14-7680-6462 | Cell Density | Linea | ar Inte | rpolation (IC | PIN) | | IC5 | 84.95 | 64.4 | 91.34 | | |
| | | | | | | | IC10 | 93.72 | 83.68 | 101.3 | | |
| | | | | | | | IC15 | 102.5 | 92.89 | 111.3 | | |
| | | | | | | | IC20 | 111.3 | 101.5 | 121.2 | | |
| | | | | | | | IC25 | 120 | 110.1 | 131.4 | | |
| | | | | | | | IC40 | 146.4 | 133.1 | 156.6 | | |
| | | | | | | | IC50 | 164.2 | 154.1 | 171.1 | | |
| Test Acceptal | bility | | | | | TAC L | imits | | | | | |
| Analysis ID | Endpoint | Attri | bute | | Test Stat | Lower | Upper | Overlap | Decision | | | |
| 04-2863-7215 | Cell Density | Cont | rol CV | | 0.04446 | << | 0.2 | Yes | Passes Ci | iteria | | |
| 14-7680-6462 | Cell Density | Cont | rol CV | / | 0.04446 | << | 0.2 | Yes | Passes Ci | iteria | | |
| 04 - 2863-7215 | Cell Density | Cont | roi Re | sp | 1.17E+6 | 1000000 | >> | Yes | Passes Ci | iteria | | |
| 14-7680-6462 | Cell Density | Cont | rol Re | sp | 1.17E+6 | 1000000 | >> | Yes | Passes Ci | iteria | | |
| Cell Density S | Summary | | | | | | | | | | | |
| Conc-µg/L | Code | Count Mea | | | 95% UCL | Min | Max | Std Err | Std Dev | CV% | %Effe | :t |
| 0 | N | | | 1.087E+6 | | | 1.217E+6 | 2.600E+ | | | 0.00% | |
| 20 | | | | | 1.351E+6 | | | | | | -4.79% | |
| 40 | | | | 1.196E+6 | | | 1.519E+6 | | | | -16.58 | |
| 80 | | | | 1.170E+6 | 1.282E+6 | 1.185E+6 | | 1.763E+ | | | -4.79% | |
| 140 | | 4 7.97 | 2E+5 | 6.922E+5 | 9.023E+5 | 7.360E+5 | 8.700E+5 | 3.300E+ | 4 6.601E+4 | 8.28% | 31.84% | ò |

5.150E+5 4.503E+5 5.797E+5 4.570E+5 5.500E+5 2.034E+4 4.069E+4 7.90%

180

0

20

40

80

140

180

Cell Density Detail

Conc-µg/L

4

Rep 1

Rep 2

Rep 3

1.106E+6 1.149E+6 1.217E+6 1.207E+6

1.333E+6 1.188E+6 1.231E+6 1.151E+6

1.289E+6 1.519E+6 1.337E+6 1.310E+6

1.185E+6 1.266E+6 1.211E+6 1.241E+6

7.360E+5 8.700E+5 8.360E+5 7.470E+5

5.190E+5 5.340E+5 5.500E+5 4.570E+5

Rep 4

Code

N

Report Date: Test Code/ID: 16 Apr-20 14:49 (p 1 of 2) SEL040920 / 11-2985-9083

| | | | | | | | Test | Code/ID: | SE | L040920 / 1 | 1-2985-908 |
|----------------|-----------------|---------------|------------------|---------------|----------------|----------|----------|-----------|---------------|-------------|--------------|
| Selenastrum G | Growth Test | | | | | | | Aquatic | Bioassay & | Consulting | g Labs, Inc. |
| Analysis ID: | 04-2863-7215 | End | point: Ce | ell Density | | | CETI | S Versior | : CETISV | 1.9.5 | |
| Analyzed: | 16 Apr-20 14:48 | Ana | lysis: Pa | rametric-Cor | ntrol vs Treat | ments | Statu | s Level: | 1 | | |
| Batch ID: | 20-6997-9852 | Test | tType: Ce | ell Growth | | | Analy | /st: | | | |
| Start Date: | 09 Apr-20 11:08 | Prof | tocol: EP | PA/821/R-02- | 013 (2002) | | Dilue | nt: La | boratory Wa | ter | |
| Ending Date: | 13 Apr-20 13:00 | Spe | cies: Se | elenastrum ca | apricornutum | | Brine | : No | ot Applicable | | |
| Test Length: | 4d 2h | Tax | on: Ch | nlorophyta | | | Sour | ce: Ad | quatic Biosys | tems, CO | Age: |
| Sample ID: | 00-5873-8955 | Cod | le: SE | EL040920 | | | Ргоје | ct: Ri | EF TOX | | |
| Sample Date: | 09 Apr-20 11:08 | 8 Mat | erial: Ca | admium chlor | ide | | Sour | ce: Re | eference Tox | icant | |
| Receipt Date: | | CAS | (PC): | | | | Statio | on: RI | EF TOX | | |
| Sample Age: | n/a | Clie | nt: Int | ternal Lab | | | | | | | |
| Data Transfor | m | Alt Hyp | | | | | NOEL | LOEL | TOEL | TU | PMSD |
| Untransformed | | C > T | | | | | 80 | 140 | 105.8 | | 9.80% |
| Dunnett Multip | ple Comparisor | n Test | | | | | | | | | |
| Control v | vs Conc-µg | /L | Test Stat | t Critical | MSD DF | P-Type | P-Value | Decisio | n(α:5%) | | |
| Negative Contr | ol 20 | | -1.175 | 2.407 | 1E+05 6 | CDF | 0.9894 | Non-Sig | nificant Effe | ct | |
| | 40 | | -4.072 | 2.407 | 1E+05 6 | CDF | 1.0000 | Non-Sig | nificant Effe | ct | |
| | 80 | | -1.175 | 2.407 | 1E+05 6 | CDF | 0.9894 | Non-Sig | nificant Effe | ot | |
| | 140* | | 7.818 | 2.407 | 1E+05 6 | CDF | 2.8E-05 | Significa | ant Effect | | |
| | 180* | | 13.74 | 2.407 | 1E+05 6 | CDF | 2.7E-05 | Significa | ant Effect | | |
| Test Acceptab | ility Criteria | TAC L | imits | | | | | | | | |
| Attribute | Test Stat | Lower | Upper | Overlap | Decision | | | | | | |
| Control CV | 0.04446 | << | 0.2 | Yes | Passes Cr | iteria | | | | | |
| Control Resp | 1.17E+6 | 1000000 | >> | Yes | Passes Cr | riteria | | | | | |
| ANOVA Table | | | | | | | | | | | |
| Source | Sum Squ | ares | Mean So | quare | DF | F Stat | P-Value | Decisio | n(α:5%) | | |
| Between | 2.099E+1 | 2 | 4.197E+ | 11 | 5 | 92.45 | <1.0E-37 | Significa | ant Effect | | |
| Error | 8.172E+1 | 0 | 4.54E+09 | 9 | 18 | | | | | | |
| Total | 2.180E+1 | 2 | | | 23 | | | | | | |
| ANOVA Assur | nptions Tests | | | | | | | | | | |
| Attribute | Test | | | | Test Stat | Critical | P-Value | Decisio | on(α:1%) | | |
| Variance | Bartlett E | quality of Va | riance Tes | t | 4.41 | 15.09 | 0.4921 | Equal V | 'ariances | | |
| | Levene E | quality of Va | ariance Tes | st | 1.376 | 4.248 | 0.2796 | Equal V | 'ariances | | |
| | Modilious | no Equality | of Variance | o Tost | 0.5027 | 1 210 | 0.7606 | Equal V | /arianaaa | | |

| Attribute | Test | Test Stat | Critical | P-Value | Decision(α:1%) |
|--------------|--------------------------------------|-----------|----------|---------|---------------------|
| Variance | Bartlett Equality of Variance Test | 4.41 | 15.09 | 0.4921 | Equal Variances |
| | Levene Equality of Variance Test | 1.376 | 4.248 | 0.2796 | Equal Variances |
| | Mod Levene Equality of Variance Test | 0.5037 | 4.248 | 0.7696 | Equal Variances |
| Distribution | Anderson-Darling A2 Normality Test | 0.5313 | 3.878 | 0.1783 | Normal Distribution |
| | D'Agostino Kurtosis Test | 0.7557 | 2.576 | 0.4498 | Normal Distribution |
| | D'Agostino Skewness Test | 1.772 | 2.576 | 0.0763 | Normal Distribution |
| | D'Agostino-Pearson K2 Omnibus Test | 3.712 | 9.21 | 0.1563 | Normal Distribution |
| | Kolmogorov-Smirnov D Test | 0.1117 | 0.2056 | 0.6278 | Normal Distribution |
| | Shapiro-Wilk W Normality Test | 0.9306 | 0.884 | 0.1004 | Normal Distribution |

| Cell Density Su | ımmary | | | | | | | | | | |
|-----------------|--------|-------|----------|----------|----------|----------|----------|----------|----------|-------|---------|
| Conc-µg/L | Code | Count | Mean | 95% LCL | 95% UCL | Median | Min | Max | Std Err | CV% | %Effect |
| 0 | N | 4 | 1.170E+6 | 1.087E+6 | 1.253E+6 | 1.178E+6 | 1.106E+6 | 1.217E+6 | 2.600E+4 | 4.45% | 0.00% |
| 20 | | 4 | 1.226E+6 | 1.101E+6 | 1.351E+6 | 1.210E+6 | 1.151E+6 | 1.333E+6 | 3.931E+4 | 6.41% | -4.79% |
| 40 | | 4 | 1.364E+6 | 1.196E+6 | 1.531E+6 | 1.324E+6 | 1.289E+6 | 1.519E+6 | 5.267E+4 | 7.72% | -16.58% |
| 80 | | 4 | 1.226E+6 | 1.170E+6 | 1.282E+6 | 1.226E+6 | 1.185E+6 | 1.266E+6 | 1.763E+4 | 2.88% | -4.79% |
| 140 | | 4 | 7.972E+5 | 6.922E+5 | 9.023E+5 | 7.915E+5 | 7.360E+5 | 8.700E+5 | 3.300E+4 | 8.28% | 31.84% |
| 180 | | 4 | 5.150E+5 | 4.503E+5 | 5.797E+5 | 5.265E+5 | 4.570E+5 | 5.500E+5 | 2.034E+4 | 7.90% | 55.97% |

Report Date: Test Code/ID: 16 Apr-20 14:49 (p 2 of 2)

SEL040920 / 11-2985-9083

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-2863-7215 Analyzed:

16 Apr-20 14:48

Endpoint: Cell Density

Parametric-Control vs Treatments

CETIS Version:

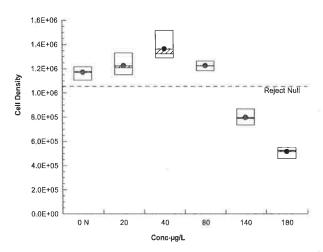
CETISv1.9.5

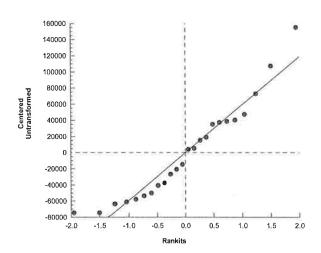
Status Level:

Cell Density Detail

| Conc-µg/L | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 |
|-----------|------|----------|----------|----------|----------|
| 0 | N | 1.106E+6 | 1.149E+6 | 1.217E+6 | 1.207E+6 |
| 20 | | 1.333E+6 | 1.188E+6 | 1.231E+6 | 1.151E+6 |
| 40 | | 1.289E+6 | 1.519E+6 | 1.337E+6 | 1.310E+6 |
| 80 | | 1.185E+6 | 1.266E+6 | 1.211E+6 | 1.241E+6 |
| 140 | | 7.360E+5 | 8.700E+5 | 8.360E+5 | 7.470E+5 |
| 180 | | 5.190E+5 | 5.340E+5 | 5.500E+5 | 4:570E+5 |

Graphics





Report Date:

16 Apr-20 14:49 (p 1 of 2)

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| | | | | | | Test Code | /ID: | SEL040920 / 1 | 1-2985-9083 |
|----------------|-----------------|------------|------------------|---------------|--------|------------|---------|---------------------|-------------|
| Selenastrum (| Growth Test | | | | | Aqu | atic Bi | oassay & Consulting | Labs, Inc. |
| Analysis ID: | 14-7680-6462 | Endpoint: | Cell Density | | | CETIS Ver | sion: | CETISv1.9.5 | |
| Analyzed: | 16 Apr-20 14:48 | Analysis: | Linear Interpola | ation (ICPIN) | | Status Lev | /el: | 1 | |
| Batch ID: | 20-6997-9852 | Test Type: | Cell Growth | | | Analyst: | | | |
| Start Date: | 09 Apr-20 11:08 | Protocol: | EPA/821/R-02- | 013 (2002) | | Diluent: | Labo | oratory Water | |
| Ending Date: | 13 Apr-20 13:00 | Species: | Selenastrum ca | apricornutum | | Brine: | Not / | Applicable | |
| Test Length: | 4d 2h | Taxon: | Chlorophyta | | | Source: | Aqua | atic Biosystems, CO | Age: |
| Sample ID: | 00-5873-8955 | Code: | SEL040920 | | | Project: | REF | TOX | |
| Sample Date: | 09 Apr-20 11:08 | Material: | Cadmium chlor | ride | | Source: | Refe | rence Toxicant | |
| Receipt Date: | | CAS (PC): | | | | Station: | REF | TOX | |
| Sample Age: | n/a | Client: | Internal Lab | | | | | | |
| Linear Interpo | olation Options | | | | | | | | |
| X Transform | Y Transform | Seed | Resamples | Exp 95% CL | Method | | | | |

| Linear | Linear | 0 | 28 | 0 | Yes | Two-Point Interpolation |
|---------------|----------------|---------|-------|---------|-----------------|-------------------------|
| Test Acceptab | ility Criteria | TAC L | imits | | | |
| Attribute | Test Stat | Lower | Upper | Overlap | Decision | |
| Control CV | 0.04446 | << | 0.2 | Yes | Passes Criteria | |
| Control Resp | 1.17E+6 | 1000000 | >> | Yes | Passes Criteria | |

| stimates | | | |
|----------|--|---|---|
| μg/L | 95% LCL | 95% UCL | |
| 84.95 | 64.4 | 91.34 | |
| 93.72 | 83.68 | 101.3 | |
| 102.5 | 92.89 | 111.3 | |
| 111.3 | 101.5 | 121.2 | |
| 120 | 110.1 | 131.4 | |
| 146.4 | 133.1 | 156.6 | |
| 164.2 | 154.1 | 171.1 | |
| | μg/L 84.95 93.72 102.5 111.3 120 146.4 | μg/L 95% LCL 84.95 64.4 93.72 83.68 102.5 92.89 111.3 101.5 120 110.1 146.4 133.1 | μg/L 95% LCL 95% UCL 84.95 64.4 91.34 93.72 83.68 101.3 102.5 92.89 111.3 111.3 101.5 121.2 120 110.1 131.4 146.4 133.1 156.6 |

| Cell Density St | ummary | | | | Cal | culated Var | iate | | Isotoni | c Variate |
|-----------------|--------|-------|----------|----------|----------|-------------|-------|---------|---------|-----------|
| Conc-µg/L | Code | Count | Mean | Min | Max | Std Dev | CV% | %Effect | Mean | %Effect |
| 0 | N | 4 | 1.170E+6 | 1.106E+6 | 1.217E+6 | 5.201E+4 | 4.45% | 0.0% | 1253000 | 0.0% |
| 20 | | 4 | 1.226E+6 | 1.151E+6 | 1.333E+6 | 7.862E+4 | 6.41% | -4.79% | 1253000 | 0.0% |
| 40 | | 4 | 1.364E+6 | 1.289E+6 | 1.519E+6 | 1.053E+5 | 7.73% | -16.58% | 1253000 | 0.0% |
| 80 | | 4 | 1.226E+6 | 1.185E+6 | 1.266E+6 | 3.526E+4 | 2.88% | -4.79% | 1226000 | 2.18% |
| 140 | | 4 | 7.972E+5 | 7.360E+5 | 8.700E+5 | 6.601E+4 | 8.28% | 31.84% | 797200 | 36.38% |
| 180 | | 4 | 5.150E+5 | 4.570E+5 | 5.500E+5 | 4.069E+4 | 7.90% | 55.97% | 515000 | 58.9% |

| Cell | Density | Detail |
|------|---------|--------|
| | | |

| Conc-µg/L | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 |
|-----------|------|----------|----------|----------|----------|
| 0 | N | 1.106E+6 | 1.149E+6 | 1.217E+6 | 1.207E+6 |
| 20 | | 1.333E+6 | 1.188E+6 | 1.231E+6 | 1.151E+6 |
| 40 | | 1.289E+6 | 1.519E+6 | 1.337E+6 | 1.310E+6 |
| 80 | | 1.185E+6 | 1.266E+6 | 1.211E+6 | 1.241E+6 |
| 140 | | 7.360E+5 | 8.700E+5 | 8.360E+5 | 7.470E+5 |
| 180 | | 5.190E+5 | 5.340E+5 | 5.500E+5 | 4.570E+5 |
| | | | | | |

Report Date:

16 Apr-20 14:49 (p 2 of 2)

Test Code/ID:

SEL040920 / 11-2985-9083

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-7680-6462 Analyzed:

16 Apr-20 14:48

Endpoint: Cell Density

Analysis: Linear Interpolation (ICPIN)

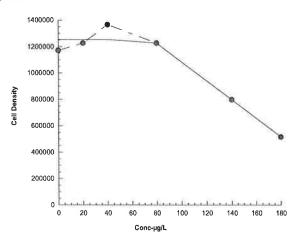
CETIS Version:

CETISv1.9.5

Status Level:

1

Graphics



Report Date: Test Code/ID: 16 Apr-20 14:49 (p 1 of 4)

/ID: SEL040920 / 11-2985-9083

| | | | | | | | | est Code/ID: | SEL | -04092071 | 1-2905-9003 |
|-----------------------|-----------------|-------|------------|----------------|--------------|------------|------|-------------------|--------------|------------|-------------|
| Selenastrum (| Growth Test | | | | | | | Aquatic I | Bioassay & | Consulting | Labs, Inc. |
| Batch ID: | 20-6997-9852 | ٦ | Test Type: | Cell Growth | | | - | Analyst: | | | |
| Start Date: | 09 Apr-20 11:08 | F | rotocol: | EPA/821/R-02- | -013 (2002) | | Ι | Diluent: Lat | ooratory Wa | ter | |
| Ending Date: | 13 Apr-20 13:00 | 5 | Species: | Selenastrum ca | apricornutun | n | E | Brine : No | t Applicable | | |
| Test Length: | 4d 2h | | Гахоп: | Chlorophyta | | | | Source: Aq | uatic Biosys | tems, CO | Age: |
| Sample ID: | 00-5873-8955 | (| Code: | SEL040920 | | | F | Project: RE | F TOX | | |
| Sample Date: | 09 Apr-20 11:08 | | Material: | Cadmium chlor | ride | | , | Source: Re | ference Tox | icant | |
| Receipt Date: | | (| CAS (PC): | | | | 5 | Station: RE | F TOX | | |
| Sample Age: | n/a | (| Client: | Internal Lab | | | | | | | |
| Alkalinity (Ca | CO3)-mg/L | | | | | | | | | | |
| Conc-µg/L | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 1 | 60 | | | 60 | 60 | 0 | 0 | 0.0% | 0 |
| 20 | | 1 | 60 | | | 60 | 60 | 0 | 0 | 0.0% | 0 |
| 40 | | 1 | 66 | | | 66 | 66 | 0 | 0 | 0.0% | 0 |
| 80 | | 1 | 55 | | | 55 | 55 | 0 | 0 | 0.0% | 0 |
| 140 | | 1 | 56 | | | 56 | 56 | 0 | 0 | 0.0% | 0 |
| 180 | | 1 | 54 | | | 54 | 54 | 0 | 0 | 0.0% | 0 |
| Overall | | 6 | 58.5 | 53.82 | 63.18 | 54 | 66 | 1.821 | 4.461 | 7.63% | 0 (0%) |
| Conductivity- | µmhos | | | | | | | | | | |
| Conc-µg/L | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 5 | 437.2 | 426.7 | 447.7 | 423 | 445 | 3.774 | 8.438 | 1.93% | 0 |
| 20 ′ | | 5 | 428 | 412.6 | 443.4 | 413 | 438 | 5.541 | 12.39 | 2.9% | 0 |
| 40 | | 5 | 412.4 | 408.8 | 416 | 408 | 416 | 1.288 | 2.881 | 0.7% | 0 |
| 80 | | 5 | 395.8 | 391.8 | 399.8 | 392 | 400 | 1.428 | 3.194 | 0.81% | 0 |
| 140 | | 5 | 375.8 | 373.4 | 378.2 | 373 | 378 | 0.8602 | 1.924 | 0.51% | 0 |
| 180 | | 5 | 367.8 | 363.1 | 372.5 | 362 | 372 | 1.685 | 3.768 | 1.03% | 0 |
| Overall | | 30 | 402.8 | 392.9 | 412.8 | 362 | 445 | 4.867 | 26.66 | 6.62% | 0 (0%) |
| Hardness (Ca | ıCO3)-mg/L | | | | | | | | | | |
| Conc-µg/L | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| 0 | N | 1 | 115 | | | 115 | 115 | 0 | 0 | 0.0% | 0 |
| 20 | | 1 | 85 | | | 85 | 85 | 0 | 0 | 0.0% | 0 |
| 40 | | 1 | 105 | | | 105 | 105 | 0 | 0 | 0.0% | 0 |
| 80 | | 1 | 92 | | | 92 | 92 | 0 | 0 | 0.0% | 0 |
| 140 | | 1 | 96 | | | 96 | 96 | 0 | 0 | 0.0% | 0 |
| 180 | | 6 | 90 | 05.04 | 400.7 | 90 | 90 | 0 4 400 | 0 | 0.0% | 0 (00() |
| Overall | | 0 | 97.17 | 85.61 | 108.7 | 85 | 115 | 4.498 | 11.02 | 11.34% | 0 (0%) |
| pH-Units Conc-µg/L | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun |
| O O | N | 5 | 7.96 | 7.818 | 8.102 | 7.8 | 8.1 | 0.05099 | 0.114 | 1.43% | 0 |
| 20 | 14 | 5 | 7.98 | 7.684 | 8.276 | 7.0 7.7 | 8.3 | 0.03099 | 0.114 | 2.99% | 0 |
| 40 | | 5 | 8 | 7.737 | 8.263 | 7.8 | 8.3 | 0.1008 | 0.2307 | 2.65% | 0 |
| 80 | | 5 | 8 | 7.824 | 8.176 | 7.8 | 8.2 | 0.06325 | 0.2121 | 1.77% | 0 |
| 140 | | 5 | 8.02 | 7.836 | 8.204 | 7.8 | 8.2 | 0.06633 | 0.1414 | 1.85% | 0 |
| 180 | | 5 | 7.98 | 7.776 | 8.184 | 7.8 | 8.2 | 0.07348 | 0.1463 | 2.06% | 0 |
| Overall | | 30 | 7.99 | 7.770 | 8.05 | 7.7 | 8.3 | 0.07348 | 0.1605 | 2.00% | 0 (0%) |
| Temperature- | -°C | | | | | | | | | | , , |
| Conc-µg/L | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Cour |
| 0 | N | 5 | 24.16 | | 24.54 | 24 | 24.7 | 0.1364 | 0.3049 | 1.26% | 0 |
| 00 | | _ | 24.40 | 20.70 | 24.54 | | | 2.1001 | 0.0010 | 4.000/ | - |

Analyst: QA:

1.26%

1.26%

1.26%

1.26%

1.26%

1.15%

5

5

5

5

5

30

24.16

24.16

24.16

24.16

24.16

24.16

23.78

23.78

23.78

23.78

23.78

24.06

20

40

80

140

180

Overall

24.54

24.54

24.54

24.54

24.54

24.26

24

24

24

24

24

24

24.7

24.7

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24.7

24.7

24.7

0.1364

0.1364

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0.05065

0.3049

0.3049

0.3049

0.3049

0.3049

0.2774

0 (0%)

0

0

0

0

0

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Report Date: Test Code/ID: 16 Apr-20 14:49 (p 2 of 4)

SEL040920 / 11-2985-9083

| Selenastrum Gr | owth Test | | | | | | | | Aquatic Bioassay & Consulting Labs, Inc. |
|------------------|-----------|------|------|---------|----|--------|---------|---------|--|
| Alkalinity (CaCC |)3)-mg/L | | | | | | | | |
| Conc-µg/L | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 60 | | | | | |
| 20 | | | | 60 | | | | | |
| 40 | | | | 66 | | | | | |
| 80 | | | | 55 | | | | | |
| 140 | | | | 56 | | | | | |
| 180 | | | | 54 | | | | | |
| Conductivity-µn | nhos | | | | | | | | |
| Conc-µg/L | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 423 | | | | | |
| 20 | | | | 413 | | | | | |
| 40 | | | | 408 | | | | | |
| 80 | | | | 394 | | | | | |
| 140 | | | | 373 | | | | | |
| 180 | | | | 362 | | | | | |
| 0 | N | 2 | | 437 | | | | | |
| 20 | | | | 416 | | | | | |
| 40 | | | | 413 | | | | | |
| 80 | | | | 395 | | | | | |
| 140 | | | | 377 | | | | | |
| 180 | | | | 368 | | | | | |
| 0 | N | 3 | | 440 | | | | | |
| 20 | | | | 437 | | | | | |
| 40 | | | | 412 | | | | | |
| 80 | | | | 392 | | | | | |
| 140 | | | | 375 | | | | | |
| 180 | | | | 367 | | | | | |
| 0 | N | 4 | | 445 | | | | | |
| 20 | | | | 438 | | | | | |
| 40 | | | | 413 | | | | | |
| 80 | | | | 398 | | | | | |
| 140 | | | | 378 | | | | | |
| 180 | | | | 372 | | | | | |
| 0 | N | 5 | | 441 | | | | | |
| 20 | | | | 436 | | | | | |
| 40 | | | | 416 | | | | | |
| 80 | | | | 400 | | | | | |
| 140 | | | | 376 | | | | | |
| 180 | | | | 370 | | | | | |
| Hardness (CaC | O3)-ma/L | | | | | | | | |
| Conc-µg/L | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 115 | | 70 | | | |
| 20 | | | | 85 | | | | | |
| 40 | | | | 105 | | | | | |
| 80 | | | | 92 | | | | | |
| 140 | | | | 96 | | | | | |
| 180 | | | | 90 | | | | | |

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CETIS™ v1.9.5.5

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Analyst: QA:

6/18/2020 (Rev. 1)

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Report Date:

16 Apr-20 14:49 (p 3 of 4)

Test Code/ID:

SEL040920 / 11-2985-9083

Selenastrum Growth Test Aquatic Bioassay & Consulting Labs, Inc. pH-Units Conc-µg/L Code Read Time Measure QA Diff-% Inst ID Analyst Notes Ν 7.8 20 7.8 40 7.8 80 7.8 140 7.8 180 7.8 0 7.9 20 7.7 40 7.8 80 8 140 8.1 180 8.2 0 N 3 8 20 8.1 40 8.1 80 8 140 8 180 7.9 0 N 4 8.1 20 8.3 40 8.3 80 8.2 140 8.2 180 8.1 0 5 8 20 8 40 8 80 8 140 8 180 7.9

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I.e

Report Date:

16 Apr-20 14:49 (p 4 of 4)

Test Code/ID:

SEL040920 / 11-2985-9083

| Selenastrum Gro | wth Test | | | | | | | | Aquatic Bioassay & Consulting Labs, Inc. |
|-----------------|----------|------|------|---------|----|--------|---------|---------|--|
| Temperature-°C | | | | | | | | | |
| Conc-µg/L | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 24 | | | | | |
| 20 | | | | 24 | | | | | |
| 40 | | | | 24 | | | | | |
| 80 | | | | 24 | | | | | |
| 140 | | | | 24 | | | | | |
| 180 | | | | 24 | | | | | |
| 0 | N | 2 | | 24 | | | | | |
| 20 | | | | 24 | | | | | |
| 40 | | | | 24 | | | | | |
| 80 | | | | 24 | | | | | |
| 140 | | | | 24 | | | | | |
| 180 | | | | 24 | | | | | |
| 0 | N | 3 | | 24 | | | | | |
| 20 | | | | 24 | | | | | |
| 40 | | | | 24 | | | | | |
| 80 | | | | 24 | | | | | |
| 140 | | | | 24 | | | | | |
| 180 | | | | 24 | | | | | |
| 0 | N | 4 | | 24.7 | | | | | |
| 20 | | | | 24.7 | | | | | |
| 40 | | | | 24.7 | | | | | |
| 80 | | | | 24.7 | | | | | |
| 140 | | | | 24.7 | | | | | |
| 180 | | | | 24.7 | | | | | |
| 0 | N | 5 | | 24.1 | | | | | |
| 20 | | | | 24.1 | | | | | |
| 40 | | | | 24.1 | | | | | |
| 80 | | | | 24.1 | | | | | |
| 140 | | | | 24.1 | | | | | |
| 180 | | | | 24.1 | | | | | |

| ont Nan | Client Name/Address; | | | | | | | | | | | | NALYSIS | ANALYSIS REQUIRED | | <u>'</u> | | | |
|--|---|--|------------|--|--------------------------------|--|---|---|---|----------|----------------|------------|---------|-------------------|---------------------------------|--|--|---|---------|
| ley & A 33 Missi n Diego | Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 | | | | 8 | Project. Boeing-SSFL NPDES Permit 2020 | S. | | | | 'N | | | | | (1.0 | | | |
| rofins C 461 Der ine CA 91: 949-21 | Eurofins Calscience Ivine Contact: Christian Bondoo 17451 Derian Ave Suite #100 Ivine CA 92614 Tel: 949-280-3218 | ndoc | | | Quarterly O | oufall (001, 002, Ouffall 001 Comp | . वरा, वरहा | | als 54 (E1613B) (en | | M2240C\E452 1) | OC/E180 1) | (| | Vuene, Bus(2- DMA, PCP (SVOC | SPSE) (Tuchen) ele | • | Comments | |
| AAmerica's . Noe Agreen | Trackmenters's services under this CAC shall be particimed in accordance with the TBACs within Blanket Service Agreement ROINES-TASKMents by and between Heley & Abbitch, for the submidience and Missione restands and residential Laboratories have | thos with the T&Cs within Size Adrich, inc. its subadanes a | dest Dr | | Project Manag 520.289 8606, | | er. Katherine Miller 520 904.6944 (cell) | 24 -13 | | ees C) (| ihN ,N-s: | · | KSEMOD) | | N ,etels | . '. | | | |
| mpler, E | Sampler, Dan Smith | | | | Field Manage 978 234,5033, | | r Mark Dominick 818.599.0702 (cell) | | | ngeb 05 | I, Mitral | | | | chiqq(ly; | | ~~ ; | | |
| Sample Description | Запре I D | Sampling Date/Time | Sample | Contamer Type | # of Cont. | Preservative | Bottle # | MS/MSD | Folsi Re 7 (E200 7 8 (OCSE) 1) CCOST | BOD2 (: | | | 61) 22T | -Brigls | еџууірех | 1 - | N =1 | | 1 |
| | | | ¥ | 600 mL Poly | - | HNO | 8 | Ş | × | | | | | | | × | | | 3 |
| | | | 3 | 1 L Glass Amber | 2 | None | 110 | ş | ĺ | × | - | ļ | - | <u> </u> | | - | | | |
| • | | • | M. | 1£ Poly | - | None | 115 | Ŷ | | × | | - | | | - | - | | | |
| | | | * | 500 ml. Poly | 2 | None | 120 | Q. | - | | × | | - | | | _ | | | |
| | Outh/001_20200410_Comp | 4102020 | Š | 500 mL Poly | 2 | None | 130 | Q. | | | × | | | | | | | 48 hours Holding Time NO ₃ & NO ₂ | NO, |
| | | <u>\</u> | * | 500 mL Poly | - | None | 150 | 2 | | | | × | | | | | | 48 hours Holding Time for Turbidity | rbidity |
| 7 0 | | 06.60 | Š | 500 mL Poly | - | 709⁴н | 180 | Ą | | | | | Ĥ | × | | | | | |
| | | | š | 1 L Glass Amber | 2 | None | 57,1 | Q. | | | | | | × | | | | | (|
| | | | M | 1 L Glass Amber | 2 | Mone | 130 | Š | | | | | | | × | _ | | | 5 |
| | | | × | 1L Poly | - | None | 185 | Ŷ | _ | | | | × | | | | | | 7 |
| | | | Š | 1 L Glass Amber | 2 | None | 110 | æ | | ı | | | | | | | | Ною | ر رد |
| | | | 3 | 500 mL Poly | 2 | None | 126 | æ | | | I | | | | | | | Pole Hold | |
| | Outfall001_20200410_Comp_Extra | 410/2020 | MM | 500 mi. Poly | 2 | None | 430 | 9 | | | Ι | | | | | | | Hold | ١١. |
| | | /050/ | WW | 1 L Glass Amber | 2 | None | 021 | No | | | | | | τ | | | | Hold | |
| | | 3 | W. | 1 L Glass Amber | 2 | None | 081 | QV. | | | | | | | н | | | Hold | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | Legend | C=Condition: | Legend: C=Conditional, EP=Expert Panel, R=Routine | anel, R=R | outine | | | | | ľ | | | | |
| Keilnquished Ex | | 94 · | | Campany | • | 7 | Kecewed By | | Cate/ime | | | | | | _ Z | i um-around time 24 Hour | time (Check) | 10 Day X | |
| Jan | A | 102 | \sim | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 11 | K | 700 | JC 77 | 7 | 4- | to-7 | 5 | 16 | 43 | 49 | 48 Hour | 5 Day _ | | |
| Remiquished By | By Date/Time | ne . | | Company | | | Received By | 7 | Date/Fime | | | | | | ő | mple Integ | Sample Integrity (Check) | | |
| 1 | | | | | | | | | | | | | | | E | Intact | | On ice | |
| Relinquished By | By DatesTine | on ک/ نزر | , . × | Company S C | インノナ | 7 | Recany By | | Date/Time | ^ Ø} | 7 | 10/20 | 0. | Shal | | Store sample Data Requir No Level IV | Store samples for 6 months Data Requirements (Check) No Level IV | All Level IV X | |
| | Į | | | | | - | <u></u> | | | | | | | | | *************************************** | | | |
| 9-2020 (sion 5 | 2019-2020 Raimy Season V Version 5 | | | | | | | | | | | | | | | | AAD DEAEAG C. Paris of C. Paris of | | |
| | | | | | | | | | i | | | | ľ | 7-5 | 200 | 5 | cusiony | | |

| | | | aff a | | - | | | 10 = 3/2 = 01/2 = | 3 | 4 | DT. at OF001,002,011, | TOPEN BAG Bag hep using clean | | danalysis | WSD | rain events of the | | | | | | | | |
|---------------------|---|---|---|--|------------------------------|-----------------------------------|---|--|----------------|-----------------------------|---|---|--------------|-------------------------------------|--------------------------|---|----------|---------------------------------------|-----------------------|-------------|---|--------------------------|--|--|
| | | | Соттепт | | | | | الك] الماطر≱ية ما إنجامتها و المهم الماسيطية إلى الآراف إلاما | 413F-771 SUBSE | | Chlordane, DDD, DDE, DD7, delethn, PCBs, toxaphene at OF001,002,011, or 018 | Sample receiving DO NOT OPEN BAG. Bag to be operad in Mercury Prep using clean procedures | | Unfiltered and unpreserved analysis | Analyze dupicate, not MS | Orby lest if first or second rain events of the year. | | | | | 10 Day X | | × | |
| - | | | | | | | ···· | | | | | , | | | | | | | | | | <u>ෂ</u> රි | All Level IV | |
| l | | | | _ | 240 | نچ | - '4', | | - | , | | | <u> </u> | | | | _ | | - | | (Check) 72 Hour 5 Day | Check) | Store samples for 6 months Data Requirements (Check) No Level IV | |
| ANALISIS RELIGINED | | | | ξÖυς E¦' loγ(| í u−. e (j. 2) | E 356 | 364.16P | | | | | | | | | | | _ | , | | Turn-around time (Check) 24 Hour 72 Hou 48 Hour 5 Day | Sample Integrity (Check) | Store samples for 6 months Data Requirements (Check No Level IV | |
| | | | S(c. | 51.3 교립 인 | ve j l O 1s | 56 55 11, e | ارت او مرا - عاد م | | , | | | | | | | | | · · · · · · · · · · · · · · · · · · · | · | | Turn-arou 24 Hour 48 Hour | Sample Intact | Store sampl Data Requir No Level IV | |
| 1 | .0E, 4,4. | (juo s8: | , 4,4-000 9.4 PC | enstro | Chic In, To | set nolei | Pesticio DOT, D | | | | × | | | | | | | | | | 1 | | le45 | |
| 100 | (1 | | Mercury Mercury | | | | | | - | | | × | _ | <u> </u> | | | \dashv | | ╁╁ | - | 7. | | 1 1 | |
| 1 | | | | | | | | | \vdash | | | | \vdash | \vdash | | | - | | $\parallel \parallel$ | | | | 02/01 | |
| - | 0)' K-10' 31) & 10)' | 0063),s1 F,(0:606 or€3063 (6906) | 63) 06-38 Sr-90 (E9) (E903 0 o Uranum (1 †1) | 00 (0) 10 (0) 10 (0) 10 (0) 10 (0) | 63) nipe) 63) (63) | eriq!/ (E.H) Я bei 8SS i | \ seos⊖ Tributin Tributio Radium | | | | | | | , | ≺ | | | | | vino Wa | y 2 | | 7 | i |
| - | | | E / E332 : | | | | | | | | | | × | | | | | | | TV Rece | -07 | _ | > | |
| | | | 95 | Wetals Cq. S | 1 bev 1 dq , | ns (i | 1대 1점67 7 005글) 8 005글) | | | × | | | | | | | | | | - ana | Date/Time | Date:Time | Date/Time | |
| | | | | | | | MSANSD | £ | N _O | ŝ | ž | Š | £ | £ | £ | £ | | | | Hine, ORSW | 1/4 | | EC | |
| | | 1, 018] | | Miller | 4 (ceil) | 2 (cell) | Bottle # | <u>8</u> | 8 | 88 | <u>5</u> 2 | 320 | 230 | 225 | 230 | 8 | | | | Panel. Rail | Same S | aconved By | My By | 200 |
| | Project I-SSFL NPDES ermit 2020 | Quarterly Outfall (001, 002, 011, 018) Outfall 001 | dwo | Project Manager Katherme Miller | 520 904 694 | 818 599 070 | Preservative | Norse | FONH | None | Norse | None | NAOH. | None | None | None | | | | E E E | 1:4 Received of Determine | ž. | | 3 |
| | Boeng-6 | arterly Outfall | Ü | Project Manag | 20 289 8606 Field Manag | 78 234 5033 | of Cont. | - | 1 | 4 | 2 | - | - | + | - | LO LO | | | | Conditions | 1:4 | | , | + |
| | | ð | | | , D | 6 | Container Type # | 11. Poty | 500 mL Poly | 1t. Pody | 1 L Glass Amber | borosilicate wats | 500 ml. Poły | 2.5 Gal Cube | 1 L Glass Amber | f Gel Cube | | | |) present | | | F.2. | + . |
| | | | | | 1 | - | | | ┼ | | | | - | - | 1 | | | | | | Shh | | (, | . 1 |
| | | | | e Agreemen | | | Sample | ¥. | Š | ** | 3 | ş | Š | Š | Š | | _ | | | | 1 | | | ダ |
| | | | | te T&Cs within Blanket Service I stillistes, and TestAmenca | | | Samping Date/Time | | | 4102020 | | | | | W102020 / | 0,50 | | | | | Company (0.2020 | Company | Company | 26/26 |
| | ufe 300 | Eurofins Calscience Ivvine Contact. Christian Bondoc 17461 Denan Ave Suite #100 | 3 | TestAmence's services under this CoC drail be performed in accordance with the TBC's within Blanket Service Agreemental 2016-22-TestAments by and between hisley & Addich, Inc., its saperdanes and affiliates, and TestAmenta, Laboratories | | | Sample I D | | | Outrait/201_20200410_Comp_F | | · · · · | | | | Outhat001_20200410_Comp | | | | | Date/Time | Detertime | Date/Time: | 4.8/4.8 |
| s/Address | Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92.108 | Iscience Irvine | 2614 0-3216 | evices under this Cot erica by and between | #100 | an smith | | | | Cuffelik | | | | | | Q. | | | | | A | X. | C AN | () () () () () () () () () () () () () () () () (|
| Client Name/Address | Haley & Aldrich 5333 Mission Center San Diego, CA 92108 | Eurofins Ca | Imne CA 92614 Tel 949-260-3218 | TestAmence's st 2019-22-TestAm | E S | Sampler Can Smirn | Sample Description | | | | age | Outel 00: | | | | | | | | | Reinquepa B | Reinquished | /2020 | 2019-2020 R |

ins Calscience Irvine

CHAIN OF CUSTODY FORM

Phone: 949-261-1022 Fax: 949-260-3297

Eurofins Calscience Irvine

17461 Derian Ave Suite 100 Irvine, CA 92614-5817

M - Hexane
N - None
N - None
N - Nacoco
P - Nazoco
P - Nazoco
R - Nazoco
S - Nazoco
Y - Nazoco
N - Mater
N - Mater
Z - other (specify) See QAS, Boeing w/u to zero, ug/L; Use Special Instructions/Note: Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid Boeing glassware COC No: 440-154963.1 440-264510-1 Page 1 of 1 I - Ice J - DI Water K - EDTA L - EDA Total Number of containers Carrier Tracking No(s): State of Origin: California Analysis Requested E-Mail: christian.bondoc@testamericainc.com Accreditations Required (See note): State Program - California Lab PM: Bondoc, Christian M sletoT \w fail brebnet2 9 gas xoz acrat/acrat × Perform MarMSD (Yes or No) Field Filtered Sample (Yes or No) BT=Tessue, A=Air Preservation Code: Matrix (W=water, S=sc O=waste/oil. Water (C=comp, G=grab) Sample Type Sample 09:30 Pacific Time (AT Requested (days): Due Date Requested: Sample Date 4/10/20 Project#: 44009879 4/22/2020 Phone WO # Client Information (Sub Contract Lab) Juffall001 20200410 Comp (440-264510-1) Sample Identification - Client ID (Lab ID) 916-372-1059(Fax) FestAmerica Laboratories, Inc. Boeing NPDES SSFL outfalls 880 Riverside Parkway Shipping/Receiving 916-373-5600(Tel) City: West Sacramento State, Zp.: CA, 95605

Moles Since laboratory accreditations are subject to change. Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should 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. Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification

| Unconfirmed | | | Return To Client Disposal By Lab | y Lab Archive For | Months |
|--|-----------------------------|---------------------|---|----------------------------------|-----------------|
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank; 2 | | Sedu | | |
| Empty Kit Relinquished by: | Date: | Tir | Time: Method | Method of Shipment: | |
| Relinquished by: | Date/Time; | Company FC - 1/e | Received by: | Date/Time: Oct JO 935 ETA - 50 | Company Sol |
| 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: 1,100 | 2017 | |
| | | | | | Ver: 01/16/2019 |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264510-1

Login Number: 264510 **List Source: Eurofins Irvine**

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | 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: 440-264510-1

Login Number: 264510 List Source: Eurofins TestAmerica, Sacramento
List Number: 2 List Creation: 04/14/20 02:03 PM

Creator: Nuval, Mark-Anthony M

| oreator. Navai, mark-Antirony in | | |
|--|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1.1C |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| s 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 | |
| | | |

N/A

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14

Residual Chlorine Checked.

Client: Haley & Aldrich, Inc. Job ID: 440-264510-1

TCDD

Project/Site: Quarterly Outfall 001 Comp

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

Method Blank

Matrix: Water Prep Type: Total/NA

TCDF

PeCDD

Percent Isotope Dilution Recovery (Acceptance Limits)

PeCF

HxCDD

PeCDF

| Lab Sample ID | Client Sample ID | (25-164) | (24-169) | (25-181) | (24-185) | (21-178) | (32-141) | (28-130) | (26-152) |
|------------------------|--------------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| 440-264510-1 | Outfall001_20200410_Comp | 55 | 55 | 45 | 45 | 50 | 50 | 51 | 52 |
| 440-264510-1 - RA | Outfall001_20200410_Comp | | 53 | | | | | | |
| MB 320-372899/1-A | Method Blank | 76 | 72 | 65 | 64 | 72 | 70 | 70 | 72 |
| MB 320-372899/1-A - RA | Method Blank | | 67 | | | | | | |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264510-1 | Outfall001_20200410_Comp | 50 | 50 | 50 | 56 | 56 | 61 | 54 | |
| 440-264510-1 - RA | Outfall001_20200410_Comp | | | | | | | | |
| MB 320-372899/1-A | Method Blank | 69 | 68 | 67 | 72 | 72 | 79 | 73 | |

MB 320-372899/1-A - RA 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

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
|--------------------|--------------------|------------------|------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|
| 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 320-372899/2-A | Lab Control Sample | 69 | 64 | 59 | 60 | 64 | 62 | 63 | 64 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-372899/2-A | Lab Control Sample | 61 | 63 | 63 | 68 | 66 | 75 | 67 | |

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

Eurofins Calscience Irvine

Page 62 of 64

HxCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF HxCF = 13C-1,2,3,7,8,9-HxCDF 13CHxCF = 13C-2,3,4,6,7,8-HxCDF HpCDD = 13C-1,2,3,4,6,7,8-HpCDD HpCDF = 13C-1,2,3,4,6,7,8-HpCDF HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF OCDD = 13C-OCDD Job ID: 440-264510-1

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Job:

Sacramento Sample Receiving Notes



| THE RESIDENCE OF THE PARTY OF T |
|--|
| 440-264510 Field Sheet |

| Tracking # | 1540 | 4 | 107 | 8033 | |
|------------|------|---|-----|------|---|
| | | | | | Т |

SO / O) FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

| Notes: | | |
|--------|--|---------|
| | Ice Wet/ Gel Other | |
| | Cooler Custody Seal | |
| | Cooler ID: | |
| | Temp Observed: °C Corrected: [From: Temp Blank ☑ Sample □ | · /_ °C |
| | Opening/Processing The Shipment Yes | No N |
| | Cooler compromised/tampered with? | Ø c |
| | Cooler Temperature is acceptable? | 0 0 |
| | Samples received within holding time? | 0 0 |
| | Initials: Pk Date: 04/14 | 120 |
| | Unpacking/Labeling The Samples Yes | No N |
| | CoC is complete w/o discrepancies? | 0 0 |
| | Samples compromised/tampered with? | 0 0 |
| | Sample containers have legible labels? | 0 0 |
| | Sample custody seal? | 0 |
| | Containers are not broken or leaking? | D 0 |
| | Sample date/times are provided? | 0 0 |
| | Appropriate containers are used? | 0 0 |
| | Sample bottles are completely filled? | 0 0 |
| | Sample preservatives verified? | |
| | Samples w/o discrepancies? | D 0 |
| | Zero headspace?* | |
| | Alkalinity has no headspace? | |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | D & |
| | Multiphasic samples are not present? | 0 0 |
| | Non-conformance Yes | No N |
| | NCM Filed? | 0 9 |
| | Initials: MAN Date: 04/14/7 | W |

W20C

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264510-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

5 June 2020





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- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264510-2

5 June2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264510-2

Project Manager: Katherine Miller

Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|--------------------|--|
| OUTFALL001_20200410 _COMP | 440-264510-1 | N/A | WM | 4/10/20 9:30 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL001_20200410 _COMP | 440-264510-2 | N/A | WM | 4/10/20 9:30 AM | RADIUM |

DATA VALIDATION REPORT SDG: 440-264510-2

5 June2020



SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264510-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- The sample containers were received improperly preserved at TA-SL. The appropriate containers were preserved to pH≤2 upon receipt.
- Field and laboratory personnel signed and dated the COCs with the following exception. The COC for TA-SL was not signed and dated for receipt.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- Strikethroughs on the original (TA-Irv) COC were initialed but not dated.





TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | | | | |
|--------|--|--|--|--|
| Code | Organic | Inorganic | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | |



| Reason Code | Organic | Inorganic | | |
|----------------|--|--|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. | | |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. | | |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | | |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. | | |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. | | |
| ? | TIC identity or reported retention time has been changed. | Not applicable. | | |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. | | |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. | | |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. | | |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | | |



III. VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 5, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and A-01-R,* and the *National Functional Guidelines for Superfund Inorganic Method Data Review* (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved.

III.2. CALIBRATION:

The detector efficiencies for gross alpha were less than 20%; therefore, the results for gross alpha was qualified as estimated with low potential bias (UJ). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 5% level of confidence for gross beta. The detected sample result for gross beta was qualified as estimated (J+).

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were performed on the sample from this SDG for gross alpha and gross beta. RERs met laboratory control limits.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

Matrix spike and matrix spike duplicate (MS/MSD) analyses were performed on the sample from this SDG for gross alpha, gross beta, radium-226, radium-228 and strontium-90. Recoveries and RERs were within the laboratory control limits. MS/MSD analyses were not performed on the sample in this SDG for the remaining methods.

III.4. SAMPLE RESULT VERIFICATION:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC. The sample was prepared at a reduced aliquot due to matrix issues for Methods 903.0, 904.0 and 905.

III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. The following are findings associated with field QC samples:

DATA VALIDATION REPORT SDG: 440-264510-2

5 June2020



III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402645102

Analysis Method E900

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

RLCAS No Result Total **MDC** Result Analyte Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes *Ш Gross Alpha Analytes GROSSALPHA 0.935 0.827 3.00 1.24 pCi/L U UJ Gross Beta Analytes GROSSBETA 1.54 0.630 4.00 0.816 pCi/L J+ В

Analysis Method E901.1

Sample Name Outfall001_20200410_Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Cesium-137 10045-97-3 -2.27 15.2 20.0 15.4 pCi/L U U Potassium-40 13966-00-2 222 U U 8.98 159 222 pCi/L

Analysis Method E903.0

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRO

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

Total RL**MDC** Analyte CAS No Result Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes 0.173 Radium-226 13982-63-3 0.136 1.00 0.197 pCi/L

Analysis Method E904.0

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 -0.0276 0.408 1.00 0.735 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 -0.163 0.393 3.00 0.725 pCi/L

Analysis Method E906.0

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes -40.1 Tritium 10028-17-8 149 500 273 pCi/L

Analysis Method HASL-300 U Mod

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-1

RLMDC **Analyte** CAS No Result **Total** Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Total Uranium **URANIUM** 0.250 0.250 1.00 0.297 pCi/L

Analysis Method RADIUM

Sample Name Outfall001 20200410 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 9:30:00 AM Validation Level: 9

Lab Sample Name: 440-264510-2

RLMDC Analyte CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 U RADIUM226228 0.735 0.429 pCi/L

Friday, June 12, 2020 Page 2 of 2



Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264510-2

Client Project/Site: Quarterly Outfall 001 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/12/2020 4:25:42 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

Review your project results through

Total Access

Have a Question?



Visit us at: www.eurofinsus.com/Env The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Project/Site: Quarterly Outfall 001 Comp

Laboratory Job ID: 440-264510-2

-

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

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Christian Bondoc Project Manager I Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 001 Comp Laboratory Job ID: 440-264510-2

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264510-1 | Outfall001_20200410_Comp | Water | 04/10/20 09:30 | 04/10/20 16:45 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2

Job ID: 440-264510-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264510-2

Receipt

The samples were received on 4/10/2020 4:45 PM; the samples arrived in good condition, properly preserved, and where required, on ice. The temperatures of the 3 coolers at receipt time were 1.7°C, 2.6°C and 4.8°C

Department Alpha Spectroscopy

Method A01R_U: Uranium Prep Batch 160-468046:

The following samples have matrix observations: Outfall001_20200410_Comp (440-264510-1). Samples 440-263721-1, 1 MS, and 1 MSD, 550-140782-1 and 3, 440-264162-1, 1 MS, and 1 MSD, and 440-264517-1, 1 MS, and 1 MSD are pale yellow. Samples 440-264182-1, 440-264370-1, and 440-264634-1 were medium yellow. Sample 440-264510-1 is yellow with sediment and was prepared at a reduced aliquot. Sample 160-37759-4 had thick brown sediment and was prepared at a reduced aliquot. Sample 160-37794-1 was pale brown in color with a small amount of sediment. Sample 160-37794-2 was thick brown with sediment and other plant-like particulates with a sewage smell and was prepared at a reduced aliquo

Method A01R U: Isotopic Uranium Prep Batch 160-468046

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_20200410_Comp (440-264510-1), (LCS 160-468046/2-A), (MB 160-468046/1-A), (440-263721-S-1-J), (440-263721-M-1-I MS) and (440-263721-M-1-J MSD

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

Department Gamma Spectroscopy

Method 901.1 Cs: Gamma Prep Batch 160-468154

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.

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 |
| | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264510-2 Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Th-227 Ac-227 Bi-211 Th-227 Th-227 Pb-211 Bi-214 Ra-226

Outfall001 20200410 Comp (440-264510-1), (LCS 160-468154/2-A), (MB 160-468154/1-A), (440-264517-R-1-F) and (440-264517-R-1-G)

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

Department Gas Flow Proportional Counter

Method 900.0: Gross Alpha/Beta < PrepAnalyticalBatch>

The following samples had additional volume added to reach target mass and efficiency <CommaMerge>. The total sample volume is reflected in the initial amount field

Method 900.0: Gross Alpha/Beta Prep Batch 160-468961

The matrix spike duplicate recovery (MSD, 57%) was outside the lower control limit (60%). Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limit

Method 900.0: Gross Alpha/Beta Prep Batch 160-468961

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 20200410 Comp (440-264510-1), (LCS 160-468961/2-A), (LCSB 160-468961/3-A), (MB 160-468961/1-A), (440-264517-R-1-I), (440-264517-R-1-N DU), (440-264517-R-1-J MS), (440-264517-R-1-L MSBT), (440-264517-R-1-M MSBTD) and (440-264517-R-1-K MS

Method 903.0: Radium 226 Prep Batch 160-467982:

The following samples were prepared at a reduced aliquot due to yellow discoloration: Outfall001 20200410 Comp (440-264510-

Method 903.0: Radium-226 Prep Batch 160-467982

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_20200410_Comp (440-264510-1), (LCS 160-467982/1-A), (MB 160-467982/23-A), (440-264517-R-1-A), (440-264517-M-1-B MS) and (440-264517-M-1-C MSD

Method 904.0: Radium 228 Prep Batch 160-468070:

The following samples were prepared at a reduced aliquot due to yellow discoloration: Outfall001 20200410 Comp (440-264510-

Method 904.0: Radium-228 Prep Batch 160-468070

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 20200410 Comp (440-264510-1), (LCS 160-468070/1-A), (MB 160-468070/23-A), (440-264517-R-1-E), (440-264517-M-1-F MS) and (440-264517-M-1-G MSD

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2

Job ID: 440-264510-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Method 905_Sr90: Strontium 90 Prep Batch 160-468677:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001 20200410 Comp. (440-264510-1). Samples 440-264370-1, 440-264510-1, 440-264517-1, 440-264517-1 MS, 440-264517-1 MSD, 440-264634-1, and 440-264783-1 all have a yellow discoloration. Sample 310-179946-1 has brown discoloration and heavy sediment

Method 905 Sr90: Sr-90 Prep Batch 160-468677

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 20200410 Comp (440-264510-1), (LCS 160-468677/1-A), (MB 160-468677/22-A), (440-264517-R-1-H), (440-264517-M-1-H) MS) and (440-264517-M-1-I MS

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

Department Liquid Scintillation Counter

Method 906.0: LSC Tritium Prep Batch 160-468476

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 20200410 Comp (440-264510-1), (LCS 160-468476/2-A), (MB 160-468476/1-A), (160-37864-A-1-A), (160-37864-A-1-B) DU), (440-264162-L-1-A), (440-264162-L-1-B MS) and (440-264162-K-1-T MSD

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

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264510-2

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp

Lab Sample ID: 440-264510-1 Date Collected: 04/10/20 09:30 **Matrix: Water**

Date Received: 04/10/20 16:45

| Method: 900.0 - Gr | oss Alpha | and Gros | s Beta Rac | dioactivity | | | | | | |
|--------------------|-----------|-----------|------------|-------------|------|-------|-------|----------------|----------------|---------|
| | • | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 0.935 | U | 0.820 | 0.827 | 3.00 | 1.24 | pCi/L | 04/27/20 07:57 | 05/01/20 11:49 | 1 |
| Gross Beta | 1.54 | | 0.611 | 0.630 | 4.00 | 0.816 | pCi/L | 04/27/20 07:57 | 05/01/20 11:49 | 1 |
| | | | | | | | | | | |

| Method: 901.1 - Ce | sium 137 | & Other G | amma Emi | tters (GS) | | | | | | |
|--------------------|----------|-----------|----------|------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | -2.27 | U | 15.2 | 15.2 | 20.0 | 15.4 | pCi/L | 04/19/20 14:22 | 04/21/20 08:33 | 1 |
| Potassium-40 | 8.98 | U | 159 | 159 | | 222 | pCi/L | 04/19/20 14:22 | 04/21/20 08:33 | 1 |
| _ | | | | | | | | | | |

| Method: 903.0 - Rac | 11um-226 | (GFPC) | Count | Total | | | | | | |
|---------------------|----------|-----------|----------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.173 | U | 0.135 | 0.136 | 1.00 | 0.197 | pCi/L | 04/16/20 13:59 | 05/12/20 06:30 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 59.8 | | 40 - 110 | | | | | 04/16/20 13:59 | 05/12/20 06:30 | 1 |

| Method: 904.0 - | Radium-228 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | -0.0276 | U | 0.408 | 0.408 | 1.00 | 0.735 | pCi/L | 04/19/20 16:36 | 04/30/20 07:45 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 59.8 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:45 | |
| Y Carrier | 94.6 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:45 | 1 |

| Method: 905 - Stro | ntium-90 (| GFPC) | | | | | | | | |
|--------------------|------------|-----------|--------------------|--------------------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| Analyte | Pocult | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| | Result | Qualifier | (20+/-) | (20+/-) | KL _ | IVIDC | Unit | Prepareu | Allalyzeu | DII Fac |
| Strontium-90 | -0.163 | U | 0.393 | 0.393 | 3.00 | 0.725 | pCi/L | 04/23/20 09:24 | 05/06/20 09:27 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 81.0 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:27 | 1 |
| Y Carrier | 93.5 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:27 | 1 |

| | itium, Tota | I (LSC) | | | | | | | | |
|---------|-------------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Tritium | -40.1 | U | 149 | 149 | 500 | 273 | pCi/L | 04/22/20 04:26 | 04/22/20 21:52 | 1 |

| Method: A-01-R - I | sotopic Ur | anium (Al | pha Spectr | ometry) | | | | | | |
|--------------------|------------|-----------|------------|---------|------|-------|-------|----------------|----------------|---------|
| | • | • | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Total Uranium | 0.250 | U | 0.249 | 0.250 | 1.00 | 0.297 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 |

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264510-2

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp Lab Sample ID: 440-264510-1

Date Received: 04/10/20 16:45

Date Collected: 04/10/20 09:30 **Matrix: Water**

Dil Fac Tracer %Yield Qualifier Limits Prepared Analyzed Uranium-232 62.5 30 - 110

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Method **Method Description** Protocol Laboratory TAL SL 900.0 Gross Alpha and Gross Beta Radioactivity EPA TAL SL 901.1 Cesium 137 & Other Gamma Emitters (GS) **EPA** Radium-226 (GFPC) TAL SL 903.0 **EPA** 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 Preparation, Evaporation TAL SL Evaporation None ExtChrom Preparation, Extraction Chromatography Resin Actinide Separation None TAL SL Fill_Geo-0 Fill Geometry, No In-Growth TAL SL None LSC_Dist_Susp Distillation and Suspension (LSC) None TAL SL PrecSep_0 Preparation, Precipitate Separation None TAL SL TAL SL PrecSep-21 Preparation, Precipitate Separation (21-Day In-Growth) None 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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 440-264510-2

3

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Lab Chronicle

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Client Sample ID: Outfall001_20200410_Comp

Lab Sample ID: 440-264510-1 Date Collected: 04/10/20 09:30 **Matrix: Water**

Date Received: 04/10/20 16:45

| | Batch | Batch | _ | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|-----------|--------|--------|----------------|---------|--------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 200.06 mL | 1.0 g | 468961 | 04/27/20 07:57 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | | 469304 | 05/01/20 11:49 | AJD | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 468154 | 04/19/20 14:22 | MLG | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 468184 | 04/21/20 08:33 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 749.78 mL | 1.0 g | 467982 | 04/16/20 13:59 | RBR | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 470197 | 05/12/20 06:30 | KLS | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 749.78 mL | 1.0 g | 468070 | 04/19/20 16:36 | MNH | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | | | 469237 | 04/30/20 07:45 | KRR | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 500.36 mL | 1.0 g | 468677 | 04/23/20 09:24 | RBR | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 469750 | 05/06/20 09:27 | CJQ | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.2 mL | 1.0 g | 468476 | 04/22/20 04:26 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 468623 | 04/22/20 21:52 | JS | TAL SL |
| Total/NA | Prep | ExtChrom | | | 249.74 mL | 1.0 mL | 468046 | 04/17/20 17:03 | CMM | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 468772 | 04/24/20 09:34 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 440-264510-2

Client: Haley & Aldrich, Inc.

Count

Job ID: 440-264510-2 Project/Site: Quarterly Outfall 001 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-468961/1-A **Matrix: Water**

Analysis Batch: 469304

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468961

мв мв Uncert. Uncert. Result Qualifier RL **MDC** Unit Dil Fac Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed Gross Alpha -0.03693 U 0.429 0.429 3.00 0.907 pCi/L 04/27/20 07:57 05/01/20 11:47 Gross Beta -0.2609 U 0.442 0.443 4.00 0.850 pCi/L 04/27/20 07:57 05/01/20 11:47

Total

Lab Sample ID: LCS 160-468961/2-A

Matrix: Water

Analysis Batch: 469304

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

Prep Batch: 468961

Total LCS LCS %Rec. Spike Uncert. RL Analyte Added Result Qual $(2\sigma + / -)$ **MDC** Unit %Rec Limits Gross Alpha 49.6 39.96 6.22 3.00 1.69 pCi/L 81 75 - 125

Lab Sample ID: LCSB 160-468961/3-A

Matrix: Water

Analysis Batch: 469304

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 468961**

Total Spike LCSB LCSB %Rec. Uncert. Added Result Qual $(2\sigma + / -)$ RL MDC Unit Limits Analyte %Rec 4.00 **Gross Beta** 84.4 91 75 - 125 76.62 8.19 0.852 pCi/L

Lab Sample ID: 440-264517-R-1-J MS

Matrix: Water

Analysis Batch: 469304

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

Prep Batch: 468961

Total MS MS %Rec. Sample Sample **Spike** Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Gross Alpha 0.775 U 49.4 31.18 5.42 3.00 2.19 pCi/L 62 60 - 140

Lab Sample ID: 440-264517-R-1-K MSD

Matrix: Water

Analysis Batch: 469304

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 468961**

Total Sample Sample MSD MSD %Rec. Spike Uncert. **RER** RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits RER Limit 0.775 U Gross Alpha 49.5 29.21 F1 5.12 3.00 2.13 pCi/L 60 - 140 0.19

Lab Sample ID: 440-264517-R-1-L MSBT

Matrix: Water

Analysis Batch: 469304

Client Sample ID: Matrix Spike

Prep Type: Total/NA **Prep Batch: 468961**

Total Sample Sample Spike MSBT MSBT %Rec. Uncert. Added Analyte Result Qual Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits 84.1 Gross Beta 1.95 80.47 8.58 4.00 0.892 pCi/L 93 60 - 140

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: 440-264517-R-1-M MSBTD

Matrix: Water

Analysis Batch: 469304

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468961

| | Sample | Sample | Spike | MSBTD | MSBTD | Uncert. | | | | %Rec. | | RER |
|------------|--------|--------|-------|--------|-------|---------|------|-------------|------|----------|------|-------|
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Gross Beta | 1.95 | | 84.2 | 85.21 | | 9.05 | 4.00 | 0.965 pCi/L | 99 | 60 - 140 | 0.27 | 1 |

Total

Lab Sample ID: 440-264517-R-1-N DU **Client Sample ID: Duplicate**

Matrix: Water

Analysis Batch: 469304

Prep Type: Total/NA

Prep Batch: 468961

| | , | | - | | | Total | | | | | | |
|-----|----------|--------|--------|---------|------|---------|------|-------|-------|----------|-----|-----|
| | | Sample | Sample | DU | DU | Uncert. | | | | | R | ER |
| Ana | alyte | Result | Qual | Result | Qual | (2σ+/-) | RL | MDC | Unit | RER | Lii | mit |
| Gro | ss Alpha | 0.775 | U | -0.3564 | U | 1.20 | 3.00 | 2.47 | pCi/L | 0.47 | | 1 |
| Gro | ss Beta | 1.95 | | 2.274 | | 0.719 | 4.00 | 0.853 | pCi/L | 0.22 | ! | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-468154/1-A

Matrix: Water

Analysis Batch: 468184

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

Prep Batch: 468154

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Cesium-137 9.865 U 9.03 9.08 20.0 10.3 pCi/L 04/19/20 14:22 04/21/20 07:26 Potassium-40 -10.82 U 156 156 222 pCi/L 04/19/20 14:22 04/21/20 07:26

Lab Sample ID: LCS 160-468154/2-A

Matrix: Water

Analysis Batch: 468186

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

Prep Batch: 468154

Total **Spike** LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Americium-241 136000 126300 14600 415 pCi/L 93 90 - 111 Cesium-137 43700 43710 4380 20.0 106 pCi/L 100 90 - 111 Cobalt-60 26200 25510 2530 64.4 pCi/L 97 89 - 110

Lab Sample ID: 440-264517-R-1-G DU **Client Sample ID: Duplicate**

Matrix: Water

Analysis Batch: 468183

Prep Type: Total/NA **Prep Batch: 468154**

| | | | | | iotai | | | | | | |
|--------------|--------|--------|--------|------|---------|------|------|-------|------|------|-------|
| | Sample | Sample | DU | DU | Uncert. | | | | | | RER |
| Analyte | Result | Qual | Result | Qual | (2σ+/-) | RL | MDC | Unit | | RER | Limit |
| Cesium-137 | 2.76 | U | 2.790 | U | 5.70 | 20.0 | 7.42 | pCi/L | | 0 | 1 |
| Potassium-40 | 16.6 | U | -35.24 | U | 119 | | 175 | pCi/L | | 0.26 | 1 |

Total

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Client: Haley & Aldrich, Inc. Job ID: 440-264510-2

Project/Site: Quarterly Outfall 001 Comp

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467982/23-A

Lab Sample ID: LCS 160-467982/1-A

Matrix: Water Analysis Batch: 470197 Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 467982**

MB MB Uncert. Uncert. Result Qualifier MDC Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 0.05167 U 04/16/20 13:59 05/12/20 06:30 0.0787 0.0788 1.00 0.135 pCi/L

Total

Count

MB MB

Carrier Qualifier Limits %Yield Prepared Analyzed Dil Fac Ba Carrier 40 - 110 04/16/20 13:59 05/12/20 06:30 87.2

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467982

Analysis Batch: 470197 Total Spike LCS LCS Uncert. %Rec. Added RLAnalyte Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits Radium-226 10.36 1.07 1.00 0.101 pCi/L 75 ₋ 125 11.3 91

LCS LCS Carrier %Yield Qualifier I imits Ba Carrier 97.0 40 - 110

Lab Sample ID: 440-264517-M-1-B MS **Client Sample ID: Matrix Spike**

Matrix: Water

Matrix: Water

Analysis Batch: 470197

Prep Type: Total/NA

Prep Batch: 467982

Total Sample Sample **Spike** MS MS Uncert. %Rec. Analyte Result Qual Added $(2\sigma + / -)$ RL**MDC** Unit %Rec Limits Result Qual Radium-226 0.136 15.1 14.73 1.53 1.00 0.124 pCi/L 96 75 - 138

MS MS Carrier %Yield Qualifier Limits Ba Carrier 82.3 40 - 110

Lab Sample ID: 440-264517-M-1-C MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Carrier

Analysis Batch: 470197

Prep Type: Total/NA **Prep Batch: 467982**

Total MSD MSD %Rec. Sample Sample Spike Uncert. **RER** Analyte RL **MDC** Unit %Rec Result Qual Added Result Qual $(2\sigma + / -)$ Limits RER Limit Radium-226 0.136 15.1 14.06 1.45 1.00 0.101 pCi/L 92 75 - 138 0.22

MSD MSD %Yield Qualifier Limits 95.4 Ba Carrier 40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-468070/23-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 469237

Prep Batch: 468070 Count Total MB MB Uncert. Uncert. $(2\sigma + / -)$ Analyte Result Qualifier $(2\sigma + / -)$ RL **MDC** Unit Prepared Dil Fac Analyzed 0.242 0.244 04/19/20 16:36 04/30/20 07:45 Radium-228 0.3732 1.00 0.372 pCi/L

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Job ID: 440-264510-2

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Method: 904.0 - Radium-228 (GFPC) (Continued)

| | MB | MB | | | | |
|------------|--------|-----------|----------|-------------------------|-------|---------|
| Carrier | %Yield | Qualifier | Limits | Prepared Analy | zed | Dil Fac |
| Ba Carrier | 87.2 | | 40 - 110 | 04/19/20 16:36 04/30/20 | 07:45 | 1 |
| Y Carrier | 91.2 | | 40 - 110 | 04/19/20 16:36 04/30/20 | 07:45 | 1 |

Lab Sample ID: LCS 160-468070/1-A

Matrix: Water

Analysis Batch: 469238

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

Prep Batch: 468070

Total Spike Uncert. LCS LCS %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Radium-228 8.88 8.918 1.03 1.00 0.383 pCi/L 100 75 - 125

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 97.0 40 - 110 93.5 Y Carrier 40 - 110

Lab Sample ID: 440-264517-M-1-F MS

Matrix: Water

Analysis Batch: 469237

Client Sample ID: Matrix Spike

Prep Type: Total/NA **Prep Batch: 468070**

Total Sample Sample Spike MS MS Uncert. %Rec. Result Qual Added Limits Analyte Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Radium-228 -0.0386 U 11.8 12.22 1.44 1.00 0.503 pCi/L 103 45 - 150

MS MS Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 82.3 Y Carrier 92.0 40 - 110

Lab Sample ID: 440-264517-M-1-G MSD

Matrix: Water

Analysis Batch: 469237

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468070

Total Sample Sample MSD MSD %Rec. **RER** Spike Uncert. Analyte Result Qual Added **MDC** Unit Limits Result Qual $(2\sigma + / -)$ RL %Rec RER Limit Radium-228 -0.0386 U 1.49 1.00 0.505 pCi/L 110 45 - 150 0.26 11.8 12.99

MSD MSD Carrier %Yield Qualifier Limits Ba Carrier 95.4 40 - 110 85.6 40 - 110 Y Carrier

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Analysis Batch: 469763

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

Prep Batch: 468677

| • | | | Count | Total | | | | | • | |
|--------------|--------|-----------|---------|---------|------|-------|-------|---------------|------------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.2727 | U | 0.395 | 0.395 | 3.00 | 0.660 | pCi/L | 04/23/20 09:2 | 4 05/06/20 09:25 | 1 |

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Job ID: 440-264510-2

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 001 Comp

Method: 905 - Strontium-90 (GFPC) (Continued)

MB MB

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Carrier

Sr Carrier

Y Carrier

Analysis Batch: 469763

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 468677**

Qualifier Limits Prepared Dil Fac %Yield Analyzed 93.4 40 - 110 04/23/20 09:24 05/06/20 09:25 92.0 40 - 110 04/23/20 09:24 05/06/20 09:25

Lab Sample ID: LCS 160-468677/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 469750

Prep Type: Total/NA

Prep Batch: 468677

Total **Spike** LCS LCS %Rec. Uncert. Added RL **MDC** Unit %Rec Limits Analyte Result Qual $(2\sigma + / -)$ Strontium-90 75 ₋ 125 16.9 16.93 1.79 3.00 0.626 pCi/L 100

LCS LCS Carrier %Yield Qualifier Limits Sr Carrier 91.7 40 - 110 Y Carrier 85.6 40 - 110

Lab Sample ID: 440-264517-M-1-H MS **Client Sample ID: Matrix Spike**

Matrix: Water

Analysis Batch: 469750

Prep Type: Total/NA

Prep Batch: 468677

Total Sample Sample Spike MS MS Uncert. %Rec. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Strontium-90 0.284 U 16.9 3.00 16.73 1.77 0.633 pCi/L 19 - 150

MS MS Carrier %Yield Qualifier I imits Sr Carrier 88.8 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264517-M-1-I MSD

Matrix: Water

Analysis Batch: 469750

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 468677**

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** %Rec Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit Limits RER Limit Strontium-90 0.284 U 16.9 15.70 1.68 3.00 0.641 pCi/L 91 19 - 150 0.30

MSD MSD Carrier %Yield Qualifier Limits Sr Carrier 87.6 40 - 110 Y Carrier 92.7 40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-468476/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468623 Count

Total MR MR Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL MDC Unit Prepared Analyzed Dil Fac 62.16 U Tritium 161 161 500 277 pCi/L 04/22/20 04:26 04/22/20 13:34

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Prep Batch: 468476

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Total

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: LCS 160-468476/2-A

Matrix: Water

Analysis Batch: 468623

Analysis Batch: 468623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468476

Spike LCS LCS %Rec. Uncert. Added RL MDC Unit Analyte Result Qual $(2\sigma + / -)$ %Rec Limits 75 - 114 Tritium 2470 2384 380 500 277 pCi/L 96

Lab Sample ID: 440-264162-K-1-T MSD

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468476

Total Sample Sample MSD MSD %Rec. **RER** Spike Uncert. Result Qual Added **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RL %Rec Limits **RER** Limit Tritium 14.9 U 2460 2655 404 500 276 pCi/L 107 67 - 130 0.74

Lab Sample ID: 440-264162-L-1-B MS

Matrix: Water

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 468476

Total Spike MS MS Uncert. %Rec. Sample Sample Added Analyte Result Qual Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 14.9 U 2470 2096 353 500 277 pCi/L 67 - 130 84

Lab Sample ID: 160-37864-A-1-B DU

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 468476

Total Sample Sample DU DU Uncert. **RER** Result Qual RL **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RER Limit Tritium 66.7 U 77.93 U 156 500 261 pCi/L 0.04

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA **Analysis Batch: 468749 Prep Batch: 468046**

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 04/17/20 17:03 04/24/20 09:34 **Total Uranium** 0.03978 Ū 0.1101 0.1102 1.00 0.152 pCi/L

MB MB **%Yield Qualifier** Limits Tracer Prepared Analyzed Dil Fac Uranium-232 92.6 30 - 110 04/17/20 17:03 04/24/20 09:34

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

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

Prep Batch: 468046

| | | | | Total | | | | |
|-------------|-------|--------|------|---------|------|--------------|------|---------------------|
| | Spike | LCS | LCS | Uncert. | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits |
| Uranium-234 | 12.7 | 13.10 | | 1.50 | 1.00 | 0.150 pCi/L | 103 | 75 - 125 |
| Uranium-238 | 13.0 | 13.96 | | 1.58 | 1.00 | 0.0962 pCi/L | 107 | 75 ₋ 125 |

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264510-2

Project/Site: Quarterly Outfall 001 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

LCS LCS

Tracer **%Yield Qualifier** Limits Uranium-232 81.2 30 - 110

Lab Sample ID: 440-263721-M-1-I MS

Matrix: Water

Analysis Batch: 468757

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

Prep Batch: 468046

Prep Type: Total/NA

Prep Batch: 468046

Total Sample Sample Spike MS MS Uncert. %Rec. RL Analyte Result Qual Added **MDC** Unit %Rec Limits Result Qual $(2\sigma + / -)$ Uranium-234 0.0485 U 12.7 12.44 1.46 1.00 0.164 pCi/L 97 65 - 146 Uranium-238 0.150 13.0 14.35 1.63 1.00 0.129 pCi/L 109 68 - 143 MS MS

%Yield Qualifier

Tracer Limits Uranium-232 65.3 30 - 110

Lab Sample ID: 440-263721-M-1-J MSD

Matrix: Water

Analysis Batch: 468759

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468046

Total Sample Sample **Spike** MSD MSD Uncert. %Rec. **RER** Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit 0.158 pCi/L Uranium-234 0.0485 U 1.00 65 - 146 12.8 13.87 1.59 108 0.47 Uranium-238 0.150 13.0 12.82 1.50 1.00 68 - 143 0.141 pCi/L 97 0.49 1

MSD MSD %Yield Qualifier Tracer Limits 65.1 30 - 110 Uranium-232

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

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| _ | — 4 • • | 40-00 |
|------|----------------|--------|
| Prep | Batch: | 467982 |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method I | Prep Batch |
|----------------------|--------------------------|-----------|--------|------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467982/23-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467982/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| 440-264517-M-1-B MS | Matrix Spike | Total/NA | Water | PrecSep-21 | |
| 440-264517-M-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-21 | |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|----------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | ExtChrom | |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-I MS | Matrix Spike | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | Total/NA | Water | ExtChrom | |

Prep Batch: 468070

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-468070/23-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-468070/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| 440-264517-M-1-F MS | Matrix Spike | Total/NA | Water | PrecSep_0 | |
| 440-264517-M-1-G MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep_0 | |

Prep Batch: 468154

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | Fill_Geo-0 |
| MB 160-468154/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 |
| LCS 160-468154/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 |
| 440-264517-R-1-G DU | Duplicate | Total/NA | Water | Fill_Geo-0 |

Prep Batch: 468476

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | LSC_Dist_Susp | |
| MB 160-468476/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp | |
| LCS 160-468476/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-K-1-T MSD | Matrix Spike Duplicate | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-L-1-B MS | Matrix Spike | Total/NA | Water | LSC_Dist_Susp | |
| 160-37864-A-1-B DU | Duplicate | Total/NA | Water | LSC Dist Susp | |

Prep Batch: 468677

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | PrecSep-7 | |
| MB 160-468677/22-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-468677/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-H MS | Matrix Spike | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-7 | |

Prep Batch: 468961

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|-------------|------------|
| 440-264510-1 | Outfall001_20200410_Comp | Total/NA | Water | Evaporation | |
| MB 160-468961/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-468961/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |

Eurofins Calscience Irvine

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Job ID: 440-264510-2

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QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264510-2

Project/Site: Quarterly Outfall 001 Comp

Rad (Continued)

Prep Batch: 468961 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|------------------------|-----------|--------|-------------|------------|
| LCSB 160-468961/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 440-264517-R-1-J MS | Matrix Spike | Total/NA | Water | Evaporation | |
| 440-264517-R-1-K MSD | Matrix Spike Duplicate | Total/NA | Water | Evaporation | |
| 440-264517-R-1-L MSBT | Matrix Spike | Total/NA | Water | Evaporation | |
| 440-264517-R-1-M MSBTD | Matrix Spike Duplicate | Total/NA | Water | Evaporation | |
| 440-264517-R-1-N DU | Duplicate | Total/NA | Water | Evaporation | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264510-2

Project/Site: Quarterly Outfall 001 Comp

Qualifiers

| R | a | d | |
|-----|---|---|--|
| • • | ч | • | |

 Qualifier
 Qualifier Description

 F1
 MS and/or MSD recovery exceeds control limits.

U Result is less than the sample detection limits.

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|---|
| | may not be processed in the report |

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Eurofins Calscience Irvine

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Job ID: 440-264510-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| Iowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

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Eurofine Calecience Irvine

48 hours Holding Time for Turbidity 48 hours Holding Time NO3 & NO2 Comments 10 Day On ice 목 문문 일 용 Data Requirements (Check) 72 Hour Store samples for 6 months Turn-around time (Check) Sample Integrity (Check) No Level IV 24 Hour __ 48 Hour __ Intact otsi Recoverable Metals Mercury (E245 1) shal S, 4,6 TCP, 2,4 Dinitrofoluene, Bre(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) I r (8093) OHB-siqle (S 035) M-sinommA 02/01/14 122 (100 \$ (SM\$240D)) (mpiquA' LDS (SMS240C/E180 1) Ct, 504, Mitrate-M, Mitrate-M, MO3+MO2-M, Perchlorate (E300) Suffectants (MBAS) (SM5540C/E425 1) I BODS (20 degrees C) (E405 1 (SMS210B_BODCalc)) EC 10V Legend: C=Conditional, EP=Expert Panel, R=Routine
| Received By / Date/Time TCDO (snd all congeners) (E1613B) Total Recoverable Metals (E200 1) Zn (E200 8) Cu, Pb, Cd, Se MS/MSD ĝ 2 ₹ 운 ĝ £ ž ĝ ĝ £ ĝ £ £ £ ŝ Project.
Boeing-SSFL NPDES
Permit 2020
Quarterly Outbil [001, 002, 011, 016]
Comfall 001 Project Manager. Kathenne Miller 520.289 8906, 520 904.6944 (cell) Field Manager. Mark Dominick 978 234.5033, 818.599.0702 (cell) 45 8 8 55 Ē 8 5 8 8 170 8 92 乭 8 Preservative Youe ¥on• 96 H Š None Xcone. None None None Š None None None None ナイハブ # OF CORT ر. ز: 1 L Glass Amber 1 L Giass Amber Container Type 1 L Glass Ambei 1 L Glass Ambel 1 L Glass Ambel 1 L Glass Amber 500 mL Poly 500 mi. Poly 500 mL Poly 1. Poly) 757 7 1t. Poly .72 Sample Matrix **M** Š XX 3 Š * Š Š ₹ ₹ Š Š ž Š ž Trechamics's services under this CoC shall be particimed in accordance with the TACs within Blanten Service develorable 20-22-feet/minds by and between Heley & Addro, her its acherdances and Millistees, and Technomics, a boordootes his Sampler, Dean Smith 10630 द्धे Sampling Date/Time 4/10/2020 4/10/2020 4-10-70 Eurofins Calscience Ivrne Contact Christian Bondoo 17461 Derian Ave Suite #100 Ivrne CA 92614 Tel: 949-260-3218 Outtail001_20200410_Comp_Extra Outfail001_20200410_Comp Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Sute 300 Sample I D San Diego, CA 92108 Ouffall 001

Page 23 of 31

440-264510 Chain of Custody

| Particle Particle |
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Company

Method of Shipment

Cooler Temperature(s) °C and Other Remarks:

eceived by: Received by

eceived by:

| Phone: 949-261-1022 Fax: 949-260-3297 | | | | | | | ١ | | | | | |
|---|--|---|--|---|------------------|--------------------------------|----------------|--|-------------|--------------|--|--|
| Client Information (Sub Contract Lab) | Sampler: | | Lab PM: Bondoc, Christian M | Christian | M | | | Carrier Tracking No(s) | (s)oN bu | | COC No: 440-154958.1 | |
| Client Confact. Shipping/Receiving | Phane | | E-Mail: christian.bondoc@testamericainc.com | pondoc@ | gtestam | ericaino | .com | State of Origin: California | | | Page: Page 1 of 1 | |
| Company. TestAmerica Laboratories, Inc. | | | Acon | Accreditations Required (See note): State Program - California | Required (| See note) fornia | | | | | Job #: 440-264510-1 | |
| Address. 13715 Rider Trail North, , | Due Date Requested: 4/22/2020 | | 7 | | | Ana | vsis R | Analysis Requested | | | Preservation Codes: | odes: |
| City Earth City M.O. Research | TAT Requested (days): | | | | | | | | | | A - HCL B - NaOH C - Zn Acetate D - Nitric Acid | M - Hexane N - None O - AsNaO2 P - Na2O4S |
| 74.298-8566(Tel) 314-298-8757(Fax) | PO#: | | I | _ | wn | | | | | | F - MeOH G - Amchlor | |
| | WO#: | | | uisəD | | | 06-1 | | | | 1 - Ice | U - Acetone V - MCAA |
| Project Name. Boeing NPDES SSFL outfalls | Project #. 44009879 | | | bns 04- | | | muitnot | wngu | | tainers | | W - pH 4-5 Z - other (specify) |
| Site. | ssow# | | | 60_0 K | 2 4000 | | S √_qs | dsne* | | noo fo | Other: | |
| Sample Identification - Client ID (Lab ID) | Sample Sample Date Time | Sample Type (C=comp, G=grab) | Matrix 66 (Wewater, 55 solid, 05 waste/oil, 67 BT=Tissue, A=air) | Perform MS/M | A01R_U/ExtChri | q92.019\0.506 q92.019\0.406 | 905_Sr90/PrecS | Jsi0_32/0.80e | | Total Number | | Special Instructions/Note: |
| | X | Preservation Code: | Code: | ∇ | | | | | | X | | |
| Outrailion | 4/10/20 Pacific | | Water | × | × × | × | × | × | | N | | date from preservation |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of maintain accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the san attention immediately. If all requested accreditations are current to date, return the signed Chain of Custs. | science places the ownership of method, s //matrix being analyzed, the samples must return the signed Chain of Custody attesti | method, analyte & accreditation compliance upon out strates must be shipped back to the Eurofins Calscience la ody attesting to said complicance to Eurofins Calscience | compliance upo Eurofins Calsci to Eurofins Cals | n out subco ence labor cience. | ontract lab | oratories. | This sam | ple shipment is fo be provided. Any | warded unde | r chain-of-c | custody. If the labora n status should be br | method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently ples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience. |
| Possible Hazard Identification | | | S | ample D | isposa | (A fee | may be | assessed if | amples a | re retain | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | 1 month) |
| Unconfirmed | | | | Ret | Return To Client | lient | | Disposal By Lab | ab. | Arch | Archive For | Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | c 2 | S | Special Instructions/Of Pequirements | ctrintion | a JU/s | acri inco | color | | | | |

*** Seurofins Caisclence

Chain of Custody Record

Eurofins Calscience Irvine

17461 Derian Ave Suite 100

Empty Kit Relinquished by:

finduished by: finquished by: Hinquished by: Custody Seal No.:

Custody Seals Intact:



| 8. Y N Are there custody seals present on bottles? 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH'? | 2. IS40 4107 7909 3. IS40 4107 7920 4. IS40 4107 7894 5. IS40 4107 7631 6. IS40 4107 7631 6. IS40 4107 7631 7. IS40 4107 7631 Are there custody seals present on the cooler? Are there custody seals present on the cooler? Are there custody seals on cooler appear to be tampered with? Were contents of cooler frisked after opening but before unnacking? Were contents of cooler frisked after opening but before unnacking? 10. Win N/A (If not, make note below) | |
|--|---|----------------------|
| 8. Y N Are there custody seals present on bottles? 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | 3. IS46 4167 7920 4. IS40 4167 7894 5. IS40 4167 7894 18131\325 0.2 5. IS40 4167 7931 6. 7. | |
| 8. Y N Are there custody seals present on bottles? 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | 4. IS40 4107 7894 I8131\325 0.2 5. IS40 4107 7931 I8131\325 0.3 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? 2. Y N N/A Do custody seals on cooler appear to be tampered with? 3. Y N Were contents of cooler frisked after opening but before uppacking? 10. Y N N/A (If not, make note below) | |
| 8. Y N Are there custody seals present on bottles 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | 5. IS40 4107 7431 6. 7. Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable): Are there custody seals present on the cooler? Are there custody seals on cooler appear to be tampered with? N/A Were contents of cooler frisked after opening but before uppacking? 10. YN N/A Was sample received with the fore uppacking? 10. YN N/A Was sample received with the fore uppacking? | |
| 8. Y N Are there custody seals present on bottles 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | 5. S40 4107 743 1813117 0.3 6. 7. 7. 7. 7. 7. 7. 7. | |
| 8. Y N Are there custody seals present on bottles 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | 6. 7. Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable): Are there custody seals present on the cooler? Do custody seals on cooler appear to be tampered with? Were contents of cooler frisked after opening but before uppacking? 10. YNN/A (If not, make note below) | |
| 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | 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? 2. Y N N/A Do custody seals on cooler appear to be tampered with? 3. Y N Were contents of cooler frisked after opening but before uppacking? 10. Y N N/A (If not, make note below) | THE REAL PROPERTY. |
| 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | Are there custody seals present on the cooler? N Are there custody seals on cooler appear to be tampered with? N N/A Do custody seals on cooler appear to be tampered with? N Were contents of cooler frisked after opening, but before upwacking? N N/A (If not, make note below) | |
| 9. Y N N/A Do custody seals on bottles appear to be tampered with? Was sample received with proper pH¹? | Are there custody seals present on the cooler? N/A N/A Do custody seals on cooler appear to be tampered with? Were contents of cooler frisked after opening, but before uppacking? 10. Y N N/A Are there custody seals on bott tampered with? Was sample received with opening, but before uppacking? | |
| was sample received with proper pH¹? | Were contents of cooler frisked after opening, but before uppacking? 10. Y N N/A tampered with? Was sample received with tampered with? Was sample received with the fore uppacking? | ls present on bottle |
| | opening but before uppacking? 10. [Y N/A (If not, make note below) | ottles appear to be |
| pH strip lot #: HCQ04495 | pH strip lot #: HCQ(| |
| 11. Y N N/A Containers for Rn-222, C-14, Cl-36, H-3 I-129/131 marked with "Do Not Preserve | N Sample received with Chain of Custody? 11. Y N N/A Containers for Rn-222, C | 2, C-14, Cl-36, H-3 |
| 12. YN Sample received in proper containers? | Does the Chain of Custody match comple | oper containers? |
| Headspace in VOA, or Rn-222 liquid | Y N Was sample received broken? 13. Y N N/A samples? (>6mm) | |
| 13. Y N (N/A) samples? (>6mm) | | CIUW! |
| 13. Y N (N/A) samples? (>6mm) (If Yes, note sample ID's below) 14. Y N (N/A) Soil containers for C-14, H-3,Tc-99 & I- 129/131 marked with "Do Not Dry" label" | | 14, H-3,Tc-99 & I- |
| 11. Y N N/A I-129/131 marked label? 12. Y N Sample received in | 4. (Y) N Sample received with Chain of Custody? 5. (Y) N N/A Does the Chain of Custody match sample ID's on the container(s)? 6. Y N Was sample received broken? 11. (Y) N N/A I-129/131 marked label? 12. (Y) N Sample received in Headspace in VOA samples? (>6mm) (If Yes, note sample ID) | n pro |
| Headspace in VOA, or Rn-222 liquid | Y N Was sample received broken? 13. Y N (N/A) samples? (>6mm) | |
| 13. Y N (N/A) samples? (>6mm) | | PIOWI |
| 13. Y N (N/A) samples? (>6mm) (If Yes, note sample ID's below) | | |
| 13. Y N (N/A) samples? (>6mm) (If Yes, note sample ID's below) | II VI AI IC comple volume cultivated for analysis of 14 VI AT | |

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

Sample Labels Applied By:

Labels 2nd Reviewed By:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264510-2

Login Number: 264510 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264510-2

Login Number: 264510

List Source: Eurofins TestAmerica, St. Louis List Number: 3 List Creation: 04/14/20 07:38 PM

Creator: Korrinhizer Micha I

| Creator: Korrinhizer, Micha L | | |
|--|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------------------------------|
| | | Ba Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | |
| 440-264510-1 | Outfall001_20200410_Comp | 59.8 | |
| 440-264517-M-1-B MS | Matrix Spike | 82.3 | |
| 440-264517-M-1-C MSD | Matrix Spike Duplicate | 95.4 | |
| LCS 160-467982/1-A | Lab Control Sample | 97.0 | |
| MB 160-467982/23-A | Method Blank | 87.2 | |
| Tracer/Carrier Legend | | | |
| Ba Carrier = Ba Carrier | | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| _ | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Ba Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264510-1 | Outfall001_20200410_Comp | 59.8 | 94.6 | |
| 440-264517-M-1-F MS | Matrix Spike | 82.3 | 92.0 | |
| 440-264517-M-1-G MSD | Matrix Spike Duplicate | 95.4 | 85.6 | |
| LCS 160-468070/1-A | Lab Control Sample | 97.0 | 93.5 | |
| MB 160-468070/23-A | Method Blank | 87.2 | 91.2 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Sr Carrier (40-110) | Y Carrier (40-110) | |
| 440-264510-1 | Outfall001_20200410_Comp | 81.0 | 93.5 | |
| 440-264517-M-1-H MS | Matrix Spike | 88.8 | 90.8 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | 87.6 | 92.7 | |
| LCS 160-468677/1-A | Lab Control Sample | 91.7 | 85.6 | |
| MB 160-468677/22-A | Method Blank | 93.4 | 92.0 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |

Y Carrier = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| | | ranium-23 |
|----------------------|--------------------------|-----------|
| Lab Sample ID | Client Sample ID | (30-110) |
| 440-263721-M-1-I MS | Matrix Spike | 65.3 |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | 65.1 |
| 440-264510-1 | Outfall001_20200410_Comp | 62.5 |
| LCS 160-468046/2-A | Lab Control Sample | 81.2 |
| MB 160-468046/1-A | Method Blank | 92.6 |

Eurofins Calscience Irvine

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Job ID: 440-264510-2

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Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 001 Comp

Tracer/Carrier Legend

Uranium-232 = Uranium-232

Job ID: 440-264510-2

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Environment Testing TestAmerica

Sacramento Sample Receiving Notes



440-264510 Field Sheet

| | 440-20-1 | | | |
|------|----------|--|--|--|
| 1.4 | | | | |
| Job: | | | | |

| Tracking #I | 540 | 4107 | 8033 |
|-------------|-----|------|------|
|-------------|-----|------|------|

| SO / (0) F | O / SAT / 2-Day / | Ground / UPS / CDO | Courier |
|------------|----------------------|--------------------|---------|
| GSO / OnT | rac / Goldstreak / I | USPS / Other | |

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

| Notes: | | |
|--------|--|---------|
| | Ice Wet Gel Other | _ |
| | Cooler Custody Seal | |
| | Cooler ID: | |
| | Temp Observed:1 . 1 °C Corrected:1 . 1 From: Temp Blank ☑ Sample □ | _°C |
| | Opening/Processing The Shipment Yes No | N |
| | Cooler compromised/tampered with? | |
| | Cooler Temperature is acceptable? | Г |
| | Samples received within holding time? | 0 |
| | Initials: Pk Date: 04/14/20 | |
| | Unpacking/Labeling The Samples Yes No | N |
| | CoC is complete w/o discrepancies? | |
| | Samples compromised/tampered with? | 0 |
| | Sample containers have legible labels? | |
| | Sample custody seal? | P |
| | Containers are not broken or leaking? | |
| | Sample date/times are provided? | I |
| | Appropriate containers are used? | [|
| | Sample bottles are completely filled? | I |
| | Sample preservatives verified? | P |
| | Samples w/o discrepancies? | [|
| | Zero headspace?* | J |
| | Alkalinity has no headspace? | p |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | e |
| | Multiphasic samples are not present? | |
| | Non-conformance <u>Yes</u> <u>No</u> | N |
| | NCM Filed? | P |
| | Initials: MAN Date: 04/14/20 | |
| | *Containers requiring zero headspace have no headspace, or bubble < 6 mi | n (1/4" |

W20C

QA-812 TGT 1/16/2020



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264082-1

Client Project/Site: Quarterly Outfall 002 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/17/2020 9:26:31 AM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Christian Bondoc Project Manager I 4/17/2020 9:26:31 AM Laboratory Job ID: 440-264082-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 002 Grab Laboratory Job ID: 440-264082-1

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 002 Grab

Job ID: 440-264082-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264082-1 | Outfall002_20200406_Grab | Water | 04/06/20 07:20 | 04/06/20 14:40 | |
| 440-264082-3 | TB-20200406 | Water | 04/06/20 07:20 | 04/06/20 14:40 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264082-1 Project/Site: Quarterly Outfall 002 Grab

Job ID: 440-264082-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264082-1

Comments

No additional comments.

Receipt

The samples were received on 4/6/2020 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

GC/MS VOA

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

General Chemistry

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 440-604027.

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 440-604371 and analytical batch 440-604415. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664A.

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

VOA Prep

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

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264082-1

Project/Site: Quarterly Outfall 002 Grab

Client Sample ID: Outfall002_20200406_Grab

Lab Sample ID: 440-264082-1 Date Collected: 04/06/20 07:20 **Matrix: Water**

Date Received: 04/06/20 14:40

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------------------------|-----------|-----------|----------|------|----------|-----|----------------|----------------|---------|
| 1,1,1-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.50 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,1-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,2-Dichloropropane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Benzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Bromoform | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 08:34 | 1 |
| Bromomethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Carbon tetrachloride | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Chlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Dibromochloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Chloroethane | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 08:34 | 1 |
| Chloroform | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Chloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| cis-1,2-Dichloroethene | 0.36 | J,DX | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Bromodichloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Ethylbenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Methylene Chloride | ND | | 2.0 | 0.88 | ug/L | | | 04/07/20 08:34 | 1 |
| Naphthalene | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 08:34 | 1 |
| Tetrachloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Toluene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| trans-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Trichloroethene | ND | | 0.50 | | ug/L | | | 04/07/20 08:34 | 1 |
| Vinyl chloride | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:34 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 96 | | 60 - 140 | | | | | 04/07/20 08:34 | 1 |
| Dibromofluoromethane (Surr) | 105 | | 60 - 140 | | | | | 04/07/20 08:34 | 1 |
| Toluene-d8 (Surr) | 105 | | 60 - 140 | | | | | 04/07/20 08:34 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | _ D | Prepared | Analyzed | Dil Fac |
| HEM (Oil & Grease) | ND | | 5.2 | 1.4 | mg/L | | 04/09/20 09:52 | 04/09/20 13:03 | 1 |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 660 | | 1.0 | | umhos/cm | | | 04/16/20 14:51 | 1 |
| Settleable Solids | 0.10 | | 0.10 | 0.10 | mL/L/Hr | | | 04/07/20 13:12 | 1 |

Eurofins Calscience Irvine

4/17/2020

Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264082-1

Project/Site: Quarterly Outfall 002 Grab

Client Sample ID: TB-20200406

Date Collected: 04/06/20 07:20 Date Received: 04/06/20 14:40 Lab Sample ID: 440-264082-3

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.50 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,1-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,2-Dichloropropane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Benzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Bromoform | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 09:58 | 1 |
| Bromomethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Carbon tetrachloride | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Chlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Dibromochloromethane | ND | | 0.50 | 0.25 | | | | 04/07/20 09:58 | 1 |
| Chloroethane | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 09:58 | 1 |
| Chloroform | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Chloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Bromodichloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Ethylbenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Methylene Chloride | ND | | 2.0 | 0.88 | ug/L | | | 04/07/20 09:58 | 1 |
| Naphthalene | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 09:58 | 1 |
| Tetrachloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Toluene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| trans-1,2-Dichloroethene | ND | | 0.50 | 0.25 | | | | 04/07/20 09:58 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Trichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Vinyl chloride | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 09:58 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 96 | | 60 - 140 | | | - | | 04/07/20 09:58 | 1 |
| Dibromofluoromethane (Surr) | 102 | | 60 - 140 | | | | | 04/07/20 09:58 | 1 |
| Toluene-d8 (Surr) | 104 | | 60 - 140 | | | | | 04/07/20 09:58 | 1 |

4/17/2020

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Grab

Method **Method Description** Protocol Laboratory 40CFR136A TAL IRV 624.1 Volatile Organic Compounds (GC/MS) MCAWW 120.1 Conductivity, Specific Conductance TAL IRV HEM and SGT-HEM 1664A TAL IRV 1664A SM 2540F Solids, Settleable SM TAL IRV

Protocol References:

1664A

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.

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

HEM and SGT-HEM (SPE)

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264082-1

TAL IRV

1664A

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Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 440-264082-1

Project/Site: Quarterly Outfall 002 Grab

Client Sample ID: Outfall002_20200406_Grab Lab Sample ID: 440-264082-1

Date Collected: 04/06/20 07:20 Matrix: Water Date Received: 04/06/20 14:40

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 603948 | 04/07/20 08:34 | TCN | TAL IRV |
| Total/NA | Analysis | 120.1 | | 1 | | | 605382 | 04/16/20 14:51 | XL | TAL IRV |
| Total/NA | Prep | 1664A | | | 970 mL | 1000 mL | 604371 | 04/09/20 09:52 | JC1 | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 604415 | 04/09/20 13:03 | JC1 | TAL IRV |
| Total/NA | Analysis | SM 2540F | | 1 | 1000 mL | 1000 mL | 604027 | 04/07/20 13:12 | ST | TAL IRV |

Client Sample ID: TB-20200406 Lab Sample ID: 440-264082-3

Date Collected: 04/06/20 07:20 Matrix: Water

Date Received: 04/06/20 14:40

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|--------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 603948 | 04/07/20 09:58 | TCN | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Job ID: 440-264082-1

Project/Site: Quarterly Outfall 002 Grab

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

Lab Sample ID: MB 440-603948/4

Matrix: Water

Analysis Batch: 603948

Client: Haley & Aldrich, Inc.

Client Sample ID: Method Blank

Prep Type: Total/NA

| | MB | MB | | | | | | | |
|---------------------------------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.50 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,1-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,2-Dichloropropane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Benzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Bromoform | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 08:06 | 1 |
| Bromomethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Carbon tetrachloride | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Chlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Dibromochloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Chloroethane | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 08:06 | 1 |
| Chloroform | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Chloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Bromodichloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Ethylbenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Methylene Chloride | ND | | 2.0 | 0.88 | ug/L | | | 04/07/20 08:06 | 1 |
| Naphthalene | ND | | 1.0 | 0.40 | ug/L | | | 04/07/20 08:06 | 1 |
| Tetrachloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Toluene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| trans-1,2-Dichloroethene | ND | | 0.50 | | ug/L | | | 04/07/20 08:06 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.50 | | ug/L | | | 04/07/20 08:06 | 1 |
| Trichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/07/20 08:06 | 1 |
| Vinyl chloride | ND | | 0.50 | | ug/L | | | 04/07/20 08:06 | 1 |
| • | | | | | - | | | | |

MB MB Surrogate %Recovery Qualifier Limits 60 - 140 4-Bromofluorobenzene (Surr) 95 Dibromofluoromethane (Surr) 105 60 - 140 Toluene-d8 (Surr) 104 60 - 140

Prepared Analyzed Dil Fac 04/07/20 08:06 04/07/20 08:06 1 04/07/20 08:06

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 440-603948/1002

Matrix: Water

Analysis Batch: 603948

| | Spike | LCS | LCS | | | | %Rec. | |
|---------------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1-Trichloroethane | 25.0 | 27.3 | | ug/L | | 109 | 69 - 151 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 26.2 | | ug/L | | 105 | 68 - 136 | |
| 1,1,2-Trichloroethane | 25.0 | 25.0 | | ug/L | | 100 | 75 - 136 | |
| 1,1-Dichloroethane | 25.0 | 25.6 | | ug/L | | 102 | 71 - 143 | |
| 1,1-Dichloroethene | 25.0 | 26.3 | | ug/L | | 105 | 19 - 212 | |

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Prep Type: Total/NA

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QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Grab

Job ID: 440-264082-1

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

Lab Sample ID: LCS 440-603948/1002

Matrix: Water

Analysis Batch: 603948

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| • | Spike | LCS | LCS | | | %Rec. | |
|---------------------------|-------|--------|-----------|------|--------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D %Rec | Limits | |
| 1,2-Dichlorobenzene | 25.0 | 23.8 | | ug/L | 95 | 59 - 174 | |
| 1,2-Dichloroethane | 25.0 | 25.1 | | ug/L | 101 | 72 - 137 | |
| 1,2-Dichloropropane | 25.0 | 25.9 | | ug/L | 104 | 19 - 181 | |
| 1,3-Dichlorobenzene | 25.0 | 23.9 | | ug/L | 96 | 75 - 144 | |
| 1,4-Dichlorobenzene | 25.0 | 23.5 | | ug/L | 94 | 59 - 174 | |
| Benzene | 25.0 | 24.3 | | ug/L | 97 | 75 - 125 | |
| Bromoform | 25.0 | 23.6 | | ug/L | 94 | 57 - 156 | |
| Bromomethane | 25.0 | 29.9 | | ug/L | 120 | 10 - 206 | |
| Carbon tetrachloride | 25.0 | 28.6 | | ug/L | 114 | 65 - 125 | |
| Chlorobenzene | 25.0 | 22.5 | | ug/L | 90 | 82 - 137 | |
| Dibromochloromethane | 25.0 | 26.0 | | ug/L | 104 | 69 - 133 | |
| Chloroethane | 25.0 | 27.0 | | ug/L | 108 | 42 - 202 | |
| Chloroform | 25.0 | 25.4 | | ug/L | 102 | 68 - 121 | |
| Chloromethane | 25.0 | 33.9 | | ug/L | 135 | 10 - 230 | |
| cis-1,2-Dichloroethene | 25.0 | 25.2 | | ug/L | 101 | 60 - 140 | |
| cis-1,3-Dichloropropene | 25.0 | 25.3 | | ug/L | 101 | 5 - 195 | |
| Bromodichloromethane | 25.0 | 25.8 | | ug/L | 103 | 50 - 140 | |
| Ethylbenzene | 25.0 | 23.2 | | ug/L | 93 | 75 - 134 | |
| Methylene Chloride | 25.0 | 24.3 | | ug/L | 97 | 10 - 205 | |
| Naphthalene | 25.0 | 26.1 | | ug/L | 105 | 60 - 140 | |
| Tetrachloroethene | 25.0 | 26.7 | | ug/L | 107 | 70 - 130 | |
| Toluene | 25.0 | 22.7 | | ug/L | 91 | 75 - 134 | |
| trans-1,2-Dichloroethene | 25.0 | 24.9 | | ug/L | 100 | 70 - 130 | |
| trans-1,3-Dichloropropene | 25.0 | 25.4 | | ug/L | 102 | 38 - 162 | |
| Trichloroethene | 25.0 | 24.0 | | ug/L | 96 | 75 - 138 | |
| Vinyl chloride | 25.0 | 35.7 | | ug/L | 143 | 10 - 218 | |

LCS LCS Surrogate %Recovery Qualifier Limits 60 - 140 4-Bromofluorobenzene (Surr) 94 Dibromofluoromethane (Surr) 106 60 - 140 Toluene-d8 (Surr) 99 60 - 140

Lab Sample ID: 440-264082-1 MS

Matrix: Water

Analysis Batch: 603948

| Client Sample ID: Outfall002 | _20200406_Grab |
|------------------------------|------------------|
| Pre | p Type: Total/NA |

| Alialysis Datcii. 000040 | | | | | | | | | | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|---------------------|--|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1-Trichloroethane | ND | | 10.0 | 10.6 | | ug/L | | 106 | 52 - 162 | |
| 1,1,2,2-Tetrachloroethane | ND | | 10.0 | 10.9 | | ug/L | | 109 | 46 - 157 | |
| 1,1,2-Trichloroethane | ND | | 10.0 | 10.3 | | ug/L | | 103 | 52 - 150 | |
| 1,1-Dichloroethane | ND | | 10.0 | 10.1 | | ug/L | | 101 | 59 - 155 | |
| 1,1-Dichloroethene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 10 - 234 | |
| 1,2-Dichlorobenzene | ND | | 10.0 | 10.0 | | ug/L | | 100 | 18 - 190 | |
| 1,2-Dichloroethane | ND | | 10.0 | 9.79 | | ug/L | | 98 | 49 - 155 | |
| 1,2-Dichloropropane | ND | | 10.0 | 10.5 | | ug/L | | 105 | 10 - 210 | |
| 1,3-Dichlorobenzene | ND | | 10.0 | 9.83 | | ug/L | | 98 | 59 - 156 | |
| 1,4-Dichlorobenzene | ND | | 10.0 | 9.79 | | ug/L | | 98 | 18 - 190 | |
| Benzene | ND | | 10.0 | 10.1 | | ug/L | | 101 | 37 ₋ 151 | |

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QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Grab

Job ID: 440-264082-1

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

Lab Sample ID: 440-264082-1 MS

Matrix: Water Analysis Batch: 603948

Client Sample ID: Outfall002_20200406_Grab Prep Type: Total/NA

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Bromoform | ND | | 10.0 | 9.07 | | ug/L | | 91 | 45 - 169 | |
| Bromomethane | ND | | 10.0 | 11.5 | | ug/L | | 115 | 10 - 242 | |
| Carbon tetrachloride | ND | | 10.0 | 10.7 | | ug/L | | 107 | 70 - 140 | |
| Chlorobenzene | ND | | 10.0 | 9.51 | | ug/L | | 95 | 37 - 160 | |
| Dibromochloromethane | ND | | 10.0 | 9.79 | | ug/L | | 98 | 53 - 149 | |
| Chloroethane | ND | | 10.0 | 11.0 | | ug/L | | 110 | 14 - 230 | |
| Chloroform | ND | | 10.0 | 10.3 | | ug/L | | 103 | 51 - 138 | |
| Chloromethane | ND | | 10.0 | 13.4 | | ug/L | | 134 | 10 - 273 | |
| cis-1,2-Dichloroethene | 0.36 | J,DX | 10.0 | 10.7 | | ug/L | | 103 | 60 - 140 | |
| cis-1,3-Dichloropropene | ND | | 10.0 | 10.1 | | ug/L | | 101 | 10 - 227 | |
| Bromodichloromethane | ND | | 10.0 | 10.6 | | ug/L | | 106 | 35 - 155 | |
| Ethylbenzene | ND | | 10.0 | 9.72 | | ug/L | | 97 | 37 - 162 | |
| Methylene Chloride | ND | | 10.0 | 9.47 | | ug/L | | 95 | 10 - 221 | |
| Naphthalene | ND | | 10.0 | 10.3 | | ug/L | | 103 | 60 - 140 | |
| Tetrachloroethene | ND | | 10.0 | 11.2 | | ug/L | | 112 | 64 - 148 | |
| Toluene | ND | | 10.0 | 9.59 | | ug/L | | 96 | 47 - 150 | |
| trans-1,2-Dichloroethene | ND | | 10.0 | 9.65 | | ug/L | | 97 | 54 - 156 | |
| trans-1,3-Dichloropropene | ND | | 10.0 | 10.1 | | ug/L | | 101 | 17 - 183 | |
| Trichloroethene | ND | | 10.0 | 9.90 | | ug/L | | 99 | 70 - 157 | |
| Vinyl chloride | ND | | 10.0 | 12.0 | | ug/L | | 120 | 10 - 251 | |
| | MC | MC | | | | | | | | |

MS MS

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 94 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 104 | | 60 - 140 |
| Toluene-d8 (Surr) | 99 | | 60 - 140 |

Lab Sample ID: 440-264082-1 MSD

Matrix: Water

Analysis Batch: 603948

Client Sample ID: Outfall002_20200406_Grab

Prep Type: Total/NA

| Analysis Batch: 603946 | | | | | | | | | | | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 1,1,1-Trichloroethane | ND | | 10.0 | 10.9 | | ug/L | | 109 | 52 - 162 | 2 | 36 |
| 1,1,2,2-Tetrachloroethane | ND | | 10.0 | 11.7 | | ug/L | | 117 | 46 - 157 | 7 | 61 |
| 1,1,2-Trichloroethane | ND | | 10.0 | 10.8 | | ug/L | | 108 | 52 - 150 | 4 | 45 |
| 1,1-Dichloroethane | ND | | 10.0 | 10.4 | | ug/L | | 104 | 59 - 155 | 3 | 40 |
| 1,1-Dichloroethene | ND | | 10.0 | 10.8 | | ug/L | | 108 | 10 - 234 | 5 | 32 |
| 1,2-Dichlorobenzene | ND | | 10.0 | 10.5 | | ug/L | | 105 | 18 - 190 | 5 | 57 |
| 1,2-Dichloroethane | ND | | 10.0 | 10.2 | | ug/L | | 102 | 49 - 155 | 4 | 49 |
| 1,2-Dichloropropane | ND | | 10.0 | 10.7 | | ug/L | | 107 | 10 - 210 | 2 | 55 |
| 1,3-Dichlorobenzene | ND | | 10.0 | 10.4 | | ug/L | | 104 | 59 - 156 | 6 | 43 |
| 1,4-Dichlorobenzene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 18 - 190 | 4 | 57 |
| Benzene | ND | | 10.0 | 10.5 | | ug/L | | 105 | 37 - 151 | 3 | 61 |
| Bromoform | ND | | 10.0 | 9.76 | | ug/L | | 98 | 45 - 169 | 7 | 42 |
| Bromomethane | ND | | 10.0 | 11.2 | | ug/L | | 112 | 10 - 242 | 3 | 61 |
| Carbon tetrachloride | ND | | 10.0 | 10.9 | | ug/L | | 109 | 70 - 140 | 2 | 41 |
| Chlorobenzene | ND | | 10.0 | 9.98 | | ug/L | | 100 | 37 - 160 | 5 | 53 |
| Dibromochloromethane | ND | | 10.0 | 10.6 | | ug/L | | 106 | 53 - 149 | 8 | 50 |
| Chloroethane | ND | | 10.0 | 11.2 | | ug/L | | 112 | 14 - 230 | 3 | 78 |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Grab

Job ID: 440-264082-1

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

Lab Sample ID: 440-264082-1 MSD **Matrix: Water**

Client Sample ID: Outfall002_20200406_Grab

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Duplicate

Prep Type: Total/NA

Analysis Batch: 603948

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloroform | ND | | 10.0 | 10.7 | | ug/L | | 107 | 51 - 138 | 3 | 54 |
| Chloromethane | ND | | 10.0 | 12.4 | | ug/L | | 124 | 10 - 273 | 8 | 60 |
| cis-1,2-Dichloroethene | 0.36 | J,DX | 10.0 | 11.0 | | ug/L | | 106 | 60 - 140 | 3 | 35 |
| cis-1,3-Dichloropropene | ND | | 10.0 | 10.7 | | ug/L | | 107 | 10 - 227 | 5 | 58 |
| Bromodichloromethane | ND | | 10.0 | 11.0 | | ug/L | | 110 | 35 - 155 | 4 | 56 |
| Ethylbenzene | ND | | 10.0 | 10.4 | | ug/L | | 104 | 37 - 162 | 6 | 63 |
| Methylene Chloride | ND | | 10.0 | 9.95 | | ug/L | | 100 | 10 - 221 | 5 | 28 |
| Naphthalene | ND | | 10.0 | 11.7 | | ug/L | | 117 | 60 - 140 | 13 | 35 |
| Tetrachloroethene | ND | | 10.0 | 11.7 | | ug/L | | 117 | 64 - 148 | 5 | 39 |
| Toluene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 47 - 150 | 6 | 41 |
| trans-1,2-Dichloroethene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 54 - 156 | 6 | 45 |
| trans-1,3-Dichloropropene | ND | | 10.0 | 11.0 | | ug/L | | 110 | 17 - 183 | 8 | 86 |
| Trichloroethene | ND | | 10.0 | 10.1 | | ug/L | | 101 | 70 - 157 | 2 | 48 |
| Vinyl chloride | ND | | 10.0 | 12.3 | | ug/L | | 123 | 10 - 251 | 3 | 66 |
| | | | | | | | | | | | |

MSD MSD

MB MB

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 97 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 103 | | 60 - 140 |
| Toluene-d8 (Surr) | 101 | | 60 - 140 |

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 440-605382/3

Matrix: Water

Analysis Batch: 605382

| Prep Type: Total/NA |
|---------------------|
| |

Analyte Result Qualifier RL **RL** Unit Prepared Analyzed Dil Fac Specific Conductance ND 1.0 1.0 umhos/cm 04/16/20 14:51

Lab Sample ID: LCS 440-605382/4

Matrix: Water

Analysis Batch: 605382

| Allalysis Datcii. 000002 | | | | | | | |
|--------------------------|-------|--------|-----------|----------|---|------|----------|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Specific Conductance | 946 | 932 | | umhos/cm | _ | 99 | 90 - 110 |

Lab Sample ID: 440-264336-A-1 DU

Matrix: Water

Analysis Databy C0E202

| Analysis balch: 605362 | | | | | | | | | |
|------------------------|--------|-----------|----------|-----------|----------|---|--|-----|-------|
| _ | Sample | Sample | DU | DU | | | | | RPD |
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | | RPD | Limit |
| Specific Conductance | 2900 | | 2920 | | umhos/cm | _ | | 0 | 5 |

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264082-1

RL

5.0

Spike

Added

40.0

Spike

Added

40.0

MDL Unit

LCS LCS

34.8

1.4 mg/L

Project/Site: Quarterly Outfall 002 Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-604371/1-A **Matrix: Water**

Analysis Batch: 604415

MB MB

Analyte Result Qualifier

HEM (Oil & Grease) ND

Lab Sample ID: LCS 440-604371/2-A

Analysis Batch: 604415

Matrix: Water

HEM (Oil & Grease) Lab Sample ID: LCSD 440-604371/3-A

Matrix: Water Analysis Batch: 604415

Analyte

HEM (Oil & Grease)

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604371

Prepared Analyzed Dil Fac 04/09/20 09:52 04/09/20 13:03

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 604371**

%Rec. Result Qualifier Unit D %Rec Limits 78 - 114 mg/L 87

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 604371 %Rec. **RPD**

LCSD LCSD Result Qualifier Unit D %Rec Limits RPD Limit 33.8 84 78 - 114 3 mg/L

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Grab

GC/MS VOA

Analysis Batch: 603948

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264082-1 | Outfall002_20200406_Grab | Total/NA | Water | 624.1 | |
| 440-264082-3 | TB-20200406 | Total/NA | Water | 624.1 | |
| MB 440-603948/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-603948/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264082-1 MS | Outfall002_20200406_Grab | Total/NA | Water | 624.1 | |
| 440-264082-1 MSD | Outfall002_20200406_Grab | Total/NA | Water | 624.1 | |

General Chemistry

Analysis Batch: 604027

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|----------|------------|
| 440-264082-1 | Outfall002_20200406_Grab | Total/NA | Water | SM 2540F | |

Prep Batch: 604371

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264082-1 | Outfall002_20200406_Grab | Total/NA | Water | 1664A | |
| MB 440-604371/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-604371/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-604371/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |

Analysis Batch: 604415

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264082-1 | Outfall002_20200406_Grab | Total/NA | Water | 1664A | 604371 |
| MB 440-604371/1-A | Method Blank | Total/NA | Water | 1664A | 604371 |
| LCS 440-604371/2-A | Lab Control Sample | Total/NA | Water | 1664A | 604371 |
| LCSD 440-604371/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 604371 |

Analysis Batch: 605382

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|-------------------|--------------------------|-----------|--------|-------------------|
| 440-264082-1 | Outfall002_20200406_Grab | Total/NA | Water | 120.1 |
| MB 440-605382/3 | Method Blank | Total/NA | Water | 120.1 |
| LCS 440-605382/4 | Lab Control Sample | Total/NA | Water | 120.1 |
| 440-264336-A-1 DU | Duplicate | Total/NA | Water | 120.1 |

Job ID: 440-264082-1

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264082-1

Project/Site: Quarterly Outfall 002 Grab

Qualifiers

GC/MS VOA

Qualifier **Qualifier Description**

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

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid **CNF** Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DΙ 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)

Estimated Detection Limit (Dioxin) **EDL** Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) MDC

MDL Method Detection Limit ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

Quality Control QC

Relative Error Ratio (Radiochemistry) **RER**

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264082-1

Project/Site: Quarterly Outfall 002 Grab

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Pr | ogram | Identification Number | Expiration Date |
|-----------------------|---------------------------|------------------------------|--|---|
| California | St | ate | 2706 | 06-30-20 |
| The following analyte | are included in this rene | art but the leberatory is r | | This is that we are to about a some but a a face of the |
| the agency does not | | ort, but the laboratory is r | or certified by the governing authority. | This list may include analytes for wh |
| • , | | Matrix | Analyte | I his list may include analytes for wh |

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3

4

5

7

a

44

12

Meter serial # Checked 1070 10 Day: X Field Readings: (Include units) Time of Readings: G \mathcal{F} Date/Time: 4 6 1220 / 7.58 pH unit Q 56: 57.6 °ch DO 15.46 mg/L Field Readings 7000 Field readings QC 72 Hour. Data Requirements. (Chack) 5 Day Store samples for 6 months. Turn-around time: (Check) Sample Integrity: (Check) 440-264082 Chain of Custody 용 물 HOIG 24 Hour 48 Hour No Level IV: Intact: HI-IED Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual Company 17 July 10 19 ANALYSIS REQUIRED ェ Conductivity (SM2510B / E120.1) Settlesble Solids (E160 5 (SMS240E)) Lillian Rivera 4 Ş œ Oil & Grease (E1664A-HEM) 66/6.6, 1.0/1.0, 0.8/0.8 #89 **MS/MSD** \$ 욷 2 운 £ 운 £ 운 Project:
Boeing-SSFL NPDES
Permit 2020
Quarierly Outfall (501, 002, 011, 018)
Grab Bottle # Project Manager Katherine Miller 520.289.8606, 520 904 6944 (cell) 5 ឧ 2 22 Ð 8 23 2 Field Manager. Mark Dominick 978 234 5033, 818.599.0702 (cell) None None None ᄗ ₽ δ 亞 皇 # of Cont 9 2 ര ď 1 L Glass Amber Container Type 1 L Glass Amber 500 mL Poly 500 mL Poly 40 HIL VOA 40 ml, VOA 40 mL VOA 1 L Poly Sample Matrix **X** WM Š Š 3 3 Š Š TestAmerica's services under this CoC shall be performed in accordance with the 18.0s within Bankel. Service Agreement#2019-22-TestAmerica by and between Hafey, & Adrice, Inc., its subsidianses and affiliates, and TestAmerica Laboratoches inc 416/2020/oju 0,720 Sampling Date/Time 4/6/2020/ 4/6/2020 1/6/20 4-6-1020/ Date/Time Date/Time Outfatt002_20200408_Grab_Extra Outfall002_20200406_Grab Test America Contact Christian Bondoc 17461 Derian Ave Suite #100 Invine CA 92614 William Rivera Reinquished By Sample (D 5333 Mission Center Rd Suite 300 TB-20200406 San Diego, CA 92108 Client Name/Address Sampler Dan Smith Tel: 949-260-3218 Hatey & Aldrich elinguished By Sample Description Tnp Blank Outfall 002 Page 18 of 19

Test America

TRACET 973

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CHAIN OF CUSTODY FORM

Page 2 of 7

7/17/7 202019-2020 Rainy Season Oversion 2

00 4/16/20

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264082-1

Login Number: 264082 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Steator. Escalante, Maria i | | |
|---|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 ampered 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 | |
| s 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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4.6

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264162-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

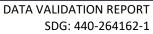
28 May 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264162-1





INTRODUCTION

Task Order Title: Boeing SSFL NPDES Contract: 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003D.01 002 Sample Delivery Group: 440-264162-1

Project Manager: Katherine Miller

Matrix: Water QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 Laboratory: TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|-------------------------------|--------------------|----------------------|--------|-------------------|---------------------------|---------------------|
| OUTFALL002_20200407 _COMP | 440-264162-1 | N | WM | 4/7/20 8:15 AM | E1613B, E200.7, E200.8 | II |
| OUTFALL002_20200407 COMP_F | 440-264162-3 | N | WM | 4/7/20 8:15 AM | E200.7, E200.8 | II |

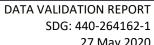




II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264162-1:

- The laboratories received the samples in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA-Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-Sacramento.
- Strikethroughs on the COC were initialed but not dated.



27 May 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE REFERENCE | | | | | |
|--------|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 3, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{x} Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one vear of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDF, OCDD and OCDF, and for totals HpCDD, HpCDF, HxCDD and HxCDF. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. The qualified isomers of totals HpCDF and HxCDD matched the total concentrations; therefore, the totals were also qualified as nondetects (U). Totals HpCDD and HxCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MECX used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.



III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. Second-column confirmation analysis for isomer 2,3,7,8-TCDF was not required, as 2,3,7,8-TCDF was not detected in the initial analysis of the sample.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers and total results previously qualified as method blank contamination were not further qualified as EMPCs. Total HxCDF flagged by the laboratory as including one or more EMPC peaks was qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^x reviewed the SDG on May 27, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL002_20200407_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.

IV.3. QUALITY CONTROL SAMPLES

IV.3.1. METHOD BLANKS

There were no target analyte detections in the method blanks (total or dissolved) or calibration blanks.

IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or $\pm 2\times$ the reporting limit, whichever is greater. No non-spiked target analytes were present in the ICSAs at greater than MDL; therefore, matrix interference was not suspected.



IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the sample (total and dissolved) in this SDG for both methods. Recoveries were within the QAPP control limits of 70-130%. RPDs were ≤20%.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. Internal Standards Performance

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402641621

Analysis Method E1613B

Sample Name OUTFALL002_20200407_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

| Analyte 1 | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---|--------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N | 39001-02-0 | 0.0000054 | 0.00011 | 0.0000016 | ug/L | J,DXMBq | U | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo- dioxin (OCDD) | p- N | 3268-87-9 | 0.000011 | 0.00011 | 0.0000014 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N) | 67562-39-4 | 0.0000020 | 0.000053 | 0.0000011 | ug/L | J,DXMBq | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-pdioxin (HpCDD) | o- N | 35822-46-9 | 0.0000023 | 0.000053 | 0.00000040 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N) | 55673-89-7 | ND | 0.000053 | 0.0000012 | ug/L | U | U | |
| 1,2,3,4,7,8-Hexachlorodibenzofura (HxCDF) | n N | 70648-26-9 | 0.0000016 | 0.000053 | 0.00000057 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 39227-28-6 | 0.0000034 | 0.000053 | 0.0000010 | ug/L | J,DXMBq | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 57117-44-9 | 0.0000015 | 0.000053 | 0.00000059 | ug/L | J,DXMBq | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 57653-85-7 | ND | 0.000053 | 0.0000011 | ug/L | U | U | |
| 1,2,3,7,8,9-Hexachlorodibenzofura (HxCDF) | n N | 72918-21-9 | 0.0000022 | 0.000053 | 0.00000051 | ug/L | J,DXMBq | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 19408-74-3 | 0.0000027 | 0.000053 | 0.00000098 | ug/L | J,DXMBq | U | В |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-41-6 | ND | 0.000053 | 0.00000093 | ug/L | U | U | |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N | 40321-76-4 | ND | 0.000053 | 0.0000013 | ug/L | U | U | |
| 2,3,4,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 60851-34-5 | 0.0000017 | 0.000053 | 0.00000051 | ug/L | J,DX | J | DNQ |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-31-4 | ND | 0.000053 | 0.00000099 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | ND | 0.000011 | 0.00000046 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxi | n N | 1746-01-6 | ND | 0.000011 | 0.0000019 | ug/L | U | U | |
| Total Heptachlorodibenzofuran (HpCDF) | N | 38998-75-3 | 0.0000020 | 0.000053 | 0.0000011 | ug/L | J,DXMBq | U | В |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | N | 37871-00-4 | 0.0000043 | 0.000053 | 0.00000040 | ug/L | J,DXMB | J | B, DNQ |
| Total Hexachlorodibenzofuran (HxCDF) | N | 55684-94-1 | 0.0000070 | 0.000053 | 0.00000051 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N | 34465-46-8 | 0.0000061 | 0.000053 | 0.00000098 | ug/L | J,DXMBq | U | В |
| Total Pentachlorodibenzofuran (PeCDF) | N | 30402-15-4 | ND | 0.000053 | 0.00000093 | ug/L | U | U | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N | 36088-22-9 | ND | 0.000053 | 0.0000013 | ug/L | U | U | |
| Total Tetrachlorodibenzofuran (TCDF) | N | 55722-27-5 | ND | 0.000011 | 0.00000046 | ug/L | U | U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | N | 41903-57-5 | ND | 0.000011 | 0.0000019 | ug/L | U | U | |

Analysis Method E200.7

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---------|---------|------------|-----------------|-----|-----|-----------------|------------------|-------------------------|---------------------|
| Iron | T | 7439-89-6 | 66 | 100 | 50 | ug/L | J,DX | J | DNQ |
| Zinc | T | 7440-66-6 | ND | 20 | 12 | ug/L | U | U | |

Sample Name OUTFALL002 20200407 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-3

Analyte Fraction: CAS No Result RL**MDL** Result Lab Validation Validation Value Units Qualifier Qualifier Notes Iron 7439-89-6 ND 0.10 0.050 mg/L U U Zinc 7440-66-6 ND 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL002_20200407_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

Fraction: CAS No Result RL**MDL Analyte** Result Lab Validation Validation Value Units **Qualifier** Qualifier Notes 7440-43-9 0.25 Cadmium Τ ND 1.0 ug/L U U Copper Τ 7440-50-8 2.0 0.50 ug/L J,DX J DNQ 1.1 Lead T 7439-92-1 ND 1.0 0.50 ug/L U U Selenium 7782-49-2 ND 2.0 0.50 U U ug/L

Sample Name OUTFALL002_20200407_COMP_F Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-3

| Analyte | Fraction | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|----------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 1.0 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | ND | 2.0 | 0.50 | ug/L | IJ | IJ | |

Friday, June 12, 2020 Page 2 of 2



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264162-1

Client Project/Site: Quarterly Outfall 002 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 4/24/2020 4:57:49 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Quarterly Outfall 002 Comp

attached have been evaluated for completeness and quality control acceptability.

Laboratory Job ID: 440-264162-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are

Christian Bondoc Project Manager I

4/24/2020 4:57:49 PM

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Sample Summary

Client: Haley & Aldrich, Inc.

440-264162-1

440-264162-3

Project/Site: Quarterly Outfall 002 Comp

Outfall002_20200407_Comp

Outfall002_20200407_Comp_F

Lab Sample ID Client Sample ID Matrix Collected Received Asset ID

04/07/20 08:15 04/07/20 14:30

04/07/20 08:15 04/07/20 14:30

Water

Water

Job ID: 440-264162-1

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Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264162-1 Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264162-1

Comments

No additional comments.

Receipt

The samples were received on 4/7/2020 2:30 PM: the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.7° C, 0.8° C, 0.8° C, 0.8° C, 2.2° C and 2.4° C.

GC/MS Semi VOA

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

HPLC/IC

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

GC Semi VOA

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-604144 and analytical batch 440-604246. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-604144/8-A)

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

Dioxin

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

Metals

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall002 20200407 Comp F (440-264162-3), Outfall002_20200407_Comp_F (440-264162-3[MS]) and Outfall002_20200407_Comp_F (440-264162-3[MSD]). These samples were filtered and preserved upon receipt to the laboratory.

04/07/20 2.5mL of HNO3 HNO3 Lot # 0000234822

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 440-604342 contained Magnesium above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

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

Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B Sox Sep P preparation/analysis: Samples Outfall002 20200407 Comp (440-264162-1) were provided in wide-mouth amber glass bottles.

preparation batch 320-371493 Method: 1613B Sox Sep P / 1613B

Matrix: Aqueous

Eurofins Calscience Irvine 4/24/2020

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-1

Job ID: 440-264162-1 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

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

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp

Date Collected: 04/07/20 08:15

Date Received: 04/07/20 14:30

Analyte

Perchlorate

Lab Sample ID: 440-264162-1

Matrix: Water

Job ID: 440-264162-1

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|--|---|--------------------------|---|----------------------|----------------------|----------|---|--|--------|
| 2,4,6-Trichlorophenol | ND | | 6.5 | 0.11 | ug/L | | 04/08/20 08:22 | 04/10/20 09:30 | |
| Bis(2-ethylhexyl) phthalate | ND | | 5.4 | 2.2 | ug/L | | 04/08/20 08:22 | 04/10/20 09:30 | |
| N-Nitrosodimethylamine | ND | | 5.4 | 0.32 | ug/L | | 04/08/20 08:22 | 04/10/20 09:30 | |
| Pentachlorophenol | ND | | 5.4 | 1.1 | ug/L | | 04/08/20 08:22 | 04/10/20 09:30 | |
| 2,4-Dinitrotoluene | ND | | 5.4 | 2.2 | ug/L | | 04/08/20 08:22 | 04/10/20 09:30 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| 2,4,6-Tribromophenol | 80 | | 60 - 120 | | | | 04/08/20 08:22 | 04/10/20 09:30 | - |
| 2-Fluorobiphenyl | 80 | | 51 - 120 | | | | 04/08/20 08:22 | 04/10/20 09:30 | |
| 2-Fluorophenol | 86 | | 43 - 120 | | | | 04/08/20 08:22 | 04/10/20 09:30 | |
| Nitrobenzene-d5 | 89 | | 53 - 150 | | | | 04/08/20 08:22 | 04/10/20 09:30 | |
| | | | | | | | 0.4/0.0/0.0.00.00 | 04/40/20 00:20 | |
| Terphenyl-d14 | 82 | | 12 - 142 | | | | 04/08/20 08:22 | 04/10/20 09.30 | |
| | 79 Orine Pesticide | es in Water Qualifier | 45 - 150 | MDL | Unit | D | | 04/10/20 09:30 04/10/20 09:30 Analyzed | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC | orine Pesticide Result ND | Qualifier | 45 - 150 r RL 0.0051 | MDL 0.0026 | | <u>D</u> | 04/08/20 08:22 Prepared 04/08/20 07:20 | 04/10/20 09:30 Analyzed 04/08/20 14:49 | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC Surrogate | orine Pesticide Result ND %Recovery | Qualifier | 45 - 150 r RL 0.0051 Limits | | | <u>D</u> | 04/08/20 08:22 Prepared 04/08/20 07:20 Prepared | 04/10/20 09:30 Analyzed 04/08/20 14:49 Analyzed | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC | orine Pesticide Result ND | Qualifier | 45 - 150 r RL 0.0051 | | | <u>D</u> | 04/08/20 08:22 Prepared 04/08/20 07:20 Prepared 04/08/20 07:20 | 04/10/20 09:30 Analyzed 04/08/20 14:49 Analyzed | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC Surrogate Tetrachloro-m-xylene | prine Pesticide Result ND %Recovery 56 76 Chromatogra | Qualifier Qualifier | 45 - 150 RL 0.0051 Limits 10 - 104 | 0.0026 | | D | 04/08/20 08:22 Prepared 04/08/20 07:20 Prepared 04/08/20 07:20 | 04/10/20 09:30 Analyzed 04/08/20 14:49 Analyzed 04/08/20 14:49 | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC Surrogate Tetrachloro-m-xylene DCB Decachlorobiphenyl (Surr) Method: 300.0 - Anions, Ion | prine Pesticide Result ND %Recovery 56 76 Chromatogra | Qualifier Qualifier | 45 - 150 RL 0.0051 Limits 10 - 104 18 - 134 | 0.0026 | ug/L Unit | = | 04/08/20 08:22 Prepared 04/08/20 07:20 Prepared 04/08/20 07:20 04/08/20 07:20 | Analyzed 04/08/20 14:49 Analyzed 04/08/20 14:49 04/08/20 14:49 | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC Surrogate Tetrachloro-m-xylene DCB Decachlorobiphenyl (Surr) Method: 300.0 - Anions, Ion Analyte | orine Pesticide Result ND **Recovery 56 76 Chromatogra Result | Qualifier Qualifier | 45 - 150 RL 0.0051 Limits 10 - 104 18 - 134 | 0.0026 | ug/L Unit mg/L | = | 04/08/20 08:22 Prepared 04/08/20 07:20 Prepared 04/08/20 07:20 04/08/20 07:20 | Analyzed 04/08/20 14:49 Analyzed 04/08/20 14:49 04/08/20 14:49 Analyzed Analyzed | Dil Fa |
| Terphenyl-d14 Phenol-d5 Method: 608.3 - Organochic Analyte alpha-BHC Surrogate Tetrachloro-m-xylene DCB Decachlorobiphenyl (Surr) Method: 300.0 - Anions, Ion Analyte Chloride | orine Pesticide Result ND %Recovery 56 76 Chromatogra Result 28 | Qualifier Qualifier | RL 0.0051 Limits 10 - 104 18 - 134 RL 10 | 0.0026 MDL 5.0 | ug/L Unit mg/L mg/L | = | 04/08/20 08:22 Prepared 04/08/20 07:20 Prepared 04/08/20 07:20 04/08/20 07:20 | Analyzed 04/08/20 14:49 Analyzed 04/08/20 14:49 04/08/20 14:49 Analyzed 04/08/20 15:59 | Dil Fa |

| Method: NO3NO2 Calc - Nitro | gen, Nitrate-Nitrite | | | | | | | |
|-----------------------------|----------------------|------|-------|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nitrate Nitrite as N | ND — | 0.15 | 0.055 | mg/L | | | 04/09/20 10:24 | 1 |

RL

4.0

MDL Unit

0.95 ug/L

Prepared

Result Qualifier

ND

| Analyte | Result Qualifier | · RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------|-------------------|-------------------|-----------|------|---|----------------|----------------|---------|
| 2,3,7,8-TCDD | ND ND | 0.000011 | 0.0000019 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| 2,3,7,8-TCDF | ND | 0.000011 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| | | | 6 | | | | | |
| 1,2,3,7,8-PeCDD | ND | 0.000053 | 0.0000013 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| 1,2,3,7,8-PeCDF | ND | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| | | | 3 | | | | | |
| 2,3,4,7,8-PeCDF | ND | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| | | | 9 | | | | | |
| 1,2,3,4,7,8-HxCDD | 0.0000034 J,DX ME | q 0.000053 | 0.0000010 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | 0.000053 | 0.0000011 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.0000027 J,DX ME | q 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | 1 |
| | | _ | 8 | | | | | |

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Analyzed

04/08/20 11:49

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Dil Fac

Client: Haley & Aldrich, Inc. Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp

Lab Sample ID: 440-264162-1 Date Collected: 04/07/20 08:15 **Matrix: Water**

Date Received: 04/07/20 14:30

Analyte

Zinc

Iron

| Method: 1613B - Dioxins analyte | | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------------------|-----------|-------------|----------|----------------|------|---|----------------|----------------|---------|
| 1,2,3,4,7,8-HxCDF | 0.0000016 | J,DX MB | 0.000053 | 0.000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| | | | | 7 | | | | | |
| 1,2,3,6,7,8-HxCDF | 0.0000015 | J,DX MB q | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | • |
| 1,2,3,7,8,9-HxCDF | 0.0000022 | J,DX MB q | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 2,3,4,6,7,8-HxCDF | 0.0000017 | J,DX | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 1,2,3,4,6,7,8-HpCDD | 0.0000023 | J,DX MB | 0.000053 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 1,2,3,4,6,7,8-HpCDF | 0.0000020 | J,DX MB q | 0.000053 | 0.0000011 | ua/l | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 1,2,3,4,7,8,9-HpCDF | ND | O,DX IIID Q | 0.000053 | 0.0000011 | • | | | 04/10/20 21:08 | |
| OCDD | | J,DX MB | 0.00011 | 0.0000012 | | | | 04/10/20 21:08 | |
| | | | 0.00011 | 0.0000014 | • | | | 04/10/20 21:08 | |
| OCDF Total TCDD | | J,DX MB q | | | J | | | | |
| Total TCDD | ND | | 0.000011 | 0.0000019 | | | | 04/10/20 21:08 | |
| Total TCDF | ND | | 0.000011 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| Total PeCDD | ND | | 0.000053 | 0.0000013 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| Total PeCDF | ND | | 0.000053 | 0.0000009 | • | | 04/10/20 07:33 | 04/10/20 21:08 | |
| Total HxCDD | 0.000061 | J,DX MB q | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| | | | | 8 | | | | | |
| Total HxCDF | 0.0000070 | J,DX MB q | 0.000053 | 0.0000005 1 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| Total HpCDD | 0.0000043 | J,DX MB | 0.000053 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| Total HpCDF | 0.0000020 | J,DX MB q | 0.000053 | 0.0000011 | ug/L | | 04/10/20 07:33 | 04/10/20 21:08 | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| 13C-2,3,7,8-TCDD | 57 | | 25 - 164 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-2,3,7,8-TCDF | 70 | | 24 - 169 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,7,8-PeCDD | 58 | | 25 - 181 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,7,8-PeCDF | 62 | | 24 - 185 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-2,3,4,7,8-PeCDF | 67 | | 21 - 178 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,4,7,8-HxCDD | 63 | | 32 - 141 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,6,7,8-HxCDD | 56 | | 28 - 130 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,4,7,8-HxCDF | 64 | | 26 - 152 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,6,7,8-HxCDF | 58 | | 26 - 123 | | | | 04/10/20 07:33 | 04/10/20 21:08 | |
| 13C-1,2,3,7,8,9-HxCDF | 67 | | 29 - 147 | | | | | 04/10/20 21:08 | |
| 13C-2,3,4,6,7,8-HxCDF | 65 | | 28 - 136 | | | | | 04/10/20 21:08 | |
| 13C-1,2,3,4,6,7,8-HpCDD | 55 | | 23 - 140 | | | | | 04/10/20 21:08 | |
| 13C-1,2,3,4,6,7,8-HpCDF | 59 | | 28 - 143 | | | | | 04/10/20 21:08 | |
| 13C-1,2,3,4,7,8,9-HpCDF | 61 | | 26 - 138 | | | | | 04/10/20 21:08 | |
| 13C-OCDD | 50 | | 17 - 157 | | | | | 04/10/20 21:08 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| 37CI4-2,3,7,8-TCDD | 74 | <u> </u> | 35 - 197 | | | | 04/10/20 07:33 | | |

RL

20

100

MDL Unit

12 ug/L

50 ug/L

Result Qualifier

66 J,DX

ND

Eurofins Calscience Irvine

Analyzed

04/09/20 09:00 04/10/20 12:26

04/09/20 09:00 04/10/20 12:26

Dil Fac

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Prepared

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp

Date Collected: 04/07/20 08:15 Date Received: 04/07/20 14:30 Lab Sample ID: 440-264162-1

Matrix: Water

Job ID: 440-264162-1

| Method: 200.8 - Metals (ICP/I | MS) - Total Recoverable | | | | | | | |
|-------------------------------|-------------------------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND - | 1.0 | 0.25 | ug/L | | 04/08/20 09:14 | 04/08/20 16:21 | 1 |
| Copper | 1.1 J,DX | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:21 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:21 | 1 |
| Selenium | ND | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:21 | 1 |

| Method: 245.1 - Mercury (CVA) | A) | | | | | | | | |
|-------------------------------|------------|-----------|------|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.20 | 0.10 | ug/L | | 04/09/20 11:48 | 04/09/20 18:13 | 1 |

| Method: SM 2340B - Total Hard | dness (as CaCO3) by ca | lculation - | - Total Re | ecovei | rable | | | |
|-------------------------------|------------------------|-------------|------------|--------|-------|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Hardness, as CaCO3 | 270 | 0.33 | 0.17 | mg/L | | | 04/16/20 13:51 | 1 |

| General Chemistry Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Turbidity | 2.0 | | 0.10 | 0.040 | NTU | | | 04/08/20 16:47 | 1 |
| Total Dissolved Solids | 500 | | 10 | 5.0 | mg/L | | | 04/14/20 10:00 | 1 |
| Total Suspended Solids | 1.8 | | 1.0 | 0.50 | mg/L | | | 04/11/20 15:41 | 1 |
| Cyanide, Total | ND | | 5.0 | 2.5 | ug/L | | 04/10/20 11:07 | 04/10/20 15:39 | 1 |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | | | 04/15/20 13:52 | 1 |
| Methylene Blue Active Substances | 0.099 | J,DX | 0.10 | 0.050 | mg/L | | | 04/08/20 16:06 | 1 |
| Biochemical Oxygen Demand | 3.3 | | 2.0 | 2.0 | mg/L | | | 04/08/20 16:11 | 1 |

Client Sample ID: Outfall002_20200407_Comp_F

Date Collected: 04/07/20 08:15

Lab Sample ID: 440-264162-3 Matrix: Water

| Method: 608.3 - Organoc Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------------|-----------|-----------|----------|--------|------|---|----------------|----------------|---------|
| Aldrin | ND | | 0.0052 | 0.0016 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| alpha-BHC | ND | | 0.0052 | 0.0026 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| beta-BHC | ND | | 0.010 | 0.0042 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Chlordane (technical) | ND | | 0.10 | 0.083 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| delta-BHC | ND | | 0.0052 | 0.0036 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Dieldrin | ND | | 0.0052 | 0.0021 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Endosulfan I | ND | | 0.0052 | 0.0031 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Endosulfan II | ND | | 0.0052 | 0.0021 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Endosulfan sulfate | ND | | 0.010 | 0.0031 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Endrin | ND | | 0.0052 | 0.0021 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Endrin aldehyde | ND | | 0.010 | 0.0021 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| gamma-BHC (Lindane) | ND | | 0.010 | 0.0031 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Heptachlor | ND | | 0.0094 | 0.0031 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Heptachlor epoxide | ND | | 0.0052 | 0.0026 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Toxaphene | ND | | 0.52 | 0.25 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| 4,4'-DDD | ND | | 0.0052 | 0.0042 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| 4,4'-DDE | ND | | 0.0052 | 0.0031 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| 4,4'-DDT | ND | | 0.010 | 0.0042 | ug/L | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| Tetrachloro-m-xylene | 55 | | 10 - 104 | | | | 04/08/20 07:20 | 04/08/20 15:34 | 1 |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp_F Lab Sample ID: 440-264162-3

Date Collected: 04/07/20 08:15

Matrix: Water

Job ID: 440-264162-1

Date Received: 04/07/20 14:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|--------------------------|---|---|------------------------------|----------|--|--|----------------------------|
| Aroclor 1016 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Aroclor 1221 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Aroclor 1232 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Aroclor 1242 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Aroclor 1248 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Aroclor 1254 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Aroclor 1260 | ND | | 0.52 | 0.26 | ug/L | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| DCB Decachlorobiphenyl (Surr) | 107 | | 18 - 134 | | | | 04/08/20 07:20 | 04/08/20 13:30 | 1 |
| - Method: 200.7 Rev 4.4 - Method | tals (ICP) - Dis | solved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Zinc | ND | | 20 | 12 | ug/L | | 04/08/20 14:56 | 04/08/20 22:28 | 1 |
| Iron | ND | | 0.10 | 0.050 | mg/L | | 04/08/20 14:56 | 04/08/20 22:28 | 1 |
| Method: 200.8 - Metals (ICP | P/MS) - Dissolv | ed | | | | | | | |
| Analyte | • | | | | | | | | |
| Allaivie | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| | Result ND | Qualifier | | MDL 0.25 | Unit ug/L | D | Prepared 04/08/20 15:02 | Analyzed 04/08/20 18:50 | Dil Fac |
| Cadmium | | | | 0.25 | ug/L | <u>D</u> | | • | Dil Fac |
| Cadmium Copper | ND | J,DX | 1.0 | 0.25 0.50 | | <u>D</u> | 04/08/20 15:02 04/08/20 15:02 | 04/08/20 18:50 | 1 1 1 |
| | ND 1.0 | | 1.0 | 0.25 0.50 0.50 | ug/L ug/L | <u>D</u> | 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 | 04/08/20 18:50 04/08/20 18:50 | Dil Fac 1 1 1 |
| Cadmium Copper Lead Selenium | ND 1.0 ND ND | J,DX | 1.0 2.0 1.0 | 0.25 0.50 0.50 | ug/L ug/L ug/L | <u>D</u> | 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 | 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 | 1 1 1 1 |
| Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C | ND 1.0 ND ND VAA) - Dissolv | J,DX | 1.0 2.0 1.0 | 0.25 0.50 0.50 | ug/L ug/L ug/L ug/L | <u>D</u> | 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 | 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 | 1 1 1 |
| Cadmium Copper Lead | ND 1.0 ND ND VAA) - Dissolv | J,DX /ed | 1.0 2.0 1.0 2.0 | 0.25 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L | = | 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 | 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 | 1 1 1 |
| Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C Analyte Mercury | ND 1.0 ND | J,DX /ed Qualifier | 1.0 2.0 1.0 2.0 RL 0.20 | 0.25 0.50 0.50 0.50 0.50 MDL 0.10 | ug/L ug/L ug/L ug/L ug/L | = | 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 Prepared | 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 | Dil Fac 1 1 1 1 1 Dil Fac |
| Cadmium Copper Lead Selenium Method: 245.1 - Mercury (C | ND 1.0 ND ND ND VAA) - Dissolv Result ND Hardness (as C | J,DX /ed Qualifier | 1.0 2.0 1.0 2.0 RL 0.20 | 0.25 0.50 0.50 0.50 0.50 MDL 0.10 | ug/L ug/L ug/L ug/L ug/L | = | 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 04/08/20 15:02 Prepared | 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 04/08/20 18:50 | 1 1 1 |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

| lethod | Method Description | Protocol | Laborator |
|--------------|---|-----------|-----------|
| 25.1 | Semivolatile Organic Compounds (GC/MS) | 40CFR136A | TAL IRV |
| 08.3 | Organochlorine Pesticides in Water | 40CFR136A | TAL IRV |
| 08.3 | Polychlorinated Biphenyls (PCBs) (GC) | 40CFR136A | TAL IRV |
| 00.0 | Anions, Ion Chromatography | MCAWW | TAL IRV |
| 14.0 | Perchlorate (IC) | EPA | TAL IRV |
| IO3NO2 Calc | Nitrogen, Nitrate-Nitrite | EPA | TAL IRV |
| 613B | Dioxins and Furans (HRGC/HRMS) | EPA | TAL SAC |
| 00.7 Rev 4.4 | Metals (ICP) | EPA | TAL IRV |
| 8.00 | Metals (ICP/MS) | EPA | TAL IRV |
| 45.1 | Mercury (CVAA) | EPA | TAL IRV |
| M 2340B | Total Hardness (as CaCO3) by calculation | SM | TAL IRV |
| 80.1 | Turbidity, Nephelometric | MCAWW | TAL IRV |
| M 2540C | Solids, Total Dissolved (TDS) | SM | TAL IRV |
| M 2540D | Solids, Total Suspended (TSS) | SM | TAL IRV |
| M 4500 CN E | Cyanide, Total (Low Level) | SM | TAL IRV |
| M 4500 NH3 G | Ammonia | SM | TAL IRV |
| M 5540C | Methylene Blue Active Substances (MBAS) | SM | TAL IRV |
| M5210B | BOD, 5 Day | SM | TAL IRV |
| ubcontract | Weck- 525.2 | None | Weck Lab |
| 613B | Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans | EPA | TAL SAC |
| 00.2 | Preparation, Total Recoverable Metals | EPA | TAL IRV |
| 45.1 | Preparation, Mercury | EPA | TAL IRV |
| 08 | Liquid-Liquid Extraction (Separatory Funnel) | 40CFR136A | TAL IRV |
| 25 | Liquid-Liquid Extraction | 40CFR136A | TAL IRV |
| istill/CN | Distillation, Cyanide | None | TAL IRV |
| ILTRATION | Sample Filtration | None | TAL IRV |

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.

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

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600 Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Eurofins Calscience Irvine

Job ID: 440-264162-1

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp

Date Collected: 04/07/20 08:15 Date Received: 04/07/20 14:30

Lab Sample ID: 440-264162-1

Matrix: Water

| Total/NA | Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|--|-------------------|---------------|-----------------|-----|---------------|-------------------|-----------------|-----------------|----------------------|---------|---------|
| Total/NA | | | 625 | | | 925 mL | 2.0 mL | 604162 | 04/08/20 08:22 | NAM | TAL IRV |
| Total/NA | Total/NA | Analysis | 625.1 | | 1 | | | 604522 | 04/10/20 09:30 | L1B | TAL IRV |
| Total/NA Analysis 300.0 1 5 mL 1.0 mL 604174 04/08/20 15:40 NTN TAL IRV Total/NA Analysis 300.0 20 604174 04/08/20 15:59 NTN TAL IRV Total/NA Analysis 300.0 20 604175 04/08/20 15:59 NTN TAL IRV Total/NA Analysis 314.0 1 604190 04/08/20 11:49 PS TAL IRV Total/NA Analysis NO3NO2 Calc 1 604380 04/09/20 10:24 TLN TAL IRV Total/NA Prep 1613B 951.8 mL 20 uL 371493 04/10/20 07:33 RDR TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604593 04/10/20 12:26 PTR TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604581 04/08/20 09 | Total/NA | Prep | 608 | | | 975 mL | 2 mL | 604144 | 04/08/20 07:20 | L1H | TAL IRV |
| Total/NA | Total/NA | Analysis | 608.3 | | 1 | | | 604226 | 04/08/20 14:49 | D1D | TAL IRV |
| Total/NA | Total/NA | Analysis | 300.0 | | 1 | 5 mL | 1.0 mL | 604174 | 04/08/20 15:40 | NTN | TAL IRV |
| Total/NA Analysis 314.0 1 604190 04/08/20 11:49 PS TAL IRV Total/NA Analysis NO3NO2 Calc 1 604380 04/09/20 10:24 TLN TAL IRV Total/NA Prep 1613B 951.8 mL 20 uL 371493 04/10/20 07:33 RDR TAL SAC Total/NA Analysis 1613B 1 371730 04/10/20 21:08 ALM TAL SAC Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 20 mL 604188 04/08/20 09:14 EP TAL IRV Total/NA Prep 245.1 1 20 mL 60401 604010 | Total/NA | Analysis | 300.0 | | 20 | | | 604174 | 04/08/20 15:59 | NTN | TAL IRV |
| Total/NA Analysis NO3NO2 Calc 1 604380 04/09/20 10:24 TLN TAL IRV Total/NA Prep 1613B 951.8 mL 20 uL 371493 04/10/20 07:33 RDR TAL SAC Total/NA Analysis 1613B 1 371730 04/10/20 21:08 ALM TAL SAC Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Analysis 200.7 Rev 4.4 1 604593 04/10/20 12:26 P1R TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis SM 2340B 1 604565 04/09/20 18:35 LH | Total/NA | Analysis | 300.0 | | 20 | | | 604175 | 04/08/20 15:59 | NTN | TAL IRV |
| Total/NA Prep 1613B 951.8 mL 20 uL 371493 04/10/20 07:33 RDR TAL SAC Total/NA Analysis 1613B 1 20 uL 371730 04/10/20 21:08 ALM TAL SAC Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Analysis 200.7 Rev 4.4 1 604593 04/10/20 12:26 P1R TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis SM 2340B 1 604565 04/09/20 18:13 MEM TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604270 | Total/NA | Analysis | 314.0 | | 1 | | | 604190 | 04/08/20 11:49 | PS | TAL IRV |
| Total/NA Analysis 1613B 1 371730 04/10/20 21:08 ALM TAL SAC Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Analysis 200.7 Rev 4.4 1 604593 04/10/20 12:26 P1R TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total/NA Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604270 04/08/20 16:47 HZ | Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 604380 | 04/09/20 10:24 | TLN | TAL IRV |
| Total Recoverable Prep 200.2 25 mL 25 mL 604209 04/09/20 09:00 EP TAL IRV Total Recoverable Analysis 200.7 Rev 4.4 1 604593 04/10/20 12:26 P1R TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total/NA Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 100 mL 604678 04/11/20 10:00 | Total/NA | Prep | 1613B | | | 951.8 mL | 20 uL | 371493 | 04/10/20 07:33 | RDR | TAL SAC |
| Total Recoverable Analysis 200.7 Rev 4.4 1 604593 04/10/20 12:26 P1R TAL IRV Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total/NA Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604678 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM | Total/NA | Analysis | 1613B | | 1 | | | 371730 | 04/10/20 21:08 | ALM | TAL SAC |
| Total Recoverable Prep 200.2 25 mL 25 mL 604188 04/08/20 09:14 EP TAL IRV Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total Recoverable Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 <td< td=""><td>Total Recoverable</td><td>Prep</td><td>200.2</td><td></td><td></td><td>25 mL</td><td>25 mL</td><td>604209</td><td>04/09/20 09:00</td><td>EP</td><td>TAL IRV</td></td<> | Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604209 | 04/09/20 09:00 | EP | TAL IRV |
| Total Recoverable Analysis 200.8 1 604271 04/08/20 16:21 P1R TAL IRV Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total Recoverable Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 m | Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 604593 | 04/10/20 12:26 | P1R | TAL IRV |
| Total/NA Prep 245.1 20 mL 20 mL 604401 04/09/20 11:48 EMS TAL IRV Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total Recoverable Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604270 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 604929 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604678 04/10/20 15:41 KL TAL IRV Total/NA Analysis SM 4500 CN E 1 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis | Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604188 | 04/08/20 09:14 | EP | TAL IRV |
| Total/NA Analysis 245.1 1 604565 04/09/20 18:13 MEM TAL IRV Total Recoverable Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 CN E 1 0.8 mL 8.0 mL 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 604258 04/08/20 16:06 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 | Total Recoverable | Analysis | 200.8 | | 1 | | | 604271 | 04/08/20 16:21 | P1R | TAL IRV |
| Total Recoverable Analysis SM 2340B 1 605378 04/16/20 13:51 LH TAL IRV Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 CN E 1 0.8 mL 8.0 mL 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 604401 | 04/09/20 11:48 | EMS | TAL IRV |
| Total/NA Analysis 180.1 1 604270 04/08/20 16:47 HZ TAL IRV Total/NA Analysis SM 2540C 1 100 mL 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 CN E 1 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Analysis | 245.1 | | 1 | | | 604565 | 04/09/20 18:13 | MEM | TAL IRV |
| Total/NA Analysis SM 2540C 1 100 mL 100 mL 604929 04/14/20 10:00 XL TAL IRV Total/NA Analysis SM 2540D 1 1000 mL 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 CN E 1 0.8 mL 8.0 mL 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total Recoverable | Analysis | SM 2340B | | 1 | | | 605378 | 04/16/20 13:51 | LH | TAL IRV |
| Total/NA Analysis SM 2540D 1 1000 mL 1000 mL 604678 04/11/20 15:41 KL TAL IRV Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 CN E 1 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Analysis | 180.1 | | 1 | | | 604270 | 04/08/20 16:47 | HZ | TAL IRV |
| Total/NA Prep Distill/CN 50 mL 50 mL 604575 04/10/20 11:07 KMY TAL IRV Total/NA Analysis SM 4500 CN E 1 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 604929 | 04/14/20 10:00 | XL | TAL IRV |
| Total/NA Analysis SM 4500 CN E 1 604615 04/10/20 15:39 KMY TAL IRV Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 604678 | 04/11/20 15:41 | KL | TAL IRV |
| Total/NA Analysis SM 4500 NH3 G 1 0.8 mL 8.0 mL 605184 04/15/20 13:52 KMY TAL IRV Total/NA Analysis SM 5540C 1 100 mL 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 604575 | 04/10/20 11:07 | KMY | TAL IRV |
| Total/NA Analysis SM 5540C 1 100 mL 100 mL 604258 04/08/20 16:06 KMY TAL IRV | Total/NA | Analysis | SM 4500 CN E | | 1 | | | 604615 | 04/10/20 15:39 | KMY | TAL IRV |
| | Total/NA | Analysis | SM 4500 NH3 G | | 1 | 0.8 mL | 8.0 mL | 605184 | 04/15/20 13:52 | KMY | TAL IRV |
| | Total/NA | Analysis | SM 5540C | | 1 | 100 mL | 100 mL | 604258 | 04/08/20 16:06 | KMY | TAL IRV |
| Total/NA Analysis SM5210B 1 300 mL 300 mL 604202 04/08/20 16:11 MMP TAL IRV | Total/NA | Analysis | SM5210B | | 1 | 300 mL | 300 mL | 604202 | 04/08/20 16:11 | MMP | TAL IRV |

Client Sample ID: Outfall002_20200407_Comp_F

Date Collected: 04/07/20 08:15

Date Received: 04/07/20 14:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 608 | | | 960 mL | 2 mL | 604144 | 04/08/20 07:20 | L1H | TAL IR\ |
| Total/NA | Analysis | 608.3 | | 1 | | | 604226 | 04/08/20 15:34 | D1D | TAL IR\ |
| Total/NA | Prep | 608 | | | 960 mL | 2 mL | 604144 | 04/08/20 07:20 | L1H | TAL IR\ |
| Total/NA | Analysis | 608.3 | | 1 | | | 604246 | 04/08/20 13:30 | JM | TAL IR\ |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604093 | 04/07/20 18:52 | M1G | TAL IR\ |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604251 | 04/08/20 14:56 | M1G | TAL IR\ |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 604342 | 04/08/20 22:28 | KE | TAL IR\ |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604093 | 04/07/20 18:52 | M1G | TAL IR\ |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604252 | 04/08/20 15:02 | M1G | TAL IR\ |
| Dissolved | Analysis | 200.8 | | 1 | | | 604292 | 04/08/20 18:50 | P1R | TAL IR\ |

Lab Sample ID: 440-264162-3

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Matrix: Water

Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp_F Lab Sample ID: 440-264162-3

Date Collected: 04/07/20 08:15 Matrix: Water

Date Received: 04/07/20 14:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 604089 | 04/07/20 18:34 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 604095 | 04/07/20 19:51 | DB | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 604111 | 04/07/20 22:39 | MEM | TAL IRV |
| Dissolved | Analysis | SM 2340B | | 1 | | | 603739 | 04/10/20 18:04 | P1R | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-1

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

Lab Sample ID: MB 440-604162/1-A

Matrix: Water

Analysis Batch: 604522

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604162

| | MB | MR | | | | | | | |
|-----------------------------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,4,6-Trichlorophenol | ND | | 6.0 | 0.10 | ug/L | | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| Bis(2-ethylhexyl) phthalate | ND | | 5.0 | 2.0 | ug/L | | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| N-Nitrosodimethylamine | ND | | 5.0 | 0.30 | ug/L | | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| Pentachlorophenol | ND | | 5.0 | 1.0 | ug/L | | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| 2,4-Dinitrotoluene | ND | | 5.0 | 2.0 | ug/L | | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| | | | | | | | | | |

MR MR

| | IVID IN | VI D | | | | |
|----------------------|-------------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery G | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 2,4,6-Tribromophenol | 76 | | 60 - 120 | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| 2-Fluorobiphenyl | 80 | | 51 - 120 | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| 2-Fluorophenol | 92 | | 43 - 120 | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| Nitrobenzene-d5 | 75 | | 53 - 150 | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| Terphenyl-d14 | 95 | | 12 - 142 | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| Phenol-d5 | 79 | | 45 - 150 | 04/08/20 08:22 | 04/10/20 08:35 | 1 |
| | | | | | | |

LCS LCS

Lab Sample ID: LCS 440-604162/2-A

Lab Sample ID: 440-264162-1 MS

Analysis Batch: 604522

Matrix: Water

Matrix: Water

Analysis Batch: 604522

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 604162 %Rec.

Spike Added Result Qualifier Unit D %Rec Limits 2,4,6-Trichlorophenol 15.0 12.9 ug/L 86 52 - 129 Bis(2-ethylhexyl) phthalate 15.0 13.1 ug/L 87 29 - 137 N-Nitrosodimethylamine 15.0 13.2 88 ug/L 60 - 140Pentachlorophenol 30.0 27.9 ug/L 93 38 - 152

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 90 | | 60 - 120 |
| 2-Fluorobiphenyl | 81 | | 51 - 120 |
| 2-Fluorophenol | 89 | | 43 - 120 |
| Nitrobenzene-d5 | 91 | | 53 - 150 |
| Terphenyl-d14 | 97 | | 12 - 142 |
| Phenol-d5 | 89 | | 45 - 150 |

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA **Prep Batch: 604162**

| | Sample Sample | Spike | MS | MS | | | | %Rec. | |
|-----------------------------|------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 2,4,6-Trichlorophenol | ND ND | 16.4 | 14.1 | | ug/L | | 86 | 37 - 144 | |
| Bis(2-ethylhexyl) phthalate | ND | 16.4 | 13.8 | | ug/L | | 84 | 8 - 158 | |
| N-Nitrosodimethylamine | ND | 16.4 | 14.3 | | ug/L | | 87 | 60 - 140 | |
| Pentachlorophenol | ND | 32.8 | 32.4 | | ug/L | | 99 | 14 - 176 | |

| MS | MS |
|----|----|

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 85 | | 60 - 120 |
| 2-Fluorobiphenyl | 76 | | 51 - 120 |
| 2-Fluorophenol | 87 | | 43 - 120 |
| Nitrobenzene-d5 | 91 | | 53 - 150 |

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

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

Lab Sample ID: 440-264162-1 MS

Matrix: Water

Analysis Batch: 604522

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Batch: 604162

| | IVIS | MS | |
|---------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| Terphenyl-d14 | 76 | | 12 - 142 |
| Phenol-d5 | 86 | | 45 - 150 |

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 604522

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Batch: 604162

| Alialysis Datcii. 004322 | | | | | | | | | Lieh Da | item. ot | 74102 |
|-----------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|----------|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 2,4,6-Trichlorophenol | ND | | 16.3 | 13.9 | | ug/L | | 85 | 37 - 144 | 1 | 58 |
| Bis(2-ethylhexyl) phthalate | ND | | 16.3 | 13.5 | | ug/L | | 83 | 8 - 158 | 3 | 82 |
| N-Nitrosodimethylamine | ND | | 16.3 | 13.2 | | ug/L | | 81 | 60 - 140 | 8 | 35 |
| Pentachlorophenol | ND | | 32.6 | 32.3 | | ug/L | | 99 | 14 - 176 | 0 | 86 |
| | | | | | | | | | | | |

MSD MSD

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 86 | | 60 - 120 |
| 2-Fluorobiphenyl | 73 | | 51 - 120 |
| 2-Fluorophenol | 83 | | 43 - 120 |
| Nitrobenzene-d5 | 87 | | 53 - 150 |
| Terphenyl-d14 | 74 | | 12 - 142 |
| Phenol-d5 | 82 | | 45 - 150 |
| | | | |

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-604144/1-A

Matrix: Water

Analysis Batch: 604226

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

Prep Batch: 604144

| 7 | | | | | | | | | •• • • • • |
|-----------------------|----|-----------|--------|--------|------|---|----------------|----------------|------------|
| Analysis | | MB | DI | MDI | 11:4 | _ | Duamanad | Amalumad | Dil Fac |
| Analyte | | Qualifier | RL - | | Unit | D | Prepared | Analyzed | Dil Fac |
| Aldrin | ND | | 0.0050 | 0.0015 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| alpha-BHC | ND | | 0.0050 | 0.0025 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| beta-BHC | ND | | 0.010 | 0.0040 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Chlordane (technical) | ND | | 0.10 | 0.080 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| delta-BHC | ND | | 0.0050 | 0.0035 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Dieldrin | ND | | 0.0050 | 0.0020 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Endosulfan I | ND | | 0.0050 | 0.0030 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Endosulfan II | ND | | 0.0050 | 0.0020 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Endosulfan sulfate | ND | | 0.010 | 0.0030 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Endrin | ND | | 0.0050 | 0.0020 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Endrin aldehyde | ND | | 0.010 | 0.0020 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| gamma-BHC (Lindane) | ND | | 0.010 | 0.0030 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Heptachlor | ND | | 0.0090 | 0.0030 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Heptachlor epoxide | ND | | 0.0050 | 0.0025 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Toxaphene | ND | | 0.50 | 0.24 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| 4,4'-DDD | ND | | 0.0050 | 0.0040 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| 4,4'-DDE | ND | | 0.0050 | 0.0030 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| 4,4'-DDT | ND | | 0.010 | 0.0040 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |

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Project/Site: Quarterly Outfall 002 Comp

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: MB 440-604144/1-A

Lab Sample ID: LCS 440-604144/2-A

Matrix: Water

Matrix: Water

Analysis Batch: 604226

Analysis Batch: 604226

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604144

MB MB

| Surrogate | %Recovery | Qualifier | Limits | Prepared Analyzed | Dil Fac |
|-------------------------------|-----------|-----------|----------|-------------------------------|---------|
| DCB Decachlorobiphenyl (Surr) | 96 | | 18 - 134 | 04/08/20 07:20 04/08/20 13:49 | 1 |
| Tetrachloro-m-xylene | 70 | | 10 - 104 | 04/08/20 07:20 04/08/20 13:49 | 1 |

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

tch: 604144

| Prep | Batch: |
|-------|--------|
| %Rec. | |

| Analysis Baton. 004220 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|-------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aldrin | 0.400 | 0.285 | | ug/L | | 71 | 42 - 140 |
| alpha-BHC | 0.400 | 0.282 | | ug/L | | 71 | 37 - 140 |
| beta-BHC | 0.400 | 0.296 | | ug/L | | 74 | 17 - 147 |
| delta-BHC | 0.400 | 0.295 | | ug/L | | 74 | 19 - 140 |
| Dieldrin | 0.400 | 0.318 | | ug/L | | 80 | 36 - 146 |
| Endosulfan I | 0.400 | 0.301 | | ug/L | | 75 | 45 - 153 |
| Endosulfan II | 0.400 | 0.311 | | ug/L | | 78 | 10 - 202 |
| Endosulfan sulfate | 0.400 | 0.309 | | ug/L | | 77 | 26 - 144 |
| Endrin | 0.400 | 0.292 | | ug/L | | 73 | 30 - 147 |
| Endrin aldehyde | 0.400 | 0.299 | | ug/L | | 75 | 60 - 140 |
| gamma-BHC (Lindane) | 0.400 | 0.295 | | ug/L | | 74 | 32 - 140 |
| Heptachlor | 0.400 | 0.280 | | ug/L | | 70 | 34 - 140 |
| Heptachlor epoxide | 0.400 | 0.304 | | ug/L | | 76 | 37 - 142 |
| 4,4'-DDD | 0.400 | 0.353 | | ug/L | | 88 | 31 - 141 |
| 4,4'-DDE | 0.400 | 0.318 | | ug/L | | 80 | 30 - 145 |
| 4,4'-DDT | 0.400 | 0.304 | | ug/L | | 76 | 25 - 160 |
| | | | | | | | |

LCS LCS

Sample Sample

| Surrogate | %Recovery | Qualifier | Limits |
|-------------------------------|-----------|-----------|----------|
| DCB Decachlorobiphenyl (Surr) | 98 | | 18 - 134 |
| Tetrachloro-m-xylene | 76 | | 10 - 104 |

Client Sample ID: Outfall002_20200407_Comp

Matrix: Water

Analysis Batch: 604226

Lab Sample ID: 440-264162-1 MS

Prep Type: Total/NA

Prep Batch: 604144

%Rec.

| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | %Rec | Limits | |
|-----------|--------|-----------|-------|--------|-----------|------|------|----------|-----|
| alpha-BHC | ND | | 0.404 | 0.249 | | ug/L | 62 | 37 - 140 | . — |

Spike

MS MS

MS MS Surrogate %Recovery Qualifier Limits 10 - 104 Tetrachloro-m-xylene 71 DCB Decachlorobiphenyl (Surr) 89 18 - 134

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 604226

| Clie | nt Sam | ple ID: | Outfall |)02 <u>_</u> 2 | 202004 | 107_C | ;om | р |
|------|--------|---------|---------|----------------|-------------|--------|------|---|
| | | | | Prep | Type | : Tota | al/N | Α |
| | | | | Pre | p Bato | h: 60 | 414 | 4 |
| ISD | | | | %Re | c. | | RP | D |
| | | _ | ~ - | | | | | |

MSD M Sample Sample Spike Analyte **Result Qualifier** Added Result Qualifier Unit %Rec Limits Limit alpha-BHC ND 0.421 0.260 37 - 140 ug/L 62

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Client: Haley & Aldrich, Inc.

Job ID: 440-264162-1 Project/Site: Quarterly Outfall 002 Comp

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 604226

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Batch: 604144

MSD MSD

Limits Surrogate %Recovery Qualifier Tetrachloro-m-xylene 72 10 - 104 DCB Decachlorobiphenyl (Surr) 90 18 - 134

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

Lab Sample ID: MB 440-604144/1-A

Matrix: Water

Analysis Batch: 604246

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604144

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Dil Fac D Analyzed Aroclor 1016 $\overline{\mathsf{ND}}$ 0.50 0.25 ug/L 04/08/20 07:20 04/08/20 13:56 Aroclor 1221 ND 0.50 04/08/20 07:20 04/08/20 13:56 0.25 ug/L 1 Aroclor 1232 04/08/20 07:20 04/08/20 13:56 ND 0.50 0.25 ug/L Aroclor 1242 ND 0.50 0.25 ug/L 04/08/20 07:20 04/08/20 13:56 Aroclor 1248 ND 0.50 0.25 ug/L 04/08/20 07:20 04/08/20 13:56 1 Aroclor 1254 ND 0.50 0.25 ug/L 04/08/20 07:20 04/08/20 13:56

MB MB

ND

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac DCB Decachlorobiphenyl (Surr) 103 18 - 134 04/08/20 07:20 04/08/20 13:56

0.50

0.25 ug/L

Lab Sample ID: LCS 440-604144/8-A

Matrix: Water

Aroclor 1260

Analysis Batch: 604246

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

04/08/20 07:20 04/08/20 13:56

Prep Batch: 604144

LCS LCS Spike %Rec. Added Analyte Result Qualifier Unit %Rec Limits

Aroclor 1016 4.00 4.20 105 50 - 140 ug/L Aroclor 1260 4.00 4.26 ug/L 106 8 - 140

LCS LCS

Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl (Surr) 18 - 134 110

Lab Sample ID: LCSD 440-604144/9-A

Matrix: Water

Aroclor 1260

Analysis Batch: 604246

Client Sample ID: Lab Control Sample Dup

98

8 - 140

Prep Type: Total/NA **Prep Batch: 604144**

8

LCSD LCSD **RPD** Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit Aroclor 1016 4.00 3.73 ug/L 93 50 - 140 12 36

3.92

ug/L

4.00

LCSD LCSD

Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl (Surr) 98 18 - 134

Eurofins Calscience Irvine

Job ID: 440-264162-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604174/6

Lab Sample ID: LCS 440-604174/5

Matrix: Water

Analysis Batch: 604174

Client Sample ID: Method Blank

Prep Type: Total/NA

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Nitrate as N 0.11 0.055 mg/L 04/08/20 10:58 $\overline{\mathsf{ND}}$ Nitrite as N 04/08/20 10:58 ND 0.15 0.025 mg/L

Client Sample ID: Lab Control Sample

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604174

Spike LCS LCS %Rec. Analyte Added Result Qualifier D %Rec Limits Unit Nitrate as N 1.13 1.08 96 90 - 110 mg/L Nitrite as N 1.52 1.52 100 90 - 110 mg/L

Lab Sample ID: MRL 440-604174/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604174

MRL MRL Spike %Rec. Added Result Qualifier Analyte Unit D %Rec Limits Nitrate as N 0.113 0.120 ug/mL 106 50 - 150 Nitrite as N 0.152 0.161 ug/mL 106 50 - 150

Lab Sample ID: 440-264162-1 MS

Matrix: Water

Analysis Batch: 604174

Sample Sample MS MS Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Nitrate as N ND 22.6 22.6 100 80 - 120 mg/L Nitrite as N ND 30.4 30.5 mg/L 100 80 - 120

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp Prep Type: Total/NA

Matrix: Water

Analysis Petah, 604174

| Alialysis Batch. 604174 | | _ | | | | | | | | | | |
|-------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|--|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | |
| Nitrate as N | ND | | 22.6 | 22.1 | | mg/L | | 98 | 80 - 120 | 3 | 20 | |
| Nitrite as N | ND | | 30.4 | 30.4 | | mg/L | | 100 | 80 - 120 | 0 | 20 | |

Lab Sample ID: MB 440-604175/6 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604175

| | MB | MB | | | | | | | |
|----------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chloride | ND | | 0.50 | 0.25 | mg/L | | | 04/08/20 10:58 | 1 |
| Sulfate | ND | | 0.50 | 0.25 | mg/L | | | 04/08/20 10:58 | 1 |

Lab Sample ID: LCS 440-604175/5 **Client Sample ID: Lab Control Sample**

Analysis Batch: 604175

| • | Spike | LCS | LCS | | | | %Rec. | |
|----------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 5.00 | 4.82 | | mg/L | | 96 | 90 - 110 | |
| Sulfate | 5.00 | 4.89 | | mg/L | | 98 | 90 - 110 | |

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Prep Type: Total/NA

Project/Site: Quarterly Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 440-604175/4

Matrix: Water

Analysis Batch: 604175

Spike MRL MRL %Rec. Analyte Added Result Qualifier %Rec Limits Unit Chloride 0.500 0.545 109 50 - 150 ug/mL Sulfate 0.500 0.512 ug/mL 102 50 - 150

Lab Sample ID: 440-264162-1 MS

Matrix: Water

Analysis Batch: 604175

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits Analyte Unit %Rec Chloride 28 100 127 99 80 - 120 mg/L Sulfate 170 100 280 mg/L 105 80 - 120

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 604175

MSD MSD **RPD** Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier %Rec Limits RPD Limit **Analyte** Unit Chloride 28 100 126 mg/L 98 80 - 120 20 Sulfate 170 100 281 mg/L 106 80 - 1200 20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-604190/6

Matrix: Water

Analysis Batch: 604190

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Perchlorate 4.0 0.95 ug/L 04/08/20 10:48

Lab Sample ID: LCS 440-604190/5

Matrix: Water

Analysis Batch: 604190

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits Perchlorate 25.0 23.4 ug/L 85 - 115

Lab Sample ID: MRL 440-604190/4

Matrix: Water

Analysis Batch: 604190

MRL MRL Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits 1.00 Perchlorate 1.09 J,DX ug/L 109 75 - 125

Lab Sample ID: MRL 440-604190/8

Matrix: Water

Analysis Batch: 604190

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Perchlorate 4.00 3.80 J,DX ug/L 95 75 - 125

Eurofins Calscience Irvine

4/24/2020

Client Sample ID: Lab Control Sample

Client Sample ID: Outfall002_20200407_Comp

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Lab Sample ID: 440-264162-1 MS

Method: 314.0 - Perchlorate (IC) (Continued)

Client Sample ID: Outfall002_20200407_Comp

Matrix: Water Prep Type: Total/NA Analysis Batch: 604190

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Perchlorate ND 25.0 23.9 95 80 - 120 ug/L

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp

Matrix: Water Prep Type: Total/NA

Analysis Batch: 604190

RPD Spike MSD MSD %Rec. Sample Sample Analyte **Result Qualifier** Added Result Qualifier Unit D %Rec Limits RPD Limit ND 25.0 ug/L Perchlorate 23.4 94 80 - 120 2

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

Lab Sample ID: MB 320-371493/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 371730 **Prep Batch: 371493**

| Analysis Batch: 3/1/30 | | | | | | | | Prep Batch: | 3/1493 |
|------------------------|------------|-----------|----------|-----------|------|---|----------------|----------------|---------|
| | | MB | | | | _ | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | | 0.000010 | 0.0000016 | • | | | 04/10/20 19:32 | 1 |
| 2,3,7,8-TCDF | ND | | 0.000010 | 0.0000003 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8-PeCDD | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8-PeCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.00000284 | J,DX | 0.000050 | 0.0000008 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.00000216 | J,DX q | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,7,8-HxCDF | 0.00000110 | J,DX q | 0.000050 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,6,7,8-HxCDF | 0.00000131 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.00000159 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000303 | J,DX | 0.000050 | 0.0000003 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000362 | J,DX | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| OCDD | 0.0000240 | J,DX | 0.00010 | 0.0000013 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| OCDF | 0.00000970 | J,DX | 0.00010 | 0.0000013 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total TCDD | ND | | 0.000010 | 0.0000016 | - | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total TCDF | ND | | 0.000010 | 0.0000003 | | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total PeCDD | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |

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4/24/2020

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-1

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

Lab Sample ID: MB 320-371493/1-A Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 371493 **Matrix: Water** Analysis Batch: 371730

| Analysis Batch: 3/1/30 | | | | | | | | Prep Batch: | 3/1493 |
|------------------------|------------|-----------|----------|----------------|------|---|----------------|----------------|---------|
| | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total PeCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HxCDD | 0.0000500 | J,DX q | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HxCDF | 0.00000399 | J,DX q | 0.000050 | 0.0000004 6 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HpCDD | 0.00000510 | J,DX | 0.000050 | 0.0000003 6 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HpCDF | 0.00000362 | J,DX | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | 71 | | 25 - 164 | | | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-2,3,7,8-TCDF | 83 | | 24 - 169 | | | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,7,8-PeCDD | 70 | | 25 - 181 | | | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |

| Isotope Dilution | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-------------------------|---------------------|----------|----------------|----------------|---------|
| 13C-2,3,7,8-TCDD | 71 | 25 - 164 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-2,3,7,8-TCDF | 83 | 24 - 169 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,7,8-PeCDD | 70 | 25 - 181 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,7,8-PeCDF | 73 | 24 - 185 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-2,3,4,7,8-PeCDF | 77 | 21 - 178 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,4,7,8-HxCDD | 76 | 32 - 141 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 68 | 28 - 130 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 81 | 26 - 152 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 75 | 26 - 123 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 80 | 29 - 147 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-2,3,4,6,7,8-HxCDF | 83 | 28 - 136 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 71 | 23 - 140 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 71 | 28 - 143 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 82 | 26 - 138 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 13C-OCDD | 64 | 17 - 157 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |

| | MB | MB | | | | |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 37CI4-2,3,7,8-TCDD | 78 | | 35 - 197 | 04/10/20 07:33 | 04/10/20 19:32 | 1 |

Lab Sample ID: LCS 320-371493/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

| Analysis Batch: 371730 | Spike | LCS | LCS | | | | Prep Batch: 371493 |
|------------------------|----------|----------|-----------|------|---|------|---------------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 2,3,7,8-TCDD | 0.000200 | 0.000232 | | ug/L | | 116 | 67 - 158 |
| 2,3,7,8-TCDF | 0.000200 | 0.000266 | | ug/L | | 133 | 75 ₋ 158 |
| 1,2,3,7,8-PeCDD | 0.00100 | 0.00118 | | ug/L | | 118 | 70 - 142 |
| 1,2,3,7,8-PeCDF | 0.00100 | 0.00126 | | ug/L | | 126 | 80 - 134 |
| 2,3,4,7,8-PeCDF | 0.00100 | 0.00120 | | ug/L | | 120 | 68 - 160 |
| 1,2,3,4,7,8-HxCDD | 0.00100 | 0.00107 | MB | ug/L | | 107 | 70 - 164 |
| 1,2,3,6,7,8-HxCDD | 0.00100 | 0.00118 | | ug/L | | 118 | 76 - 134 |
| 1,2,3,7,8,9-HxCDD | 0.00100 | 0.00112 | MB | ug/L | | 112 | 64 - 162 |
| 1,2,3,4,7,8-HxCDF | 0.00100 | 0.00113 | MB | ug/L | | 113 | 72 - 134 |
| 1,2,3,6,7,8-HxCDF | 0.00100 | 0.00121 | MB | ug/L | | 121 | 84 - 130 |
| 1,2,3,7,8,9-HxCDF | 0.00100 | 0.00123 | MB | ug/L | | 123 | 78 ₋ 130 |
| 2,3,4,6,7,8-HxCDF | 0.00100 | 0.00120 | | ug/L | | 120 | 70 - 156 |
| 1,2,3,4,6,7,8-HpCDD | 0.00100 | 0.00107 | MB | ug/L | | 107 | 70 - 140 |
| 1,2,3,4,6,7,8-HpCDF | 0.00100 | 0.00111 | MB | ug/L | | 111 | 82 - 122 |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

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

Lab Sample ID: LCS 320-371493/2-A **Matrix: Water**

Analysis Batch: 371730

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 371493**

Job ID: 440-264162-1

Spike LCS LCS %Rec. **Analyte** Added Result Qualifier Unit D %Rec Limits 0.00100 0.00104 1,2,3,4,7,8,9-HpCDF ug/L 104 78 ₋ 138 OCDD 0.00200 ug/L 78 - 144 0.00222 MB 111 **OCDF** 0.00200 0.00262 MB ug/L 131 63 - 170

LCS LCS Isotope Dilution %Recovery Qualifier Limits 13C-2,3,7,8-TCDD 68 20 - 175 13C-2,3,7,8-TCDF 77 22 - 152 13C-1,2,3,7,8-PeCDD 65 21 - 227 13C-1,2,3,7,8-PeCDF 70 21 - 192 13C-2,3,4,7,8-PeCDF 75 13 - 328 13C-1,2,3,4,7,8-HxCDD 71 21 - 193 13C-1,2,3,6,7,8-HxCDD 63 25 - 163 13C-1,2,3,4,7,8-HxCDF 71 19 - 202 13C-1,2,3,6,7,8-HxCDF 66 21 - 159 17 - 205 13C-1,2,3,7,8,9-HxCDF 74 13C-2,3,4,6,7,8-HxCDF 74 22 - 176 13C-1,2,3,4,6,7,8-HpCDD 61 26 - 166 64 21 - 158 13C-1,2,3,4,6,7,8-HpCDF 69 20 - 186 13C-1,2,3,4,7,8,9-HpCDF 13C-OCDD 59 13 - 199

LCS LCS

MB MB

Surrogate %Recovery Qualifier Limits 37CI4-2,3,7,8-TCDD 78 31 - 191

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-604209/1-A

Matrix: Water

Analysis Batch: 604593

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Type: Total Recoverable

Prep Batch: 604209

Prep Batch: 604209

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Zinc ND 20 12 ug/L 04/09/20 09:00 04/10/20 11:26 Iron ND 100 50 04/09/20 09:00 04/10/20 11:26 ug/L

Lab Sample ID: LCS 440-604209/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Analysis Batch: 604593

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Zinc 500 512 ug/L 102 85 - 115

500 Iron 485 ug/L 97 85 - 115

Lab Sample ID: 440-264162-1 MS Client Sample ID: Outfall002_20200407_Comp

Matrix: Water Prep Type: Total Recoverable Analysis Batch: 604593 Prep Batch: 604209 Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier **Analyte** Unit D %Rec Limits Zinc ND 500 479 ug/L 96 70 - 130 66 J,DX 500 554 ug/L 98 70 - 130 Iron

Job ID: 440-264162-1

Prep Batch: 604251

04/08/20 14:56 04/08/20 22:21

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

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

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp

0.050 mg/L

Matrix: Water Prep Type: Total Recoverable

Analysis Batch: 604593 Prep Batch: 604209 Sample Sample Spike MSD MSD **RPD** %Rec. Result Qualifier Added Result Qualifier %Rec Limits RPD Limit Analyte Unit Zinc ND 500 473 70 - 130 20 ug/L 95 500 Iron 66 J,DX 572 ug/L 101 70 - 130 3 20

Lab Sample ID: MB 440-604093/1-B Client Sample ID: Method Blank **Matrix: Water Prep Type: Dissolved**

Analysis Batch: 604342

Iron

MB MB Result Qualifier RL **MDL** Unit Dil Fac Analyte D Prepared Analyzed Zinc $\overline{\mathsf{ND}}$ 20 12 ug/L 04/08/20 14:56 04/08/20 22:21

0.10

Lab Sample ID: LCS 440-604093/2-B **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Dissolved** Analysis Batch: 604342 **Prep Batch: 604251** LCS LCS Spike %Rec.

Added Result Qualifier Analyte Unit D %Rec Limits Zinc 500 475 ug/L 95 85 - 115 0.500 0.461 Iron ma/L 92 85 - 115

ND

Lab Sample ID: 440-264162-3 MS Client Sample ID: Outfall002_20200407_Comp_F **Prep Type: Dissolved Matrix: Water**

Analysis Batch: 604342 Prep Batch: 604251 MS MS Sample Sample Spike %Rec.

Analyte Result Qualifier Added Result Qualifier %Rec Limits Unit Zinc ND 500 471 94 70 - 130 ug/L Iron ND 0.500 0.478 mg/L 96 70 - 130

Lab Sample ID: 440-264162-3 MSD Client Sample ID: Outfall002_20200407_Comp_F

Matrix: Water Prep Type: Dissolved

Prep Batch: 604251 Analysis Batch: 604342 Sample Sample Spike MSD MSD %Rec. **RPD** Limits Limit Result Qualifier Added Result Qualifier %Rec **RPD** Analyte Unit D Zinc ND 500 490 98 70 - 130 20 ug/L NΩ 0.500 0.507 Iron mg/L 101 70 - 1306 20

Method: 200.8 - Metals (ICP/MS)

Client Sample ID: Method Blank Lab Sample ID: MB 440-604188/1-A **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 604271 Prep Batch: 604188

| | IVID | IVID | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| | | | | | | | | | |

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Client: Haley & Aldrich, Inc.

Job ID: 440-264162-1 Project/Site: Quarterly Outfall 002 Comp

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

Lab Sample ID: LCS 440-604188/2-A

Matrix: Water

Analysis Batch: 604271

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

Prep Batch: 604188

| | Spike | LCS | LCS | | | %Rec. | |
|----------|-------|--------|----------------|---|------|---------------------|--|
| Analyte | Added | Result | Qualifier Unit | D | %Rec | Limits | |
| Cadmium | 80.0 | 81.5 | ug/L | | 102 | 85 - 115 | |
| Copper | 80.0 | 83.6 | ug/L | | 104 | 85 - 115 | |
| Lead | 80.0 | 82.0 | ug/L | | 103 | 85 - 115 | |
| Selenium | 80.0 | 79.7 | ug/L | | 100 | 85 ₋ 115 | |

Lab Sample ID: 440-264162-1 MS

Matrix: Water

Analysis Batch: 604271

Client Sample ID: Outfall002_20200407_Comp **Prep Type: Total Recoverable**

Prep Batch: 604188

Sample Sample MS MS %Rec. Spike Analyte Result Qualifier Added Result Qualifier Limits Unit D %Rec Cadmium ND 80.0 79.6 100 70 - 130 ug/L Copper 0.08 81.8 ug/L 101 70 - 130 1.1 J,DX Lead ND 80.0 79.4 ug/L 99 70 - 130 ug/L Selenium ND 80.0 76.4 95 70 - 130

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 604271

Client Sample ID: Outfall002_20200407_Comp

97

Prep Type: Total Recoverable

Prep Batch: 604188

MSD MSD Sample Sample Spike %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Cadmium ND 80.0 78.8 ug/L 98 70 - 130 20 Copper J,DX 80.0 80.0 ug/L 99 70 - 130 2 20 1.1 ND 20 Lead 80.0 78.2 ug/L 98 70 - 130

77.3

ug/L

80.0

Lab Sample ID: MB 440-604093/1-C

ND

Matrix: Water

Selenium

Analysis Batch: 604292

Client Sample ID: Method Blank

70 - 130

Prep Type: Dissolved

Prep Batch: 604252

| | MB | MB | | | | | | • | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/08/20 15:02 | 04/08/20 18:46 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 15:02 | 04/08/20 18:46 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/08/20 15:02 | 04/08/20 18:46 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 15:02 | 04/08/20 18:46 | 1 |

Lab Sample ID: LCS 440-604093/2-C

Matrix: Water

Analysis Batch: 604292

Client Sample ID: Lab Control Sample Prep Type: Dissolved

Prep Batch: 604252

| • | Spike | LCS | LCS | | | | %Rec. | |
|----------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cadmium | 80.0 | 78.9 | | ug/L | | 99 | 85 - 115 | |
| Copper | 80.0 | 77.7 | | ug/L | | 97 | 85 - 115 | |
| Lead | 80.0 | 78.3 | | ug/L | | 98 | 85 - 115 | |
| Selenium | 80.0 | 76.6 | | ug/L | | 96 | 85 - 115 | |

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Project/Site: Quarterly Outfall 002 Comp

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

Lab Sample ID: 440-264162-3 MS Client Sample ID: Outfall002_20200407_Comp_F

Matrix: Water

Prep Type: Dissolved Analysis Batch: 604292 Prep Batch: 604252

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier %Rec Unit Limits 70 - 130 Cadmium ND 80.0 75.9 ug/L 95 Copper 1.0 J,DX 80.0 75.4 ug/L 93 70 - 130 Lead ND 80.0 74.5 ug/L 93 70 - 130 Selenium ND 80.0 74.4 ug/L 93 70 - 130

Lab Sample ID: 440-264162-3 MSD Client Sample ID: Outfall002_20200407_Comp_F

Matrix: Water

Prep Type: Dissolved Analysis Ratch: 604292

| Analysis Batch: 604292 | | | | | | | | | Prep Ba | itcn: 60 | J4252 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|----------|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cadmium | ND | | 80.0 | 77.2 | | ug/L | | 97 | 70 - 130 | 2 | 20 |
| Copper | 1.0 | J,DX | 80.0 | 77.4 | | ug/L | | 95 | 70 - 130 | 3 | 20 |
| Lead | ND | | 80.0 | 76.4 | | ug/L | | 95 | 70 - 130 | 3 | 20 |
| Selenium | ND | | 80.0 | 77.0 | | ug/L | | 96 | 70 - 130 | 4 | 20 |

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-604401/1-A Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA Analysis Batch: 604565 Prep Batch: 604401

MB MB

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|---------|------------------|------|-----------|---|----------------|----------------|---------|
| Mercury | ND | 0.20 | 0.10 ug/L | | 04/09/20 11:48 | 04/09/20 18:02 | 1 |

Lab Sample ID: LCS 440-604401/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604565** Prep Batch: 604401 LCS LCS Spike %Rec.

Analyte Added Result Qualifier Unit %Rec Limits Mercury 4.00 3.93 98 85 - 115 ug/L

Lab Sample ID: 440-264162-1 MS Client Sample ID: Outfall002_20200407_Comp **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604565 Prep Batch: 604401** Sample Sample Spike MS MS %Rec.

Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits $\overline{\mathsf{ND}}$ 4.00 Mercury 3 74 ug/L 93 75 - 125

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604565 Prep Batch: 604401 Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Limits **Analyte** Result Qualifier Unit D %Rec RPD Limit Mercury ND 4.00 3.81 ug/L 95 75 - 125 2

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RL

0.20

Spike

Added

Sample Sample

Sample Sample

 $\overline{\mathsf{ND}}$

Result Qualifier

MB MB

 $\overline{\mathsf{ND}}$

Sample Sample

0.14

Result Qualifier

Result Qualifier

ND

Result Qualifier

4.00

Spike

Added

4.00

Spike

Added

4.00

MDL Unit

0.10 ug/L

LCS LCS

MS MS

MSD MSD

4.10

Result Qualifier

MDI Unit

0.040 NTU

DU DU

0.150

Result Qualifier

4.09

Result Qualifier

3.99

Result Qualifier

Unit

ug/L

Unit

ug/L

Unit

ug/L

Unit

NTU

Project/Site: Quarterly Outfall 002 Comp

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 440-604089/1-B **Matrix: Water**

Analysis Batch: 604111

MB MB

Result Qualifier Analyte Mercury ND

Lab Sample ID: LCS 440-604089/2-B **Matrix: Water**

Analysis Batch: 604111

Analyte

Lab Sample ID: 440-264162-3 MS

Mercury

Matrix: Water Analysis Batch: 604111

Analyte Mercury

Lab Sample ID: 440-264162-3 MSD

Matrix: Water Analysis Batch: 604111

Analyte

Method: 180.1 - Turbidity, Nephelometric Lab Sample ID: MB 440-604270/5

Matrix: Water

Mercury

Turbidity

Turbidity

Analysis Batch: 604270

Analyte

Lab Sample ID: 440-264291-E-7 DU

Matrix: Water

Analysis Batch: 604270

Analyte

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

Lab Sample ID: MB 440-604929/1

Matrix: Water

Analysis Batch: 604929

MB MB

Analyte

Result Qualifier Total Dissolved Solids ND

RL 10

RI

0.10

MDL Unit 5.0 ma/L

D

Prepared

D

Analyzed

Client Sample ID: Method Blank

Dil Fac 04/14/20 10:00

Prep Type: Total/NA

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Prep Type: Dissolved

Prep Type: Dissolved

Prep Type: Dissolved

Prep Type: Dissolved

Prep Batch: 604095

Prep Type: Total/NA

Prep Type: Total/NA

RPD

RPD

Prep Batch: 604095

Prep Batch: 604095

Analyzed

Prep Batch: 604095

Client Sample ID: Method Blank

04/07/20 19:51 04/07/20 22:35

Client Sample ID: Lab Control Sample

%Rec.

Limits

85 - 115

%Rec.

Limits

75 - 125

%Rec.

Limits

75 - 125

Client Sample ID: Method Blank

Analyzed

04/08/20 16:47

Client Sample ID: Duplicate

Prepared

D %Rec

D %Rec

D %Rec

Prepared

100

Client Sample ID: Outfall002 20200407 Comp F

102

Client Sample ID: Outfall002_20200407_Comp_F

103

Dil Fac

RPD

20

Limit

Dil Fac

RPD

Limit

Project/Site: Quarterly Outfall 002 Comp

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

Lab Sample ID: LCS 440-604929/2 Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 604929 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit Total Dissolved Solids 1000 1000 100 90 - 110 mg/L

Lab Sample ID: 440-264162-1 DU Client Sample ID: Outfall002_20200407_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604929

DU DU RPD Sample Sample Analyte Result Qualifier Result Qualifier Unit D RPD Limit Total Dissolved Solids 500 512 mg/L 2

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

Lab Sample ID: MB 440-604678/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604678

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac **Total Suspended Solids** $\overline{\mathsf{ND}}$ 1.0 0.50 mg/L 04/11/20 15:41

Lab Sample ID: LCS 440-604678/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604678

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits **Total Suspended Solids** 1000 1020 mg/L 102 85 - 115

Lab Sample ID: 440-264314-A-2 DU **Client Sample ID: Duplicate Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 604678

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit ח RPD Limit **Total Suspended Solids** 430 393 mg/L

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

Lab Sample ID: MB 440-604575/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604615 Prep Batch: 604575**

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 5.0 04/10/20 11:07 04/10/20 15:39 Cyanide, Total $\overline{\mathsf{ND}}$ 2.5 ug/L

Lab Sample ID: LCS 440-604575/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604615

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cyanide, Total 100 96.4 ua/L 80 - 120

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Prep Batch: 604575

Prep Type: Total/NA

Project/Site: Quarterly Outfall 002 Comp

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

| Lab Sample ID: LCSD 440-604575/3-A | | C | Client | Sample | ID: Lat | Control | Sample | Dup | |
|------------------------------------|-------|--------|-----------|--------|---------|---------|----------------|------------|-------|
| Matrix: Water | | | | | | | Prep Ty | pe: Tot | al/NA |
| Analysis Batch: 604615 | | | | | | | Prep Ba | atch: 60 | 04575 |
| | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cyanide, Total | 100 | 102 | | ug/L | | 102 | 80 - 120 | 6 | 20 |

| Lab Sample ID: 440-26416 | 2-1 MS | | | Client Sample ID: Outfall002_20200407_Com | | | | | | | |
|--------------------------|--------|-----------|-------|---|-----------|------|---|------|---------------------|--|--|
| Matrix: Water | | | | | | | | | Prep Type: Total/NA | | |
| Analysis Batch: 604615 | | | | | | | | | Prep Batch: 604575 | | |
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | | |
| Cyanide, Total | ND | | 100 | 102 | | ug/L | | 102 | 75 - 125 | | |

| Lab Sample ID: 440-26416 | Lab Sample ID: 440-264162-1 MSD | | | | | nt Sam | ple ID: | Outfall | 002_2020 | 0407_0 | Comp |
|--------------------------|---------------------------------|-----------|-------|--------|-----------|--------|---------|---------|----------|----------|-------|
| Matrix: Water | | | | | | | | | Prep Ty | pe: Tot | al/NA |
| Analysis Batch: 604615 | | | | | | | | | Prep Ba | atch: 60 |)4575 |
| • | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cyanide, Total | ND | | 100 | 89.4 | | ug/L | | 89 | 75 - 125 | 13 | 20 |

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: LCS 440-605184/11

| Lab Sample ID: MB 440-605184/10 | Client Sample ID: Method Blank |
|---------------------------------|--------------------------------|
| Matrix: Water | Prep Type: Total/NA |

Ammonia (as N)

Analysis Batch: 605184

| | IVID | IVID | | | | | | | |
|----------------|--------|-----------|-------|-------|------|---------------|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | - | | 04/15/20 12:02 | 1 |

| Matrix: Water Analysis Batch: 605184 | | | | | | • | Prep Type: Total/NA |
|---|-------|--------|-----------|------|---|------|---------------------|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Ammonia (as N) | 5.00 | 5.070 | | mg/L | | 101 | 90 - 110 |

| Lab Sample ID: MRL 440-605184/9 | Client Sample ID: Lab Control Sample |
|---------------------------------|--------------------------------------|
| Matrix: Water | Prep Type: Total/NA |
| Analysis Batch: 605184 | |

| | | Spike | MRL | MRL | | | | %Rec. | |
|----------------|--|-------|--------|-----------|------|---|------|----------|--|
| Analyte | | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Ammonia (as N) | | 0.200 | 0.2390 | | mg/L | | 120 | 50 - 150 | |

| Lab Sample ID: 440-264162- Matrix: Water | 1 MS | | | | Clie | nt Samp | le ID: | Outfall | 002_20200407_Comp Prep Type: Total/NA |
|---|--------|-----------|-------|--------|-----------|---------|--------|---------|--|
| Analysis Batch: 605184 | | | | | | | | | , |
| _ | Sample | Sample | Spike | MS | MS | | | | %Rec. |
| Analyto | Regult | Qualifier | habhΔ | Regult | Qualifier | Unit | n | %Rec | l imite |

5.150

mg/L

5.00

ND

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4/24/2020

90 - 110

Client Sample ID: Lab Control Sample

Job ID: 440-264162-1

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: Quarterly Outfall 002 Comp

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp

Matrix: Water

Analysis Batch: 605184

Client: Haley & Aldrich, Inc.

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Analyte Ammonia (as N) ND 5.00 5.120 102 90 - 110 mg/L 15

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

Lab Sample ID: MB 440-604258/4 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604258

мв мв

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.10 Methylene Blue Active Substances $\overline{\mathsf{ND}}$ 0.050 mg/L 04/08/20 16:06

Lab Sample ID: LCS 440-604258/5 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604258

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.245 mg/L 98 90 - 110

0.250 Methylene Blue Active Substances

Lab Sample ID: MRL 440-604258/3

Matrix: Water

Analysis Batch: 604258

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.111 mg/L 111 50 - 150

0.100 Methylene Blue Active

Substances

Lab Sample ID: 440-264162-1 MS Client Sample ID: Outfall002 20200407 Comp Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604258

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Analyte 0.250 98 Methylene Blue Active 0.099 J,DX 0.343 mg/L 50 - 125

Substances

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002 20200407 Comp

Matrix: Water

Analysis Batch: 604258

Sample Sample Spike MSD MSD %Rec **RPD** Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits **RPD** Limit 0.099 J,DX 0.250 0.359 104 mg/L 50 - 125 20 Methylene Blue Active

Substances

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-604202/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604202

USB USB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac **Biochemical Oxygen Demand** ND 20 2.0 mg/L 04/08/20 10:00

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Lab Sample ID: LCSD 440-604202/9

Method: SM5210B - BOD, 5 Day (Continued)

| Lab Sample ID: LCS 440-604202/7 | Client Sample ID: Lab Control Sample |
|---------------------------------|--------------------------------------|
| Matrix: Water | Prep Type: Total/NA |

Analysis Batch: 604202

| | | Spike | LCS | LCS | | | | %Rec. | |
|---------------------------|------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Biochemical Oxygen Demand | | 199 | 202 | | ma/l | _ | 102 | 85 - 115 | |

Lab Sample ID: LCSD 440-604202/8 **Client Sample ID: Lab Control Sample Dup Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604202**

| | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
|---------------------------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Biochemical Oxygen Demand | 199 | 206 | | mg/L | | 104 | 85 - 115 | 2 | 20 |

Client Sample ID: Lab Control Sample Dup Matrix: Water Prep Type: Total/NA **Analysis Batch: 604202** Spike LCSD LCSD %Rec. **RPD** Analyte Added Result Qualifier Unit Limits RPD Limit D %Rec Biochemical Oxygen Demand 199 205 103 85 - 115 mg/L

Lab Sample ID: 440-264274-B-1 DU **Client Sample ID: Duplicate Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604202

| | Sample | Sample | DU | DU | | | | | RPD |
|---------------------------|--------|-----------|--------|-----------|------|---|--|-----|-------|
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | | RPD | Limit |
| Biochemical Oxygen Demand | 6.7 | | 6.48 | | mg/L | | | 4 | 20 |

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

GC/MS Semi VOA

Prep Batch: 604162

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 625 | |
| MB 440-604162/1-A | Method Blank | Total/NA | Water | 625 | |
| LCS 440-604162/2-A | Lab Control Sample | Total/NA | Water | 625 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 625 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 625 | |

Analysis Batch: 604522

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 625.1 | 604162 |
| MB 440-604162/1-A | Method Blank | Total/NA | Water | 625.1 | 604162 |
| LCS 440-604162/2-A | Lab Control Sample | Total/NA | Water | 625.1 | 604162 |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 625.1 | 604162 |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 625.1 | 604162 |

GC Semi VOA

Prep Batch: 604144

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 608 | |
| 440-264162-3 | Outfall002_20200407_Comp_F | Total/NA | Water | 608 | |
| MB 440-604144/1-A | Method Blank | Total/NA | Water | 608 | |
| LCS 440-604144/2-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCS 440-604144/8-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCSD 440-604144/9-A | Lab Control Sample Dup | Total/NA | Water | 608 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 608 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 608 | |

Analysis Batch: 604226

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 608.3 | 604144 |
| 440-264162-3 | Outfall002_20200407_Comp_F | Total/NA | Water | 608.3 | 604144 |
| MB 440-604144/1-A | Method Blank | Total/NA | Water | 608.3 | 604144 |
| LCS 440-604144/2-A | Lab Control Sample | Total/NA | Water | 608.3 | 604144 |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 608.3 | 604144 |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 608.3 | 604144 |

Analysis Batch: 604246

| Lab Sample ID 440-264162-3 | Outfall002 20200407 Comp F | Prep Type Total/NA | Matrix Water | Method 608.3 | Prep Batch 604144 |
|---|----------------------------|----------------------|----------------|----------------|-------------------|
| 110 =0110= 0 | | | | | |
| MB 440-604144/1-A LCS 440-604144/8-A | | Total/NA Total/NA | Water Water | 608.3 608.3 | 604144 604144 |
| | | | | | |
| LCSD 440-604144/9 | -A Lab Control Sample Dup | Total/NA | Water | 608.3 | 604144 |

HPLC/IC

Analysis Batch: 604174

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |
| MB 440-604174/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604174/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MRL 440-604174/4 | Lab Control Sample | Total/NA | Water | 300.0 | |

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Job ID: 440-264162-1

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

HPLC/IC (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 604175

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |
| MB 440-604175/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604175/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MRL 440-604175/4 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 604190

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 314.0 | |
| MB 440-604190/6 | Method Blank | Total/NA | Water | 314.0 | |
| LCS 440-604190/5 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604190/4 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604190/8 | Lab Control Sample | Total/NA | Water | 314.0 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 314.0 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 314.0 | |

Analysis Batch: 604380

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | NO3NO2 Calc | |

Specialty Organics

Prep Batch: 371493

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 1613B | |
| MB 320-371493/1-A | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-371493/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 371730

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 1613B | 371493 |
| MB 320-371493/1-A | Method Blank | Total/NA | Water | 1613B | 371493 |
| LCS 320-371493/2-A | Lab Control Sample | Total/NA | Water | 1613B | 371493 |

Metals

Analysis Batch: 603739

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|----------------------------|-----------|--------|----------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | SM 2340B | |

Filtration Batch: 604089

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604089/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604089/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264162-3 MS | Outfall002 20200407 Comp F | Dissolved | Water | FILTRATION | |

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Job ID: 440-264162-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Metals (Continued)

| Filtration | Batch: | 604089 | (Continued) |
|-------------------|---------|--------|----------------------------|
| i iiu auoii | Datell. | COTOG | i Odii iii i i i i e i i i |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|----------------------------|-----------|--------|------------|------------|
| 440-264162-3 MSD | Outfall002 20200407 Comp F | Dissolved | Water | FILTRATION | |

Filtration Batch: 604093

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604093/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-604093/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604093/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-604093/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264162-3 MSD | Outfall002 20200407 Comp F | Dissolved | Water | FILTRATION | |

Prep Batch: 604095

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | 245.1 | 604089 |
| MB 440-604089/1-B | Method Blank | Dissolved | Water | 245.1 | 604089 |
| LCS 440-604089/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604089 |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | 245.1 | 604089 |
| 440-264162-3 MSD | Outfall002_20200407_Comp_F | Dissolved | Water | 245.1 | 604089 |

Analysis Batch: 604111

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | 245.1 | 604095 |
| MB 440-604089/1-B | Method Blank | Dissolved | Water | 245.1 | 604095 |
| LCS 440-604089/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604095 |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | 245.1 | 604095 |
| 440-264162-3 MSD | Outfall002_20200407_Comp_F | Dissolved | Water | 245.1 | 604095 |

Prep Batch: 604188

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604188/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604188/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total Recoverable | Water | 200.2 | |
| 440-264162-1 MSD | Outfall002 20200407 Comp | Total Recoverable | Water | 200.2 | |

Prep Batch: 604209

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604209/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604209/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total Recoverable | Water | 200.2 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total Recoverable | Water | 200.2 | |

Prep Batch: 604251

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |
| MB 440-604093/1-B | Method Blank | Dissolved | Water | 200.2 | 604093 |
| LCS 440-604093/2-B | Lab Control Sample | Dissolved | Water | 200.2 | 604093 |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |
| 440-264162-3 MSD | Outfall002_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |

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Job ID: 440-264162-1

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Metals

Prep Batch: 604252

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |
| MB 440-604093/1-C | Method Blank | Dissolved | Water | 200.2 | 604093 |
| LCS 440-604093/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 604093 |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |
| 440-264162-3 MSD | Outfall002_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |

Analysis Batch: 604271

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total Recoverable | Water | 200.8 | 604188 |
| MB 440-604188/1-A | Method Blank | Total Recoverable | Water | 200.8 | 604188 |
| LCS 440-604188/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 604188 |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total Recoverable | Water | 200.8 | 604188 |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total Recoverable | Water | 200.8 | 604188 |

Analysis Batch: 604292

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | 200.8 | 604252 |
| MB 440-604093/1-C | Method Blank | Dissolved | Water | 200.8 | 604252 |
| LCS 440-604093/2-C | Lab Control Sample | Dissolved | Water | 200.8 | 604252 |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | 200.8 | 604252 |
| 440-264162-3 MSD | Outfall002_20200407_Comp_F | Dissolved | Water | 200.8 | 604252 |

Analysis Batch: 604342

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|---------------|------------|
| 440-264162-3 | Outfall002_20200407_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| MB 440-604093/1-B | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| LCS 440-604093/2-B | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| 440-264162-3 MS | Outfall002_20200407_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| 440-264162-3 MSD | Outfall002_20200407_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604251 |

Prep Batch: 604401

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 245.1 | |
| MB 440-604401/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-604401/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 245.1 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 245.1 | |

Analysis Batch: 604565

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 245.1 | 604401 |
| MB 440-604401/1-A | Method Blank | Total/NA | Water | 245.1 | 604401 |
| LCS 440-604401/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 604401 |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | 245.1 | 604401 |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | 245.1 | 604401 |

Analysis Batch: 604593

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| MB 440-604209/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| LCS 440-604209/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |

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Job ID: 440-264162-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Metals (Continued)

Analysis Batch: 604593 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264162-1 MS | Outfall002_20200407_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |

Analysis Batch: 605378

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-------------------|--------|----------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total Recoverable | Water | SM 2340B | |

General Chemistry

Analysis Batch: 604202

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | SM5210B | _ |
| USB 440-604202/3 | Method Blank | Total/NA | Water | SM5210B | |
| LCS 440-604202/7 | Lab Control Sample | Total/NA | Water | SM5210B | |
| LCSD 440-604202/8 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| LCSD 440-604202/9 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| 440-264274-B-1 DU | Duplicate | Total/NA | Water | SM5210B | |

Analysis Batch: 604258

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|----------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | SM 5540C | _ |
| MB 440-604258/4 | Method Blank | Total/NA | Water | SM 5540C | |
| LCS 440-604258/5 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| MRL 440-604258/3 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | SM 5540C | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | SM 5540C | |

Analysis Batch: 604270

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | 180.1 | |
| MB 440-604270/5 | Method Blank | Total/NA | Water | 180.1 | |
| 440-264291-E-7 DU | Duplicate | Total/NA | Water | 180.1 | |

Prep Batch: 604575

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | Distill/CN | _ |
| MB 440-604575/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-604575/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| LCSD 440-604575/3-A | Lab Control Sample Dup | Total/NA | Water | Distill/CN | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | Distill/CN | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | Distill/CN | |

Analysis Batch: 604615

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | SM 4500 CN E | 604575 |
| MB 440-604575/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 604575 |
| LCS 440-604575/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 604575 |
| LCSD 440-604575/3-A | Lab Control Sample Dup | Total/NA | Water | SM 4500 CN E | 604575 |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | SM 4500 CN E | 604575 |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | SM 4500 CN E | 604575 |

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Job ID: 440-264162-1

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-1

General Chemistry

Analysis Batch: 604678

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | SM 2540D | |
| MB 440-604678/1 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-604678/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 440-264314-A-2 DU | Duplicate | Total/NA | Water | SM 2540D | |

Analysis Batch: 604929

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|----------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | SM 2540C | |
| MB 440-604929/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-604929/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 440-264162-1 DU | Outfall002_20200407_Comp | Total/NA | Water | SM 2540C | |

Analysis Batch: 605184

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | SM 4500 NH3 G | |
| MB 440-605184/10 | Method Blank | Total/NA | Water | SM 4500 NH3 G | |
| LCS 440-605184/11 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| MRL 440-605184/9 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | SM 4500 NH3 G | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | SM 4500 NH3 G | |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Qualifiers

Qualifier Qualifier Description

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

Dioxin

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.

Metals

Qualifier Qualifier Description

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

General Chemistry

Qualifier Qualifier Description

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

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|---|
|--------------|---|

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264162-1

Project/Site: Quarterly Outfall 002 Comp

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | Pro Sta | ogram ate | Identification Number 2706 | Expiration Date 06-30-20 |
|---|-------------|------------------------------|---|--|
| The following analytes the agency does not do | • | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method | Prep Method | Matrix | Analyte | |
| NO3NO2 Calc | | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 01-20-21 | |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 | |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 | |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 | |
| Arizona | State | AZ0708 | 08-11-20 | |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 | |
| California | State | 2897 | 01-31-22 | |
| Colorado | State | CA0004 | 08-31-20 | |
| Connecticut | State | PH-0691 | 06-30-21 | |
| Florida | NELAP | E87570 | 06-30-20 | |
| Georgia | State | 4040 | 01-30-21 | |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 | |
| Illinois | NELAP | 200060 | 03-17-21 | |
| Kansas | NELAP | E-10375 | 10-31-20 | |
| Louisiana | NELAP | 01944 | 06-30-20 | |
| Maine | State | 2018009 | 04-14-20 | |
| Michigan | State | 9947 | 01-29-20 * | |
| Nevada | State | CA000442020-1 | 07-31-20 | |
| New Hampshire | NELAP | 2997 | 04-18-20 | |
| New Jersey | NELAP | CA005 | 06-30-20 | |
| New York | NELAP | 11666 | 04-01-21 | |
| Oregon | NELAP | 4040 | 01-29-21 | |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 | |
| Texas | NELAP | T104704399-19-13 | 05-31-20 | |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 | |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 | |
| Utah | NELAP | CA000442019-01 | 02-28-21 | |
| Vermont | State | VT-4040 | 04-16-20 | |
| Virginia | NELAP | 460278 | 03-14-21 | |
| Washington | State | C581 | 05-05-20 | |
| West Virginia (DW) | State | 9930C | 12-31-20 | |
| Wyoming | State Program | 8TMS-L | 01-28-19 * | |

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



Certificate of Analysis

FINAL REPORT

Work Orders: 0D07056

Project: [none]

Report Date: 4/09/2020

Received Date: 4/7/2020

Turnaround Time: 1 workday

Phones: (949) 261-1022

Fax: (949) 260-3297

P.O. #:

Billing Code:

Attn: TestAmerica, Irvine

Client: Eurofins Calscience - Irvine

17461 Derian Ave, Suite 100

Irvine, CA 92614

Dear TestAmerica, Irvine,

Enclosed are the results of analyses for samples received 4/07/20 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.

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Sample Results

| Sample: | Outfall002_20200407_Com | p_F | | | | | | Sampled: 04/07/20 8 | :15 by Client |
|--------------|-------------------------|-------------------|---------------|-----|-------------|---------------|-----|---------------------|---------------|
| | 0D07056-01 (Water) | | | | | | | | |
| Analyte | | | Result | MDL | MRL | Units | Dil | Analyzed | Qualifier |
| Method: EPA | 525.2M | Batch ID: W0D0223 | Instr: GCMS13 | | Prepared: 0 | 4/07/20 16:10 | | Analyst: EFC | |
| Chlorpyrifo | os | | ND | 6.9 | 10 | ng/l | 1 | 04/08/20 | |
| Diazinon | | | ND | 5.2 | 10 | ng/l | 1 | 04/08/20 | |
| Surrogate(s) | | | | | | | | | |
| 1,3-Dimeth | nyl-2-nitrobenzene | | 95% | | 76-128 | Conc: 4 | 74 | 04/08/20 | |
| Triphenyl p | phosphate | | 137% | | 40-163 | Conc: 6 | 85 | 04/08/20 | |

<u>OD07056</u>

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

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Certificate of Analysis

FINAL REPORT

| Quality | Control | Results |
|---------|---------|---------|

| Semivolatile Organics - Low Level by Tandem GC | C/MS/MS | | | | | | | | | | |
|--|---------|-------------|-----|-------|------------------|----------------|---------|--------|-----|-------|-----------|
| | | | | | Spike | Source | | %REC | | RPD | |
| Analyte | Result | MDL | MRL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifier |
| | | | | | | | | | | | |
| Blank (W0D0223-BLK1) | | | | P | repared: 04/06/2 | 20 Analyzed: 0 | 4/09/20 | | | | |
| Chlorpyrifos | ND | 6.9 | 10 | ng/l | | | | | | | |
| Diazinon | ND | 5.2 | 10 | ng/l | | | | | | | |
| Surrogate(s) | | | | | | | | | | | |
| 1,3-Dimethyl-2-nitrobenzene | 496 | | | ng/l | 500 | | 99 | 76-128 | | | |
| Triphenyl phosphate | | | | ng/l | 500 | | 129 | 40-163 | | | |
| LCS (W0D0223-BS1) | | | | P | repared: 04/06/2 | 20 Analyzed: 0 | 4/08/20 | | | | |
| Chlorpyrifos | 63.4 | 6.9 | 10 | ng/l | 50.0 | | 127 | 37-169 | | | |
| Diazinon | 43.2 | 5.2 | 10 | ng/l | 50.0 | | 86 | 43-152 | | | |
| Surrogate(s) | | | | | | | | | | | |
| 1,3-Dimethyl-2-nitrobenzene | 466 | | | ng/l | 500 | | 93 | 76-128 | | | |
| Triphenyl phosphate | 615 | | | ng/l | 500 | | 123 | 40-163 | | | |
| Matrix Spike (W0D0223-MS1) | Source | : 0D06075-0 | 1 | P | repared: 04/06/2 | 20 Analyzed: 0 | 4/08/20 | | | | |
| Chlorpyrifos | 81.1 | 6.9 | 10 | ng/l | 50.0 | ND | 162 | 37-168 | | | |
| Diazinon | 62.7 | 5.2 | 10 | ng/l | 50.0 | ND | 125 | 36-153 | | | |
| Surrogate(s) | | | | | | | | | | | |
| 1,3-Dimethyl-2-nitrobenzene | 411 | | | ng/l | 500 | | 82 | 76-128 | | | |
| Triphenyl phosphate | 1020 | | | ng/l | 500 | | 205 | 40-163 | | | S-GC |
| Matrix Spike Dup (W0D0223-MSD1) | Source | : 0D06075-0 | 1 | P | repared: 04/06/2 | 20 Analyzed: 0 | 4/08/20 | | | | |
| Chlorpyrifos | 81.5 | 6.9 | 10 | ng/l | 50.0 | ND | 163 | 37-168 | 0.5 | 30 | |
| Diazinon | 61.0 | 5.2 | 10 | ng/l | 50.0 | ND | 122 | 36-153 | 3 | 30 | |
| Surrogate(s) | | | | | | | | | | | |
| 1,3-Dimethyl-2-nitrobenzene | | | | ng/l | 500 | | 93 | 76-128 | | | |
| Triphenyl phosphate | 917 | | | ng/l | 500 | | 183 | 40-163 | | | S-GC |

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Definition

Certificate of Analysis

FINAL REPORT

Notes and Definitions

| S-GC | Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate. |
|-----------------|---|
| % Rec | Percent Recovery |
| Dil | Dilution |
| dry | Sample results reported on a dry weight basis |
| MDA | Minimum Detectable Activity |
| MDL | Method Detection Limit |
| MRL ND NR | 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) 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. Not Reportable |
| | · |
| RPD | Relative Percent Difference |
| Source | Sample that was matrix spiked or duplicated. |
| TIC | Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown. |

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

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

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:

Water Board







Regina M. Giancola Project Manager

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO17025 ANAB #L2457.01 • 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.

0D07056 Page 3 of 3

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440-264162 Chain of Custody

0.8/0.8 24/24 07/0.7 08/0.8 0.8/0.8 22/22 IR-89

Data Requirements (Check) 72 Hour Store samples for 6 months Turn-around time (Check) Sample Integrity. (Check) 24 Hour 48 Hour No Level IV Intact total Recoverable Metals Mercury (E245 1) 2,4,6 TCP, 2,4 Dintrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) 1430 Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual Company (8093) OHS-endir (∑ 02€) M-sinommA 世・一届り (22 (160 2 (SM2540D)) × [urbidity, TDS (SM2540C/E1801) Ct., SO4, Nitrate-N, Nitrate-N, NO3+NO2-N, 17/20 Surfactants (MBAS) (SM5540C/E425 1) (SMS210B_BODCalo)) (SC1913) (analymop lie bris) (COO) π Total Recoverable Metals (E200 7) Zn (E200 8). Cu, Pb, Cd, Se DSM/SM 48 ¥e3 2 ¥ ₩ **9** £ Æ ĝ Ύes £ ŝ £ £ Will an Received By Project.
Boeing-SSFI, NPDES
Permit 2020
Quarterify Outfall [002, 002, 011, 018]
Comp Bottle # Project Manager: Katherine Miller 520 289.8606, 520.904.6944 (cell) 5 8 õ 5 8 5 횽 Field Manager: Mark Dominick 978 234 5033, 818.599.0702 (cell) 2 55 容 磊 홄 8 ¥2804 None ğ 5 **45** Son Son None None ¥G18 No. None Ş Š Š # of Cont 1 L Glaes Ambei 1 L Glaes Ambei 1 L Glass Amber 1 L Glass Amber 11 Glass Amber Container Type 500 mL Poty 500 mt. Poly 500 mi. Poly 500 mi. Poly 500 mi. Pody 500 т. Рају 500 mL Poly 1L Poly 1∟ Pay Sample Matrix Š Š § Š Š Š × Š Š Š Š Š Š Š Treshmerica's services under the CAC data he performed in secondarios with the TACs within Blanket Bevice apprennents 2012-Yeal-Amenica by and between halley & Notice, the , the subsidiants and illates, and Teshformica Laboratores inc.
Sampler: Dan Smith 000 Sampling Date/Time Ŝ 4772020 4712020 Rivera 4/1, Outfail002_20200407_Comp_Extra Test America Contact: Christian Bondoc 17461 Denan Ave Suite #100 Invne CA 92614 Tel: 949-280-3218 Ouths11002_20200407_Comp Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Sample (D

48 hours Holding Time NO₃ & NO₂ 48 hours Holding Time for Turbidity

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Page 7 of 2

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CHAIN OF CUSTODY FORM

Comments

Outfall 002

Sample Description

Cituar Cituar

| Control Cont | ay & Aldrich 3 Mission Center Rd Suite 300 Diego, CA 21108 Annerica Contact Ohystian Bondoc 61 Denan Ave Sinie 2100 | | | | | | | | | | | ANALYSIS REQUIRED | EQUIRED | | | | |
|--|--|---|---|--------------------|-------------|---|--------------|------------|---------------------------------|---|--|-------------------|---------------|------------------------------|-----------------------------|-------------|--|
| Commence | 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Test America Contact Christian Bondoc 77 451 Panan Ave Sinte #100 | | | | | Project | | | | | | | | | | | - |
| | t America Contact Christian Bondoc 151 Denan Ave Stute #100 | | | | Bo | ing-SSFL NP(Permit 2020 | DES | | | 1510T 13 () 8. | O)' K-4 | | (209 | | | | |
| | ne CA 92614 949-260-3218 | | | | Quarterly O | uffall (001, 00) Outfall 002 Comp | 2, 011, 018] | | 95 | Gross Beta(E90 Sr-90 (E905 0), (E903 0 or E90 | Uranium (5908) (1 t) | | | ····· | - | (Eese s) | Comments |
| Company Company Compan | wherea's services under the CoC shall be performed in ac 22.TestAmerics by and between lister & Aldrich, inc. its. | coordance with the T&Cs within Blanket Service subsodance and affiliates, and TestAmenta La | Agreements | | Project N | anager Kath | erne Miller | | S PO ' | 0 0), 0 00), m 226 | 04 0)° | | | versis | | UOUH2 | |
| | | | | | 520 289 | 806, 520 904 | 6944 (cell) | | '9d V po. | nipe 16∄) 1663) | 0 10 | | | cec y | <u></u> | 9 40 | |
| | iper Lan Smith | | | | 978 234 | 1033, 818 599 | 0702 (cell) | | no (i uz (, | enq!/ (6-H) Я bai | (E80 | | | 28 25 NOSS | Ą | ,eohr | |
| 20, 2000/11, 2mg | | Sampling Deterrime | Sample | Container Type | # cf Cont | Preservative | Bottle # | OS#WS# | 101810T 7 (0053) 8 (0053) | Gross A mudriT | CS-137 | | | Hardnes Total Di | 1-, 1 | Cylorby | |
| CONTINUED CONT | | | ¥ | 4FPdy | - | None | SE. | ž | | | | | | × | | | Filter and preserve w/m 24hrs of receipt at its at OF001 002,011, or 018 |
| ### CONTROLL COMP. 1 Page 1 Page 200 | | | ¥ | 500 ml. Poty | 1 | - FNO- | 88 | 2 | | | - | - | | | | | at OF001 002,011, or 018 |
| Viv. 1 Com Arrier 2 Nove 250 No No No No No No No N | Outratiod_20200407_Comp. | 407.20 | | fl. Poły | e e | None | 200 | Yes | × | | | | | | × | | John Community |
| WM SOTIL Pay 3 North 220 Yes X X X X X X X X X | · · · · · · · · · · · · · · · · · · · | | | 1 L Glass Amber | 77 | None | 250 | Š | | | | | × | | | | Chlordane, DOD, DDE, DOT, dieldrin,PCBs, loxaphene at OF001,002,011, or 018 |
| With 25 GM CAPP 3 WORD 275 Yes X X X X X X X X X | las CO2 | | MM | borosilicate vials | 8 | ero ž | 828 | 8 2 | | | | × | | | | | Sample receiving DO NOT OPEN BAG Bag to be opered in Mercury Prep using clean procedures |
| ### 1. Class Arrive 3 Norse 220 Yes X 1. Class Arrive 3 Norse 220 Yes X 1. Class Arrive 2 | | | ₹ | 500 mL Poly | 8 | ¥8OH | 520 | , Jes | | × | | | | _ | | | |
| 100 1 100 1 100 1 100 1 1 | | * | ¥. | 2.5 Gel Cube | 8 | None | 225 | Yes | | | | | | | | | Unificered and unpreserved analysis |
| Company Comp | tu | 4072020 | ¥. | 1 L Glass Amber | 3 | None | 230 | 38 | | < | | | | | | | Analyze duplicate, not MS/MSD |
| The second contract | CutteliOf2_20200407_Com | | | | | | : | ; | | | | | | | | | tather endion |
| Desiring Company 1 Ches Arme 2 | | | | | , | B 55 | | | | | | | - | | | | |
| Descrition Company 1. Salar H. M. Monthle Received by Descrition 2. Sample Integrity Check) Integrated Company 2. Sample Integrity Check) Integrity Check Descrition 2. Sample Integrity Check Descrition 3. Sample Integrity Check Descrition 3. Sample Integrity Check Descrition 4. M. M. M. M. M. M. M. M. Level IV Descrition 4. M. M. M. M. Level IV Descrition Market Salar Requirements Check Descrition Market Salar Reduirements Check Descrition Market Salar Requirements Check Descrition Market Salar Reduirements Check De | | | W. | 1L Class Anther | 2 | ST | | . | | | | | | | | × | Extract within 24-Hours of sampling at Weck Lebs |
| Describes Legand: Arkhmusi, CConditional, EP-Expert Panel, R-Routine, Q-Quarterly, GRSW-Quarterly Receiving Water, S-Semi-Annual My 720 W/M H: H Company Company Why As No. 1 H Company C | | | | | | | | | | | | | | | | | |
| Deserting Company Company C-Conditional, EP-Expert Panel, R-Routine, G-Quarterty, QRSW-Quarterty Receiving Water, SasSemi-Amual I Grace Company I Grace Compa | | | | | | | | | | | | | | | | | |
| Deserting Company Company (Check) If 1200/11/C Hill Company Company (Check) Seaton Company C | | | | | | | | | | | | | | | | | |
| Sample integrity (Check) 17/2 (130 T-C-T-2) Received By Detertine Company Compan | | 72020/11/5 | No of the last of | Amunai, c-co | manonal, ar | all | Received By | for | Date/Time | //b ~ | 1/20 | · // | | -around time lour | (Check) 72 Hour 5 Day | |) DayX |
| | Cillian 4/7/A | Lo (930 | 14 | C-I | 2 | | Received By | | Deterrine Devertine (1)x2(C.C. | 1117 | 2/ | 7. 37 | D _ | pie integrity t s samples fo | (Check) | On Ic | |

Test America

CHAIN OF CUSTODY FORM

Chain of Custody Record

| Control of the properties | Phone: 949-261-1022 Fax: 949-260-3297 | | | | | |
|--|--|---|--|---|---|--|
| Contraction | Client Information (Sub Contract Lab) | Sampler; | Lab | PM. ndoc, Christian M | Carrier Tracking No(s); | COC No: 440-154829,1 |
| | Slient Contact: Shipping/Receiving | Phone | E-N chr | all istian.bondoc@testamericainc.cor | | Page Page 1 of 1 |
| Articly 10 Response Parkey District Parkey District Parkey District Parkey District Parkey District Parkey District | Company: FestAmerica Laboratories, Inc. | | | Accreditations Required (See note). State Program - California | | Job # 440-264162-1 |
| President control of the State Control of the Sta | Address: 880 Riverside Parkway, | Due Date Requested: 4/17/2020 | | Analysi | s Requested | 0 |
| 1 | Dity. Nest Sacramento Asta Sacramento | TAT Requested (days): | | sla | | |
| 10 20 20 20 20 20 20 20 | 2A, 95605 | | | N/ Tot | | |
| 1 | 73-5600(Tel) | PO# | | | | |
| Sample Identification - Client D Lish ID) Sample Commission - Complete Identification - Client D Lish ID) Sample Commission - Client D Lish ID) Sample Commission - Client D Lish ID) Sample Identification - Client D Lish ID) Sample Commission - Client D Lish ID Sample Commission - Client D L | mail: | WO# | | (0) | | I - Ice J - DI Water |
| Sample Identification - Client ID (Lab ID) Sample Control (Add 2504/92-1) Africa Control (Add | roget Name. Soeing NPDES SSFL outfalls | Project #. 44009879 | | 10 88 | | K-EDIA L-EDA |
| Sample identification - Client ID (Lab ID) Sample beautification | ite | SSOW#: | | y) as | | 7.0 |
| Judialition 2000-001 Comp (440-264/62-1) 4 1700 0815 Pacific Notes injuried to the control of t | sample Identification - Client ID (Lab ID) | Sample (Time | | Field Filtered S | | |
| Understrong 20000AOT_Comp (A40 264162.1) A1720 | | | eservation Code: | X | | |
| The control of the co | outfall002_20200407_Comp (440-264162-1) | | Water | × | | |
| the State becator acceleration are arbitrat to charge Exertion Colicionee place the exercise of method couple is acceleration conclusion and successful conclusions are current to date, return the signed Chain of Custody attesting to said complexation conclusions are current to date, return the signed Chain of Custody attesting to said complexation to Exercise the State of Organization and current to date, return the signed Chain of Custody attesting to said complexation to Exercise the State of Organization and current to date, return the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody attesting to said complexation to Calcinate the signed Chain of Custody Seal No. | | | | | | |
| the Since islocatory accreditations are subject to change. Exoriting Calsionince places the coveracity of method, analyte & accreditation compilance upon out subcontract laboratory or other insolutions will be provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status should be brought to Eurofins Calsionince and the provided. Any changes to accreditation status to Eurofins Calsionince and the provided and the prov | | | | | | |
| one Since laboratory accreditations are subject to change. Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditations are subject to change to succeptation method sanalyzed the samples must be shipped back to the Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience aboratory or other instructions will be provided. Any changes to accreditation status to a Campany kit Relinquished by. Primary Deliverable Rank: 2 Time: | | | | | | |
| For and Identification Sample Disposal (A fee may be assessed if samples are retained longer than 1 moder and Imperiation) Special Instructions/OC Requirements: Inquished by: And | tote: Since laboratory accreditations are subject to change. Eurofins Calisainain accreditation in the State of Origin Islaed above for analysis/tests tention immediately. If all requested accreditations are current to date. | iscience places the ownership of method, analyte & Islimative being analyzed, the samples must be shipp is return the signed Chain of Custody attesting to sake | accreditation complia led back to the Eurofi s complicance to Euro | nce upon out subcontract laboratories. This Calscience laboratory or other instruction fins Calscience. | s sample shipment is forwarded under ci | namor-custody. If the laboratory does not currently editation status should be brought to Eurofins Calscre |
| inquished by. And | Possible Hazard Identification | | | Sample Disposal (A fee mi | ay be assessed if samples are | retained longer than 1 month) |
| Inquished by: Advanded by: Company Received by: Conder Temperature(s) % and Other Remarks: Company Received by: Conder Temperature(s) % and Other Remarks: Company Received by: Company Received by: Company Received by: Company Received by: Confirmed by: | Oeliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | | Special Instructions/QC Req | uirements: | |
| A Coulted Custody Seal No Search Company Advances of the Control of No. 100 of the Control of No. 100 of the Control of No. 100 of No. 100 of the Control of No. 100 of N | Empty Kit Relinguished by: | Date: | | | Method of Shipment | |
| Sals Intact: Custody Seal No. | A. Ken | 170 1 | - | 1 | Pate/Time 74pv. | 5510 2 |
| Custody Seal No.: 5 ca. 2 · (6 c) | Relinquished by: | Date/Time: | Company | Received by: | Date/Time | Company |
| | Custody Seal No.: | rad | | Cooler Temperature(s) °C and | 7.601 | 30% |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264162-1

Login Number: 264162 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |
| s 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is 6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264162-1

List Number: 264162 List Source: Eurofins TestAmerica, Sacramento
List Number: 2 List Creation: 04/09/20 03:34 PM

Creator: Her, David A

| Creator: Her, David A | | |
|--|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | 3.0c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | False | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| | | |

N/A

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Residual Chlorine Checked.

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-1

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

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
|-------------------|--------------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (25-164) | (24-169) | (25-181) | (24-185) | (21-178) | (32-141) | (28-130) | (26-152) |
| 440-264162-1 | Outfall002_20200407_Comp | 57 | 70 | 58 | 62 | 67 | 63 | 56 | 64 |
| MB 320-371493/1-A | Method Blank | 71 | 83 | 70 | 73 | 77 | 76 | 68 | 81 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264162-1 | Outfall002_20200407_Comp | 58 | 67 | 65 | 55 | 59 | 61 | 50 | |
| MB 320-371493/1-A | Method Blank | 75 | 80 | 83 | 71 | 71 | 82 | 64 | |

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

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|--------------------|--------------------|----------|----------|-------------|-------------|-------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (20-175) | (22-152) | (21-227) | (21-192) | (13-328) | (21-193) | (25-163) | (19-202) |
| LCS 320-371493/2-A | Lab Control Sample | 68 | 77 | 65 | 70 | 75 | 71 | 63 | 71 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-371493/2-A | Lab Control Sample | 66 | 74 | 74 | 61 | 64 | 69 | 59 | |

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

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Outfall 002 Comp
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Job ID: 440-264162-1

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440-264162 Field Sheet

Tracking #: 1540 4107 7405

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.

| | 4. | |
|--------|---|-----|
| Votes: | Therm. ID: 4(-5 Corr. Factor: (6/-) 2-4 | _°C |
| | Ice Wet Gel Other | _ |
| | Cooler Custody Seal: | |
| | | |
| | Cooler ID: | |
| | Temp Observed: 2.6 °C Corrected: 3.0 | _°C |
| | From: Temp Blank Sample | |
| | Opening/Processing The Shipment Yes No | N/ |
| | Cooler compromised/tampered with? | |
| | Cooler Temperature is acceptable? | |
| | Samples received within holding time? | |
| | Initials: Date: 9Apr. 120 | |
| | Unpacking/Labeling The Samples Yes No | N |
| | CoC is complete w/o discrepancies? | |
| | Samples compromised/tampered with? | |
| | Sample containers have legible labels? | |
| - | Sample custody seal? | 2 |
| | Containers are not broken or leaking? | |
| | Sample date/times are provided? | |
| | Appropriate containers are used? | |
| | Sample bottles are completely filled? | D |
| - | Sample preservatives verified? | Æ |
| | Samples w/o discrepancies? | |
| | Zero headspace?* | E |
| | Alkalinity has no headspace? | P |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | E |
| | Multiphasic samples are not present? | |
| | Non-conformance Yes No | N |
| | NCM Filed? | P |
| | Initials: ()) Date: 411 2 | |

\|\tacorp\corp\qa\qa_facilities\sacramento-qa\document-management\|forms\qa-812\; sample\ receiving\ notes\doc

QA-812 TGT 1/16/2020

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264162-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

3 June 2020







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- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264162-2

3 June 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264162-2

Project Manager: Katherine Miller

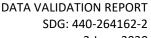
Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|-------------------|--|
| OUTFALL002_20200407 _COMP | 440-264162-1 | N/A | WM | 4/7/20 8:15 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL002_20200407 _COMP | 440-264162-2 | N/A | WM | 4/7/20 8:15 AM | RADIUM |



3 June 2020



SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264162-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- The sample cubitainers were received improperly preserved at TA-SL. The appropriate containers were preserved to pH≤2 upon receipt.
- Field and laboratory personnel signed and dated the COCs.
- Some corrections to the original COCs were not dated. The cross-outs did not affect data quality.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-SL.

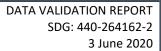




TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | THE PRESENCE |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



III. VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 3, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and A-01-R* and the *National Functional Guidelines for Superfund Inorganic Method Data Review* (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved (except as noted in the Sample Management section above) and holding time requirements were met.

III.2. CALIBRATION:

The detector efficiency for gross alpha was less than 20%; therefore, the result for gross alpha was qualified as an estimated nondetect (UJ). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 1% level of confidence for radium-226. The detected sample result for radium-226 was qualified as nondetect (U).

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were performed on the sample in this SDG for Method 900.0 (gross alpha and gross beta) and Method 901.1 (cesium-137 and potassium-40). RERs met laboratory control limits. Laboratory duplicates were not performed on the sample from this SDG for the remaining methods.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

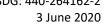
Matrix spike and matrix spike duplicate (MS)/MSD) analyses were performed on the sample from this SDG for Methods 900.0 (gross alpha and gross beta) Method 903.0 (radium-226), Method 904.0 (radium-228), Method 905.0 (strontium-90), Method 906.0 (tritium) and Method A-01-R (total uranium). Recoveries were within the laboratory control limits and DERs were within laboratory control limits.

III.4. SAMPLE RESULT VERIFICATION:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC.

III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the





associated site samples. The following are findings associated with field QC samples:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402641622

Analysis Method E900

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

CAS No Result Total RLMDC Result Analyte Lab Validation Validation Uncert. Value Units Qualifier Qualifier Notes 2.47 *Ш Gross Alpha Analytes **GROSSALPHA** 1.55 3.00 4.26 pCi/L U G UJ Gross Beta Analytes GROSSBETA 4.88 1.59 4.00 2.00 pCi/L

Analysis Method E901.1

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Cesium-137 10045-97-3 0.162 9.27 20.0 11.9 pCi/L U U Potassium-40 13966-00-2 U U 9.19 79.3 143 143 pCi/L

Analysis Method E903.0

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRO

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

Total RL**MDC** Analyte CAS No Result Result Lab Validation Validation **Oualifier** Value Uncert. Units Qualifier Notes 0.130 Radium-226 0.0972 1.00 0.126 pCi/L 13982-63-3

Analysis Method E904.0

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 0.176 0.334 1.00 0.567 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name OUTFALL002 20200407 COMP Result Type: TRG Matrix Type: WM

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.217 0.261 3.00 0.431 pCi/L

Analysis Method E906.0

Sample Name OUTFALL002 20200407 COMP Matrix Type: Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

Lab Sample Name: 440-264162-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes 14.9 Tritium 10028-17-8 159 500 282 pCi/L

HASL-300 U Mod Analysis Method

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

440-264162-1 Lab Sample Name:

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Total Uranium **URANIUM** 1.44 1.00 0.163 pCi/L

Analysis Method *RADIUM*

Sample Name OUTFALL002 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 8:15:00 AM Validation Level: 9

440-264162-2 Lab Sample Name:

RLMDC Result Analyte CAS No Result Total Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 RADIUM226228 0.567 0.347 pCi/L В

Friday, June 12, 2020 Page 2 of 2

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264162-2

Client Project/Site: Quarterly Outfall 002 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/4/2020 10:05:55 AM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and

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are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc Project Manager I 5/4/2020 10:05:55 AM Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 002 Comp Laboratory Job ID: 440-264162-2

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-2

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|-----------|
| <u> </u> | | | | | 7.0001.15 |
| 440-264162-1 | Outfall002_20200407_Comp | Water | 04/07/20 08:15 | 04/07/20 14:30 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-2

Job ID: 440-264162-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264162-2

Comments

No additional comments.

Receipt

The samples were received on 4/7/2020 2:30 PM: the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.7° C, 0.8° C, 0.8° C, 0.8° C, 2.2° C and 2.4° C.

RAD

Method 900.0: Gross Alpha Beta Prep Batch 160-468136

The gross alpha detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: Outfall002 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-I[MSD]), (440-264162-K-1-S DU), (440-264162-K-1-Q MSBT) and (440-264162-K-1-R MSBTD). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta Prep Batch 160-468136

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 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-1[MSD]), (LCS 160-468136/2-A), (LCSB 160-468136/3-A), (MB 160-468136/1-A), (440-264162-K-1-S DU), (440-264162-K-1-Q MSBT) and (440-264162-K-1-R MSBTD)

Method 901.1: Gamma Prep Batch 160-467695

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.

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

| mmorrou morri | r toportou to 7 til |
|---------------|---------------------|
| 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 |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-2

Job ID: 440-264162-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Th-227 Ac-227 Th-227 Bi-211 Th-227 Pb-211 Bi-214 Ra-226

Outfall002 20200407 Comp (440-264162-1), (LCS 160-467695/2-A), (MB 160-467695/1-A) and (440-264162-K-1-K DU)

Method 903.0: Ra-226 Prep Batch 160-467450

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 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-1[MSD]), (LCS 160-467450/1-A) and (MB 160-467450/22-A)

Method 904.0: Radium-228 Prep Batch 160-467451

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 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-1[MSD]), (LCS 160-467451/1-A) and (MB 160-467451/22-A)

Method 905: Sr-90 Prep Batch 160-467509

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 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-1[MSD]), (LCS 160-467509/1-A) and (MB 160-467509/10-A)

Method 906.0: LSC Tritium Prep Batch 160-468476

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 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-1[MSD]), (LCS 160-468476/2-A), (MB 160-468476/1-A), (160-37864-A-1-A) and (160-37864-A-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium Prep Batch 160-468046

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 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]), Outfall002 20200407 Comp (440-264162-1[MSD]), (LCS 160-468046/2-A) and (MB 160-468046/1-A)

Method ExtChrom: Uranium Prep Batch 160-468046:

The following samples have matrix observations: Outfall002 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]) and Outfall002 20200407 Comp (440-264162-1[MSD]). Samples 440-263721-1, 1 MS, and 1 MSD, 550-140782-1 and 3, 440-264162-1, 1 MS, and 1 MSD, and 440-264517-1, 1 MS, and 1 MSD are pale yellow. Samples 440-264182-1, 440-264370-1, and 440-264634-1 were medium yellow. Sample 440-264510-1 is yellow with sediment and was prepared at a reduced aliquot. Sample 160-37759-4 had thick brown sediment and was prepared at a reduced aliquot. Sample 160-37794-1 was pale brown in color with a small amount of sediment. Sample 160-37794-2 was thick brown with sediment and other plant-like particulates with a sewage smell

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-2

Job ID: 440-264162-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

and was prepared at a reduced aliquot.

Method PrecSep_0: Radium 228 Prep Batch 160-467451:

Samples 440-264162-1, 1 MS, & 1 MSD and 440-264182-1 were reduced due to yellow discoloration. Samples 440-264345-1 & 3 were reduced due to yellow discoloration and a cloudy appearance. Samples 440-264345-2 & 4, and samples 440-264346-1 through 10 were reduced due to limited volume: Outfall002_20200407_Comp (440-264162-1), Outfall002_20200407_Comp (440-264162-1[MS]) and Outfall002_20200407_Comp (440-264162-1[MSD])

Method PrecSep-21: Radium 226 Prep Batch 160-467450:

Samples 440-264162-1, 1 MS, & 1 MSD and 440-264182-1 were reduced due to yellow discoloration. Samples 440-264345-1 & 3 were reduced due to yellow discoloration and a cloudy appearance. Samples 440-264345-2 & 4, and samples 440-264346-1 through 10 were reduced due to limited volume: Outfall002 20200407 Comp (440-264162-1), Outfall002 20200407 Comp (440-264162-1[MS]) and Outfall002_20200407_Comp (440-264162-1[MSD])

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

Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp Lab Sample ID: 440-264162-1

Date Collected: 04/07/20 08:15

Date Received: 04/07/20 14:30

Matrix: Water

| Method: 900.0 - (| Gross Alpha | and Gros | s Beta Rac | lioactivity | | | | | | |
|-------------------|-------------|-----------|------------|-------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 1.55 | UG | 2.47 | 2.47 | 3.00 | 4.26 | pCi/L | 04/20/20 09:20 | 04/24/20 07:52 | 1 |
| Gross Beta | 4.88 | | 1.51 | 1.59 | 4.00 | 2.00 | pCi/L | 04/20/20 09:20 | 04/24/20 07:52 | 1 |

| Method: 901.1 - | Cesium 137 | & Other G | amma Emi | tters (GS) | | | | | | |
|-----------------|------------|-----------|----------|------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 0.162 | U | 9.27 | 9.27 | 20.0 | 11.9 | pCi/L | 04/14/20 14:27 | 04/15/20 08:33 | 1 |
| Potassium-40 | 9.19 | U | 79.3 | 79.3 | | 143 | pCi/L | 04/14/20 14:27 | 04/15/20 08:33 | 1 |
| _ | | | | | | | | | | |

| Method: 903.0 - I | Radium-226 | (GFPC) | | | | | | | | |
|-------------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| | | | Count Uncert. | Total Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.130 | | 0.0965 | 0.0972 | 1.00 | 0.126 | pCi/L | 04/12/20 15:55 | 05/04/20 04:28 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 80.1 | | 40 - 110 | | | | | 04/12/20 15:55 | 05/04/20 04:28 | 1 |

| Method: 904.0 - | Radium-228 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.176 | U | 0.333 | 0.334 | 1.00 | 0.567 | pCi/L | 04/12/20 16:21 | 04/28/20 07:12 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 80.1 | - | 40 - 110 | | | | | 04/12/20 16:21 | 04/28/20 07:12 | 1 |
| Y Carrier | 84.1 | | 40 - 110 | | | | | 04/12/20 16:21 | 04/28/20 07:12 | 1 |

| Method: 905 - St | trontium-90 (| GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|------------------|---------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.217 | Ū | 0.261 | 0.261 | 3.00 | 0.431 | pCi/L | 04/13/20 07:49 | 04/24/20 13:17 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 55.6 | | 40 - 110 | | | | | 04/13/20 07:49 | 04/24/20 13:17 | 1 |
| Y Carrier | 93.1 | | 40 - 110 | | | | | 04/13/20 07:49 | 04/24/20 13:17 | 1 |

| ſ | | itium, Tota | I (LSC) | | | | | | | | |
|---|---------|-------------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|
| ١ | | | | Count | Total | | | | | | |
| ١ | | | | Uncert. | Uncert. | | | | | | |
| | Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| | Tritium | 14.9 | U | 159 | 159 | 500 | 282 | pCi/L | 04/22/20 04:26 | 04/22/20 19:14 | 1 |

| Method: A-01-R - | Isotopic Ur | anium (Al | pha Spectr | ometry) | | | | | | |
|------------------|-------------|-----------|------------|---------|------|-------|-------|----------------|----------------|---------|
| | - | • | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Total Uranium | 1.44 | | 0.337 | 0.347 | 1.00 | 0.163 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 |

Eurofins Calscience Irvine

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp Lab Sample ID: 440-264162-1

Date Received: 04/07/20 14:30

Date Collected: 04/07/20 08:15 **Matrix: Water**

Dil Fac Tracer %Yield Qualifier Limits Prepared Analyzed Uranium-232 79.1 30 - 110

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Method **Method Description** Protocol Laboratory TAL SL 900.0 Gross Alpha and Gross Beta Radioactivity EPA TAL SL 901.1 Cesium 137 & Other Gamma Emitters (GS) **EPA** Radium-226 (GFPC) TAL SL 903.0 **EPA** 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 Preparation, Evaporation TAL SL Evaporation None ExtChrom Preparation, Extraction Chromatography Resin Actinide Separation None TAL SL Fill_Geo-0 Fill Geometry, No In-Growth TAL SL None LSC_Dist_Susp Distillation and Suspension (LSC) None TAL SL PrecSep_0 Preparation, Precipitate Separation None TAL SL TAL SL PrecSep-21 Preparation, Precipitate Separation (21-Day In-Growth) None 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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 440-264162-2

Lab Chronicle

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Client Sample ID: Outfall002_20200407_Comp Lab Sample ID: 440-264162-1

Date Collected: 04/07/20 08:15 Date Received: 04/07/20 14:30 **Matrix: Water**

Job ID: 440-264162-2

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|-----------|--------|--------|----------------|---------|--------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 107.34 mL | 1.0 g | 468136 | 04/20/20 09:20 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | | 468726 | 04/24/20 07:52 | KLS | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 467695 | 04/14/20 14:27 | MMO | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 467838 | 04/15/20 08:33 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 750.59 mL | 1.0 g | 467450 | 04/12/20 15:55 | MNH | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 469493 | 05/04/20 04:28 | CJQ | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 750.59 mL | 1.0 g | 467451 | 04/12/20 16:21 | MNH | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | 1.0 mL | 1.0 mL | 469050 | 04/28/20 07:12 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 999.34 mL | 1.0 g | 467509 | 04/13/20 07:49 | EJQ | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 468937 | 04/24/20 13:17 | KLS | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.3 mL | 1.0 g | 468476 | 04/22/20 04:26 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 468623 | 04/22/20 19:14 | JS | TAL SL |
| Total/NA | Prep | ExtChrom | | | 499.26 mL | 1.0 mL | 468046 | 04/17/20 17:03 | CMM | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 468764 | 04/24/20 09:34 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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Client: Haley & Aldrich, Inc. Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-468136/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Prep Batch: 468136**

Analysis Batch: 468726

| | | | Count | Total | | | | | | |
|-------------|---------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | -0.2223 | U | 0.373 | 0.374 | 3.00 | 0.910 | pCi/L | 04/20/20 09:20 | 04/24/20 04:25 | 1 |
| Gross Beta | -0.2861 | U | 0.439 | 0.440 | 4.00 | 0.850 | pCi/L | 04/20/20 09:20 | 04/24/20 04:25 | 1 |

Lab Sample ID: LCS 160-468136/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 468136**

Analysis Batch: 468726

Total LCS LCS %Rec. Spike Uncert. RL Analyte Added $(2\sigma + / -)$ **MDC** Unit Limits Result Qual %Rec Gross Alpha 49.6 44.64 6.82 3.00 1.74 pCi/L 90 75 - 125

Lab Sample ID: LCSB 160-468136/3-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 468136 Analysis Batch: 468726** Total

Spike LCSB LCSB %Rec. Uncert. Added Result Qual $(2\sigma + / -)$ RL MDC Unit Limits Analyte %Rec 4.00 0.848 pCi/L **Gross Beta** 84.4 78.14 93 75 - 125 8.34

Lab Sample ID: 440-264162-1 MS Client Sample ID: Outfall002_20200407_Comp **Matrix: Water** Prep Type: Total/NA **Prep Batch: 468136**

Analysis Batch: 468726

Total MS MS %Rec. Sample Sample **Spike** Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Gross Alpha 1.55 U G 92.5 80.08 13.2 3.00 6.01 pCi/L 85 60 - 140

Lab Sample ID: 440-264162-1 MSBT Client Sample ID: Outfall002 20200407 Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468726

Total MSBT MSBT %Rec. Sample Sample Spike Uncert. RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits **Gross Beta** 4.88 157 149.4 16.0 4.00 1.90 pCi/L 92 60 - 140

Lab Sample ID: 440-264162-1 MSBTD Client Sample ID: Outfall002_20200407_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468726

Total MSBTD MSBTD %Rec. **RER** Sample Sample Spike Uncert. Added **MDC** Unit Analyte Result Qual Result Qual $(2\sigma + / -)$ RL %Rec Limits RER Limit 158 Gross Beta 4.88 152.7 16.3 4.00 1.54 pCi/L 94 60 - 140 0.10

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5/4/2020

Prep Batch: 468136

Prep Batch: 468136

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 468726

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Batch: 468136

Job ID: 440-264162-2

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|-------------|---------------|-------|--------|------|---------|------|------------|------|----------|------|-------|
| | Sample Sample | Spike | MSD | MSD | Uncert. | | | | %Rec. | | RER |
| Analyte | Result Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Gross Alpha | 1.55 U G | 92.5 | 61.31 | | 10.6 | 3.00 | 4.10 pCi/L | 65 | 60 - 140 | 0.79 | 1 |

Lab Sample ID: 440-264162-1 DU

Matrix: Water

Analysis Batch: 468726

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA Prep Batch: 468136

| , , | | | | | Total | | | | | |
|-------------|--------|--------|--------|------|---------|------|------|-------|------|-------|
| | Sample | Sample | DU | DU | Uncert. | | | | | RER |
| Analyte | Result | Qual | Result | Qual | (2σ+/-) | RL | MDC | Unit | RER | Limit |
| Gross Alpha | 1.55 | U G | 1.240 | UG | 2.61 | 3.00 | 4.64 | pCi/L | 0.06 | 1 |
| Gross Beta | 4.88 | | 2.912 | | 1.28 | 4.00 | 1.74 | pCi/L | 0.69 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-467695/1-A

Matrix: Water

Analysis Batch: 467836

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

Prep Batch: 467695

| | | | Count | Total | | | | | | |
|--------------|--------|-----------|---------|---------|------|------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 1.446 | U | 12.2 | 12.2 | 20.0 | 15.4 | pCi/L | 04/14/20 14:27 | 04/15/20 08:35 | 1 |
| Potassium-40 | -22.63 | U | 154 | 154 | | 222 | pCi/L | 04/14/20 14:27 | 04/15/20 08:35 | 1 |

Lab Sample ID: LCS 160-467695/2-A

Matrix: Water

Analysis Batch: 467837

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467695

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|---------------|--------|--------|------|---------|------|------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Americium-241 | 136000 | 126100 | | 14600 | | 349 | pCi/L | 93 | 90 - 111 | |
| Cesium-137 | 43700 | 43790 | | 4390 | 20.0 | 102 | pCi/L | 100 | 90 - 111 | |
| Cobalt-60 | 26300 | 25540 | | 2530 | | 54.0 | pCi/L | 97 | 89 - 110 | |

Lab Sample ID: 440-264162-1 DU

Matrix: Water

Analysis Batch: 467837

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Batch: 467695

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|--------------|--------|--------|--------|------|---------|------|------|-------|------|-------|--|
| _ | | | | | Total | | | | | | |
| | Sample | Sample | DU | DU | Uncert. | | | | | RER | |
| Analyte | Result | Qual | Result | Qual | (2σ+/-) | RL | MDC | Unit | RER | Limit | |
| Cesium-137 | 0.162 | U | 3.072 | U | 8.42 | 20.0 | 10.2 | pCi/L | 0.16 | 1 | |
| Potassium-40 | 9.19 | U | -143.8 | U | 141 | | 220 | pCi/L | 0.70 | 1 | |

Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467450/22-A

Lab Sample ID: LCS 160-467450/1-A

Matrix: Water

Matrix: Water

Analysis Batch: 469493

Client: Haley & Aldrich, Inc.

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467450

MB MB Uncert. Uncert. Result Qualifier MDC Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 -0.005278 U 04/12/20 15:55 05/04/20 06:18 0.0628 0.0628 1.00 0.138 pCi/L

Total

Count

MB MB

Carrier Qualifier Limits %Yield Ba Carrier 40 - 110 93.6

04/12/20 15:55 05/04/20 06:18

Prepared

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyzed

Prep Batch: 467450

Total Spike LCS LCS Uncert. %Rec. Added RLAnalyte Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits Radium-226 15.1 14.75 1.59 1.00 0.148 pCi/L 75 ₋ 125 97

LCS LCS Carrier

Analysis Batch: 469493

%Yield Qualifier I imits Ba Carrier 75.2 40 - 110

Client Sample ID: Outfall002_20200407_Comp

Lab Sample ID: 440-264162-1 MS **Matrix: Water**

Analysis Batch: 469493

Prep Type: Total/NA **Prep Batch: 467450**

Total Sample Sample **Spike** MS MS Uncert. %Rec. Analyte Result Qual Added $(2\sigma + / -)$ RL**MDC** Unit %Rec Limits Result Qual Radium-226 0.130 15.1 13.75 1.49 1.00 0.135 pCi/L 90 75 - 138

MS MS

Carrier %Yield Qualifier Limits Ba Carrier 79.5 40 - 110

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp

Matrix: Water

Analysis Batch: 469493

Prep Type: Total/NA **Prep Batch: 467450**

MSD MSD %Rec. Sample Sample Spike Uncert. **RER** Analyte RL **MDC** Unit %Rec Result Qual Added Result Qual $(2\sigma + / -)$ Limits RER Limit 0.204 pCi/L Radium-226 0.130 15.1 14.79 1.59 1.00 97 75 - 138 0.34

Total

MSD MSD

Carrier %Yield Qualifier Limits 79.2 Ba Carrier 40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-467451/22-A

Matrix: Water

Analysis Batch: 469048

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

Prep Batch: 467451

Count Total MB MB Uncert. Uncert. $(2\sigma + / -)$ Analyte Result Qualifier $(2\sigma + / -)$ RL **MDC** Unit Prepared Dil Fac Analyzed 0.1854 Ū 0.264 0.264 04/12/20 16:21 04/28/20 07:16 Radium-228 1.00 0.442 pCi/L

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Client: Haley & Aldrich, Inc.

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13.25

Job ID: 440-264162-2 Project/Site: Quarterly Outfall 002 Comp

Method: 904.0 - Radium-228 (GFPC) (Continued)

| | MB | MB | | | |
|------------|--------|---------------|---------------------|------------------|---------|
| Carrier | %Yield | Qualifier Lin | nits Prepared | Analyzed | Dil Fac |
| Ba Carrier | 93.6 | 40 - | -110 04/12/20 16:2 | 7 04/28/20 07:16 | 1 |
| Y Carrier | 82.6 | 40 . | - 110 04/12/20 16:2 | 1 04/28/20 07:16 | 1 |

Lab Sample ID: LCS 160-467451/1-A

Matrix: Water

Radium-228

| Analysis Batch: 469050 | | | | | | | | Prep Batch: 467451 |
|------------------------|-------|--------|------|---------|----|----------|------|--------------------|
| | | | | Total | | | | • |
| | Spike | LCS | LCS | Uncert. | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits |

1.58

1.00

0.656 pCi/L

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 75.2 40 - 110 Y Carrier 83.4 40 - 110

Lab Sample ID: 440-264162-1 MS

Matrix: Water

Analysis Batch: 469050

| Client Sample ID: | Outfall002 | _20200407 | _Comp |
|-------------------|------------|-----------|-------|
| | _ | | |

112

Client Sample ID: Lab Control Sample

75 ₋ 125

Prep Type: Total/NA

Prep Batch: 467451

Prep Type: Total/NA

| | | | | | Total | | | | | |
|------------|---------------|-------|--------|------|---------|------|-------------|------|----------|--|
| | Sample Sample | Spike | MS | MS | Uncert. | | | | %Rec. | |
| Analyte | Result Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | |
| Radium-228 | 0.176 U | 11.9 | 13.18 | | 1.55 | 1.00 | 0.624 pCi/L | 110 | 45 - 150 | |

MS MS Carrier %Yield Qualifier Limits Ba Carrier 79.5 40 - 110 Y Carrier 84.5 40 - 110

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 469050

| Client Sam | ple ID: Outfall002_ | 20200407 | Comp |
|-------------------|---------------------|----------|------|
| | p.o. :=: | | |

Prep Type: Total/NA

Prep Batch: 467451

| | | | | | | Total | | | | • | | |
|------------|--------|--------|-------|--------|------|---------|------|-------------|------|----------|------|-------|
| | Sample | Sample | Spike | MSD | MSD | Uncert. | | | | %Rec. | | RER |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Radium-228 | 0.176 | U | 11.9 | 14.91 | | 1.70 | 1.00 | 0.518 pCi/L | 124 | 45 - 150 | 0.53 | 1 |
| | Men | MeD | | | | | | | | | | |

Carrier **%Yield Qualifier** Limits Ba Carrier 79.2 40 - 110 Y Carrier 85.2 40 - 110

Method: 905 - Strontium-90 (GFPC)

| Lab Sample ID: M Matrix: Water Analysis Batch: 4 | | 509/10-A | | | | | | | ole ID: Method Prep Type: To Prep Batch: | otal/NA |
|--|--------|-----------|---------|---------|------|-------|-------|----------------|--|---------|
| - | | | Count | Total | | | | | | |
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.1722 | U | 0.208 | 0.208 | 3.00 | 0.343 | pCi/L | 04/13/20 07:49 | 04/24/20 13:13 | 1 |

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5/4/2020

Job ID: 440-264162-2

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 002 Comp

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: MB 160-467509/10-A

Matrix: Water

Analysis Batch: 468938

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467509

Analyzed

MB MB

Carrier Qualifier %Yield Limits Sr Carrier 87.2 40 - 110 Y Carrier 91.2 40 - 110

04/13/20 07:49 04/24/20 13:13 04/13/20 07:49 04/24/20 13:13

Prepared

Lab Sample ID: LCS 160-467509/1-A

Matrix: Water

Analysis Batch: 468937

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 467509**

Total **Spike** LCS LCS %Rec. Uncert. Added RL **MDC** Unit %Rec Limits Analyte Result Qual $(2\sigma + / -)$ 75 - 125 Strontium-90 7.88 7.758 0.844 3.00 0.340 pCi/L 98

LCS LCS Carrier %Yield Qualifier Limits Sr Carrier 91.3 40 - 110 Y Carrier 85.2 40 - 110

Lab Sample ID: 440-264162-1 MS Client Sample ID: Outfall002_20200407_Comp

Matrix: Water

Analysis Batch: 468937

Prep Type: Total/NA

Prep Batch: 467509

Total Sample Sample Spike MS MS %Rec. Uncert. Result Qual Analyte Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Strontium-90 0.217 U 7.88 7.547 0.848 3.00 0.342 pCi/L 19 - 150

MS MS Carrier %Yield Qualifier I imits Sr Carrier 76.5 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002 20200407 Comp

Total

Matrix: Water

Analysis Batch: 468937

Prep Type: Total/NA

Prep Batch: 467509

Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Result Qual %Rec Analyte Result Qual Added $(2\sigma + / -)$ RL **MDC** Unit Limits RER Limit 0.217 U Strontium-90 7.89 7.398 0.860 3.00 0.414 pCi/L 91 19 - 150 0.09

MSD MSD Carrier %Yield Qualifier Limits 70.3 Sr Carrier 40 - 110 Y Carrier 90.8 40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-468476/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 468623

Prep Type: Total/NA **Prep Batch: 468476** Count Total

MR MR Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL MDC Unit Prepared Analyzed Dil Fac 62.16 U Tritium 161 161 500 277 pCi/L 04/22/20 04:26 04/22/20 13:34

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Dil Fac

Client: Haley & Aldrich, Inc. Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: LCS 160-468476/2-A

Matrix: Water Analysis Batch: 468623 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 468476

Spike LCS LCS %Rec. Uncert. Added **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RL %Rec Limits 75 - 114 Tritium 2470 2384 380 500 277 pCi/L 96

Lab Sample ID: 440-264162-1 MS Client Sample ID: Outfall002_20200407_Comp

Total

Matrix: Water

Analysis Batch: 468623

Prep Type: Total/NA **Prep Batch: 468476**

Total Sample Sample MS MS %Rec. Spike Uncert. Result Qual Added Analyte Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 14.9 U 2470 2096 353 500 277 pCi/L 84 67 - 130

Lab Sample ID: 440-264162-1 MSD Client Sample ID: Outfall002_20200407_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468623

Total

Prep Batch: 468476

Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Added Analyte Result Qual Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit Tritium 14.9 U 2460 2655 404 500 276 pCi/L 107 67 ₋ 130 0.74

Lab Sample ID: 160-37864-A-1-B DU Client Sample ID: Duplicate

Matrix: Water

Analysis Batch: 468623

Prep Type: Total/NA **Prep Batch: 468476**

04/17/20 17:03 04/24/20 09:34

Total Sample Sample DU DU Uncert. **RER** Result Qual RL **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RER Limit Tritium 66.7 U 77.93 U 156 500 261 pCi/L 0.04

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Count

0.03978

Ū

0.1101

Analysis Batch: 468749 Prep Batch: 468046 Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac

1.00

0.152 pCi/L

MB MB %Yield Qualifier Limits Tracer Prepared Analyzed Dil Fac Uranium-232 92.6 30 - 110 04/17/20 17:03 04/24/20 09:34

0.1102

Lab Sample ID: LCS 160-468046/2-A **Client Sample ID: Lab Control Sample**

Total Uranium

Matrix: Water Prep Type: Total/NA **Analysis Batch: 468752 Prep Batch: 468046**

| | | | | i Olai | | | | | |
|-------------|-------|--------|------|---------|------|--------|-------|------|----------|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits |
| Uranium-234 | 12.7 | 13.10 | | 1.50 | 1.00 | 0.150 | pCi/L | 103 | 75 - 125 |
| Uranium-238 | 13.0 | 13.96 | | 1.58 | 1.00 | 0.0962 | pCi/L | 107 | 75 - 125 |

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5/4/2020

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

LCS LCS

Tracer **%Yield Qualifier** Limits Uranium-232 81.2 30 - 110

Lab Sample ID: 440-264162-1 MS

Matrix: Water

Analysis Batch: 468765

Client Sample ID: Outfall002_20200407_Comp

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA **Prep Batch: 468046**

Prep Batch: 468046

Total Sample Sample Spike MS MS Uncert. %Rec. RL Analyte Result Qual Added **MDC** Unit Limits Result Qual $(2\sigma + / -)$ %Rec Uranium-234 0.776 12.7 13.76 1.57 1.00 0.145 pCi/L 102 65 - 146 Uranium-238 0.649 13.0 14.91 1.67 1.00 0.167 pCi/L 110 68 - 143 MS MS Tracer %Yield Qualifier Limits Uranium-232 76.8 30 - 110

Lab Sample ID: 440-264162-1 MSD

Matrix: Water

Analysis Batch: 468763

Client Sample ID: Outfall002_20200407_Comp

Prep Type: Total/NA

Prep Batch: 468046

Total Sample Sample **Spike** MSD MSD Uncert. %Rec. **RER** Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit 0.142 pCi/L Uranium-234 1.00 65 - 146 0.776 12.7 13.01 1.48 96 0.24 Uranium-238 0.649 13.0 12.73 1.45 1.00 68 - 143 0.70 0.127 pCi/L 93 1

MSD MSD %Yield Qualifier Tracer Limits 79.3 30 - 110 Uranium-232

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-2

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|------|------|------|------|-----|
| ILED | Date | | 'U 7 | ·JU |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467450/22-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467450/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | PrecSep-21 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | PrecSep-21 | |

Prep Batch: 467451

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-467451/22-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-467451/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | PrecSep_0 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | PrecSep_0 | |

Prep Batch: 467509

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|-----------|--------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | PrecSep-7 | - |
| MB 160-467509/10-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-467509/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | PrecSep-7 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | PrecSep-7 | |

Prep Batch: 467695

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|--------------------|--------------------------|-----------|--------|-------------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | Fill_Geo-0 |
| MB 160-467695/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 |
| LCS 160-467695/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 |
| 440-264162-1 DU | Outfall002_20200407_Comp | Total/NA | Water | Fill_Geo-0 |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Ba |
|--------------------|--------------------------|-----------|--------|----------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | ExtChrom |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | ExtChrom |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | ExtChrom |

Prep Batch: 468136

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | Evaporation | |
| MB 160-468136/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-468136/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| LCSB 160-468136/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | Evaporation | |
| 440-264162-1 MSBT | Outfall002_20200407_Comp | Total/NA | Water | Evaporation | |
| 440-264162-1 MSBTD | Outfall002_20200407_Comp | Total/NA | Water | Evaporation | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | Evaporation | |
| 440-264162-1 DU | Outfall002_20200407_Comp | Total/NA | Water | Evaporation | |

Page 19 of 31

QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Rad

Prep Batch: 468476

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264162-1 | Outfall002_20200407_Comp | Total/NA | Water | LSC_Dist_Susp | |
| MB 160-468476/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp | |
| LCS 160-468476/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-1 MS | Outfall002_20200407_Comp | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | Total/NA | Water | LSC_Dist_Susp | |
| 160-37864-A-1-B DU | Duplicate | Total/NA | Water | LSC_Dist_Susp | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 440-264162-2

Project/Site: Quarterly Outfall 002 Comp

Qualifiers

RPD

TEF

TEQ

| 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 |
| 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) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |

Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin)
Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Job ID: 440-264162-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, 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 |
|--------------------------|--|------------------------------|-----------------|
| 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| lowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

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| 5333 Mission Center F | 5333 Mission Center Rd Suite 300 | | | | 90 | Project. Boeing-SSFL NPDES | ÆS | | | | | | | | | E952) | (| | | |
|--|---|---|------------|------------------|------------------------|--|---|--|----------------------------------|-------------------------------|-------------|---------------------|-----------|--------------|---------------------|---------------------------|----------------------------|---|---|------------|
| odil Diego, | 90176 40 | | | | 1 | Permit 2020 | 5 | | | | | 'N-Z | | | | \$OC | l SÞ | | | |
| Test America Control 17461 Denen Ave 1 Irvine CA 92614 Tel: 949-260-3218 | Test America Contact: Christian Bondoc 17461 Denan Ave Suite #100 Invine CA 92614 Tei: 949,260,3218 | | | | Quarterly O | Quarterry Crutail (b01, b02, 011, 016) Outfall 002 Comp | 2, 011, 018 <u>j</u> | | | E (813B) | (0C/E452 1) | ON+8ON 'N | (1 081 | | | ne, Bis(2- l, PCP (SVC | Mercury (E2 | • | | |
| | | | | | | | | | 9(8) 9S | | | ւ-թիւփ | 3/201 | ((c | | toluer 4DMA | i siet | | | |
| Service Agreeme | Toekhineries's services under the CAC shall be performed in accordance with the TAC's within Blankel the CAC's Agreements (1912-12), restAnness by and between Haley & Natioh, line, its subardance and affiliate, and restAnness I shortcates inc. | e with the T&Cs within Blanks shoh, inc., its authordianes and | | | Project N 520 289.8 | Project Manager: Katherine Miller 520 289,8606, 520,904,6944 (cell) | rine Miller 6944 (cell) | | bie we | | | N ,N-9. | SZMS) | | | Dinitro alate, 1 | DIE Me | 5 | | |
| Sampler: D. | an Smith | | | | Field M 978 234 | Field Manager: Mark Dominick 978 234 5033, 818 599.0702 (cell) | Dominick 0702 (cell) | | covera Zn Gu, P | | | tentiM , E∃) ete | SOT . | | | y)phth | COVETA | | | |
| Sample Description | Sample i D | Sampling DeterTime | Sample | Container Type | # of Cont | Preservative | Bottle # | MS/MSD | Total Re (E200 7) (E200 8) | s) adot S) adog (SM5210 | | Ct., SO4 | Turbidity | (16) (16) | inommA 48-sriqis | 2,4,6 TC | Fotsi Re | 1 E I | | |
| | | | ¥ | 500 mL Poly | n | HNO | 8 | Yes | × | | | | | | | | × | × | | |
| | | | 75 × | 1 L Glaes Amber | 2 | None | \$ | 2 | + | × | - | | | | +- | | | | | |
| | | • | W | 1L Poly | - | None | 115 | ٤ | | × | _ | | | | | | | | | |
| | | • | W | 500 mL Poly | 9 | None | 82 | Yes | | _ | × | | | - | | | | | | |
| · · · · · | Outfall002_20200407_Comp | Secure | × | 500 mL Poly | 80 | Nome | 130 | Yes | | | | × | | | | | | | | |
| | | V180 | ¥ | 500 mt. Poly | - | Mone | DST | £ | | | | | × | | | | | | | |
| Outhall 002 | | , | WM | 500 mi. Poly | 3 | H ₂ SQ ₄ | \$60 | Yes | | | _ | | | | × | | | | | |
| | | | WM | 1 L Glaes Amber | 9 | None | 170 | Yos | | _ | | | | | × | | | | | |
| | | | W | 1 L Glass Amber | ş | None | 180 | Yes | | | | | | | | × | | | | |
| | | | N. | 1L Paly | - | None | 185 | 9N | | | | | | × | | | | | | |
| L | | | MM | 1 L Glass Amber | 2 | None | 110 | No | | н | | | | | | | | | | |
| | | - | WM | 500 mL Poly | 7 | None | 120 | No | | | Ι | | | | | | | | | |
| | Outfeli002_20200407_Comp_Extra | 0202174 | ww | 500 mL Poly | 2 | None | 85 | Ş | | | | I | | | | | | | | |
| | | <u>S</u> | | 11 Glassifenber | | Mone | | 1 | | H | 4 | | | \parallel | 7 | | | | | |
| | | | WM | 1 L Glass Amber | 7 | None | 180 | No | | | | | | | \dashv | I | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | Legel | nd: A=Annual | C=Condition | al, EP=Exper | Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual | ine, Q≖Quarter | rly, QRS | V=Qua | rterly F | eceiv | ng Wat | er, S=S | emi-An | nuai | | | | |
| Relinquished E | By Date/Time | / | | Company | | | Received By | | Oate/Time | | | , | | | | | Tuma | Turn-around time | | _ |
| Jung . | 16/1 | /oror. | 7/2 | I | A | | .0 | = Rivan | ፈ | 7 | Ł | 20 | / | 1 | 6 | | 24 Hour | | _ 2 Hour _ 5 Day _ | <u> </u> |
| Relinquished E | by Datestime | 1/2/1 | 430 430 | Company | マナン | | Received By | | Date/Time | | | | | | | | Sample | e (integnit) | Sample Integrity. (Check) | |
| Reimquished By | ł . | | | mpany | | | Received By | 0 | Date/Time | رد | | M = | 1-7 | 02 | 12/ | 30 | Store sampl Data Requir | amples frequireme | Store samples for 6 months. Data Requirements (Check) No Level IV | જ્રાં ફેંડ |
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| | | | | 1/8/1 | Š Š | 1175 | 15.61 | 8.0180 1.011.8 | N | Ĺ, | 1 | g | | | | | | | | |
| 2019-2020 R | 2019-2020 Rainy Season | | | , , , , | | · · | ` , | \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ | | , د | _ | • | | | | | | | | |
| /ersion 2 | | | | 0.8/0.8 | ر. مح | 22 | 122 | F | イタータブ | 70 | | | | | 4 | -2641 | 32 Che | lo Ui | 440-264162 Chain of Custody | |

48 hours Holding Tune for Turbidity 48 hours Holding Time NO₃ & NO₂

Pg. 밁 Fold

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

Page 7 of 2

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R R R R R/EP R R ANALYSIS REQUIRED

CHAIN OF CUSTODY FORM

Comments

| Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 The America Contact Christian Bondoc Trest 250-3218 The 949-260-3218 The 949-260-3218 Sampler Dan Smith Sampler Dan Smith Sampler Dan Smith Sampler Contact Christian Sample Contact and Matter and Testamera Laborators Sampler Dan Smith Matt | Container Type 11. Pody 500 mt. Pody 11. Pody | Project Boeing-SSFL NPDES Permit 2020 Quarterly Cutfall (001, 002, 011, 018) Outfall (002, 002, 011, 018) Outfall (002, 002, 011, 018) Froject Manager Katherne Miller 520 289 6606, 520 904 6944 (cell) Field Manager Mark Dominick 978 234 5033, 618 599 0702 (cell) | Project Boeing-SSFL NPDES Permit 2020 Quarterly Cutfall (101; 002, 011, 018) Qutfall (102, 002) Comp | 1, 018] | | (0 | .04-0, | | | | | |
|--|---|--|--|---------------|----------------------|----------------|---------------------------|---------------|--------------------------------|--------------------|-----------------------------|--|
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| | - - - - - - | Project Man 520 289 860 Field Mana 978 234 503 | | | | E / E335 Z) | | Mercury (E245 | als | | (E252 S) | Comments |
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| OLITHICK_20200407_COMP_F 4772020 | | # CC Out | Preservative | <u> </u> | Total Di | ≜ esoi⊕ | Ce-137 Combin | | Ynony Yotal RaoT SentreH | iO istoT enbisH | | |
| MW 2180) | Stormt. Poty | | None | O61 | No ON | | | | | * | | Filter and preserve with 24hrs of receipt at leb at OF001 002,011, or 018 |
| 3180) | 1. Poty | - | ON∓ | 88 | 2 | - | | | × | | | at OF001 002,011, or 018 |
| 3 | | | None | 88 | Yes × | | | | | | × | |
| | 1 L Glass Amber | ~ | None | <u>2</u> 2 | Š | | | | × | | | Chordane, DOD, DDE, DDT, deletin,PCBs toxaphere at OF001,002,011, or 018 |
| Outral 5022 | borosilicate viels | e. | None | 320 | 768 | | | × | | | | Sample receiving DO NOT OPEN BAG Bag to be opened in Mercury Prep using clean procedures |
| 06 HWA | 500 mL Poly | en | NeOH | 220 | Yes | × | | ļ | | | | |
| WW 25 | 2.5 Gel Cube | 6 | None | 225 | Yee | _ | , | | | | | Unificered and unpreserved analysis |
| 4772020 V WM 11.C | 1 L Glass Amber | 8 | None | 230 | , \ 86 | | < | | | | | Analyze duplicate, not MS/MSD |
| 20.5 | 10.00 | | | | | | | | | | | Sed with the relationship |
| | | | 200 | | | | | | | | | - |
| ILC | 1L Glass Amber | 2 | The w | 275 | | | | | | | × | Extract within 24-Hours of sampling at Weck Lebs |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | + | | | |
| The second of th | seemd &stantis (=Conditions EBSFree | Encl. | nert Panel Ba | Onto outpro | California OBSWIII | Supplied Back | aiving Water | meomi-han | _ | | | |
| Reinquisted By Detertine Company | | | Z Z | Wed By J. Han | Gr | 3 | 04/2/4 | | _ | nd time | (Check) 72 Hour 5 Day | 10 DayX |
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| 5/4/2 | | | 2 | | - Jack | 3 | 72/11 | 3 | No Levei IV | ≥ | All tevel IV. | 11V_X_ |

CHAIN OF CUSTODY FORM

Chain of Custody Record

| | Sample | | | | | ١ | | | | - | | | | |
|---|---|---|---------------------------------------|--|--------------------------------------|----------------------------------|---|------------------------------------|--------------------------------------|-------------------------------|-------------------------|--|--|--|
| Client Information (Sub Contract Lab) | Sample: | | | Bondo | Lab PM: Bondoc, Christian M | ristian N | V | | | Carrier Tra | Carrier Tracking No(s); | COC No 440-15 | COC No: 440-154819.1 | |
| Client Contact: Shipping/Receiving | Phone | | | E-Mail: christ | | ndoc@t | estame | ricainc. | сош | State of Origin California | igin: | Page: | Page: Page 1 of 1 | |
| Сотралу: TestAmerica Laboratories, Inc. | | | | | Accredita State F | Program | Accreditations Required (See note): State Program - California | ee note): | | | | # dob # | Job #. | |
| Address: 13715 Rider Trail North, | Due Date Requested: 4/17/2020 | :pa | | | | 0 | | Anal | sis R | Analysis Requested | | Prese | - 8 | S |
| City: Earth City State, Zip: MO 63045 | TAT Requested (days): | ays): | | | | | | | | | | A C C C C C C C C C C C C C C C C C C C | A - HCL B - NaOH C - Zn Acetate D - Nitric Acid F - NaHSO4 | M · Hexane N · None O · AsNaO2 P · Na2O4S |
| Phone. 314-298-8566(Tel) 314-298-8757(Fax) | #Od. | | | | | _ | | | | | | F-Me | | R - Na2S203 S - H2SO4 |
| | WO#. | | | | | | eta8\e | | 06-1 | | | | | T - TSP Dodecahydrate U - Acetone V - MCAA |
| Project Name: Boeing NPDES SSFL outfalls | Project #. 44009879 | | | | | | dqiA seo | | | | | | A. | W - pH 4-5 Z - other (specify) |
| oire | #MOSS | | | | | | on Gro | | | dono | | of co | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (w=water, S=solid, O=wasteloll, BT=Tissue, A=Air) | Field Filtered Perform MS/M | 901.1_Cs/Fill_G | 900.0/Evaporati | _q98.0\PrecSep_ _q98.0\PrecSep_ | 905_Sr90/PrecS | | | Total Number | Special Inst | Special Instructions/Note: |
| | | X | Preserval | Preservation Code: | X | | | | | | | × | | V |
| Outfall002_20200407_Comp (440-264162-1) | 4/7/20 | 08:15 Pacific | | Water | | × | × | × | × | | | 2 Boeing | g SSFL, DO N | Boeing SSFL, DO NOT FILTER; use prep |
| Outfall002_20200407_Comp (440-264162-1MS) | 4/7/20 | 08:15 Pacific | MS | Water | | × | × | × | × | | | 2 Boeing | Boeing SSFL: DO NOT | Boeing SSFL, DO NOT FILTER; use prep |
| Ouffall002_20200407_Comp (440-264162-1MSD) | 4/7/20 | 08:15 Pacific | MSD | Water | | × | × | × | × | | | 2 Boeing | Boeing SSFL; DO NOT | 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 on planned upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditation status should be brought to Eurofins Calscience. | Science places the ownership s/matrix being analyzed, the scient the signed Chain of Cur | of method, anal amples must be stody attesting to | yte & accredital | stion compliand to the Eurofins ance to Eurofin | e upon ou Calscienc s Calscier | nt subcont e laborate nce. | rract labor | ratories. er instruc | This samp | le shipment is | forwarded under | chain-of-custody. | If the laboratory should be brough | does not currently nt to Eurofins Calscien |
| Possible Hazard Identification | | | | | Sam | ple Dis | posal | A fee | may be | assessed | f samples ar | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | ger than 1 m | onth) |
| Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) | Primary Delivera | able Rank: 2 | | | Spec | Retur | Return To Client al Instructions/QC | ient IQC Re | Special Instructions/QC Requirements | Disposal By Lab | v Lab | Archive For | | Months |
| Empty Kit Relinquished by: | | Date: | | | Time | | | | | Metho | Method of Shipment | | | |
| | Date/Time: | 1700 | | Company (Company | 7 | Received by | A A | | FED EX | × | Date/Time | | | Company |
| Reinquished by. | .Date/Time: | | | Company | 1 | Sal A | Y | 18 | 2 | | UM/1200 | | 02:20 | ETA STL. |
| Custody Seals Intact: Custody Seal No.: | | | | | 1 | | | | | | | | | |



| | CONDIT | ION UPO | ON RE | ECEIP | T FOI | RM | | |
|---|--|-----------------------|----------|----------|--|---|---|-------------|
| Client: ETA J | Ervine | | | | | | | |
| Initiated by: LAM **Sample must be receiff samples are from Wes | Date: <u>U</u> Q 7070 Time: ved at < 6°- If not, note contents below. Tem t Virginia, temperature of EVERY SAMPLE | 09:20 perature varian | nce does | NOT affe | ct the follo | wing Metals-Liquid | kage Quantity: 5 | ds. |
| S | hipping #(s):* | Thermo | meter | #: | Packag | ge Temp:** | Document #: | |
| 1. 1540 4107 | 7227 (2of3) | 192689 | 1248 | 1 | 1 | .7 | | |
| 2. 1540 4107 | 7210 (10+3) | | Mili | | -1. | 4 | A RESTORATE | |
| 3. 1540 4107 | 7232 (3.43) | | | | 1.7 | | | |
| 4. 1540 4107 | 7743 (1.42) | | | | -0. | | | |
| 5. 1540 4107 | 7254 (2.f2) | | | | -1.3 | 3 | | |
| 6. | | | | | | | | 3.50 |
| 7. | | - U.A. 12 | | | | | | |
| Condition (Circle "Y | " for yes, "N" for no and "N/A" for not app | licable): | | | | | | |
| 1. Ø N | Are there custody seals present or cooler? | | 8. | Y(N | | Are there custo | dy seals present on bo | ttles? |
| 2. Y N/A | Do custody seals on cooler appear tampered with? | to be | 9. | YN | (N/A) | tampered with? | | |
| 3. N | Were contents of cooler frisked af opening, but before unpacking? | ter | 10. | Y (N |) N/A | Was sample rec (If not, make note pH strip lot #: 4 | | ? |
| 4. 🔊 N | Sample received with Chain of Cu | istody? | 11. | YN | N/A | Containers for I | Rn-222, C-14, Cl-36, I ed with "Do Not Preso | I-3 & erve" |
| 5. Y N N/A | Does the Chain of Custody match ID's on the container(s)? | sample | 12. | YN | | and the same | d in proper containers | , |
| 6. Y N | Was sample received broken? | | 13. | Y N | (N/A) | samples? (>6m (If Yes, note sampl | e ID's below) | |
| 7. Y N | Is sample volume sufficient for an | alysis? | 14. | Y N | (N/A) | | for C-14, H-3,Tc-99 & with "Do Not Dry" la | |
| For DOE-AL (Pantex, L. Notes: | ANL, Sandia) sites, pH of ALL containers re | ceived must be | verified | EXCEP | T VOA, O | il & Grease, Rn-222 | and soils. | |
| Sama | e received impro | perly | 00 | eser | red | | | |
| | | ,) | , | | No. | | | |
| | | | | | | | | |
| oH Adjustment | | | | 200 | A STATE OF THE PARTY OF THE PAR | ervation: 4 | THE RESERVE SHOWS AND ADDRESS. | 00 |
| Initial pH and pH | THE RESIDENCE OF THE PARTY OF T | | - | | e and lo | | 1 244827 | |
| Final pH and pH s | Surp 101#: 17 C9 U4495 | | Amo | unt of | Preserv | vative: 6ml | | |

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

Sample Labels Applied By: MK

Labels 2nd Reviewed By:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264162-2

Login Number: 264162 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264162-2

Login Number: 264162

List Source: Eurofins TestAmerica, St. Louis

List Number: 3 Creator: Korrinhizer, Micha L List Creation: 04/10/20 08:22 PM

| Question | Answer | Comment |
|--|--------|---|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | All cubitainers were received improperly preserved. |
| 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 | |

True

True

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Samples do not require splitting or compositing.

Residual Chlorine Checked.

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|------------------------|--------------------------|------------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Ba Carrier (40-110) | |
| 440-264162-1 | Outfall002_20200407_Comp | 80.1 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | 79.5 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | 79.2 | |
| LCS 160-467450/1-A | Lab Control Sample | 75.2 | |
| MB 160-467450/22-A | Method Blank | 93.6 | |
| Tracer/Carrier Legen | d | | |
| Ba Carrier = Ba Carrie | r | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | - I. 71: |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Ba Carrier (40-110) | Y Carrier (40-110) | Percent Yield (Acceptance Limits) |
| 440-264162-1 | Outfall002_20200407_Comp | 80.1 | 84.1 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | 79.5 | 84.5 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | 79.2 | 85.2 | |
| LCS 160-467451/1-A | Lab Control Sample | 75.2 | 83.4 | |
| MB 160-467451/22-A | Method Blank | 93.6 | 82.6 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |
| Y Carrier = Y Carrier | | | | |
| | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Sr Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264162-1 | Outfall002_20200407_Comp | 55.6 | 93.1 | |
| 440-264162-1 MS | Outfall002_20200407_Comp | 76.5 | 90.8 | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | 70.3 | 90.8 | |
| LCS 160-467509/1-A | Lab Control Sample | 91.3 | 85.2 | |
| MB 160-467509/10-A | Method Blank | 87.2 | 91.2 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| - | | | Percent Yield (Acce | eptance l |
|--------------------|--------------------------|-----------|---------------------|-----------|
| | | ranium-23 | | |
| Lab Sample ID | Client Sample ID | (30-110) | | |
| 440-264162-1 | Outfall002_20200407_Comp | 79.1 | | |
| 440-264162-1 MS | Outfall002_20200407_Comp | 76.8 | | |
| 440-264162-1 MSD | Outfall002_20200407_Comp | 79.3 | | |
| LCS 160-468046/2-A | Lab Control Sample | 81.2 | | |
| MB 160-468046/1-A | Method Blank | 92.6 | | |

Eurofins Calscience Irvine

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Job ID: 440-264162-2

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Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 002 Comp

Tracer/Carrier Legend

Uranium-232 = Uranium-232

Job ID: 440-264162-2

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| JOL | |

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.

| 4 . | |
|---|--|
| Therm. ID: 4-5 Corr. Factor: (9/-) 2 | 2-4-°C |
| | |
| Cooler Custody Seal: | |
| | |
| - | |
| Temp Observed: 2.6 °C Corrected: 5. | O °C |
| From: Temp Blank Sample | |
| Opening/Processing The Shipment Yes | No NA |
| Cooler compromised/tampered with? | D- D |
| Cooler Temperature is acceptable? | 0 0 |
| Samples received within holding time? | 0 0 |
| Initials: Date: 9 Apr. 1 2 | 3 |
| Unpacking/Labeling The Samples Yes | No NA |
| | 0 0 |
| Samples compromised/tampered with? | 8 0 |
| Sample containers have legible labels? | 0 0 |
| Sample custody seal? | 0 8 |
| Containers are not broken or leaking? | 0 0 |
| Sample date/times are provided? | 0 0 |
| | 0 0 |
| | 0 0 |
| Sample preservatives verified? | DE |
| | D D |
| | |
| · | 0 2 |
| Perchlorate has headspace? (Methods 314, 331, 6850) | D 8 |
| Multiphasic samples are not present? | 0 0 |
| | No NA |
| NCM Filed? | |
| Initials: () H Date: 4/1/2 | |
| | Opening/Processing The Shipment Cooler compromised/tampered with? Cooler Temperature is acceptable? Samples received within holding time? Initials: Date: 7 Apr. 3 Unpacking/Labeling The Samples Yes CoC is complete w/o discrepancies? Samples compromised/tampered with? Sample containers have legible labels? Sample custody seal? Containers are not broken or leaking? Sample date/times are provided? Appropriate containers are used? Sample bottles are completely filled? Sample preservatives verified? Samples w/o discrepancies? Zero headspace?* Alkalinity has no headspace? (Methods 314, 331, 6850) Multiphasic samples are not present? Non-conformance NCM Filed? |

 ${\tt IITACORP} \\ {\tt ICORP} \\ {$

QA-812 TGT 1/16/2020



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264557-1

Client Project/Site: Routine Outfall 002 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/22/2020 12:38:46 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Routine Outfall 002 Grab

Laboratory Job ID: 440-264557-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

4/22/2020 12:38:46 PM

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Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 002 Grab Laboratory Job ID: 440-264557-1

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 002 Grab

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264557-1 | Outfall002_20200413_Grab | Water | 04/13/20 09:00 | 04/13/20 11:28 | |
| 440-264557-3 | TB-20200413 | Water | 04/13/20 09:00 | 04/13/20 11:28 | |

Job ID: 440-264557-1

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264557-1 Project/Site: Routine Outfall 002 Grab

Job ID: 440-264557-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264557-1

Comments

No additional comments.

Receipt

The samples were received on 4/13/2020 11:28 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

GC/MS VOA

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

General Chemistry

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 440-605004.

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.

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

Client Sample ID: Outfall002_20200413_Grab

Date Collected: 04/13/20 09:00 Date Received: 04/13/20 11:28 Lab Sample ID: 440-264557-1

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/14/20 18:46 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/14/20 18:46 | 1 |
| Trichloroethene | 0.66 | | 0.50 | 0.25 | ug/L | | | 04/14/20 18:46 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 107 | | 60 - 140 | | | - | | 04/14/20 18:46 | 1 |
| Dibromofluoromethane (Surr) | 98 | | 60 - 140 | | | | | 04/14/20 18:46 | 1 |
| Toluene-d8 (Surr) | 109 | | 60 - 140 | | | | | 04/14/20 18:46 | 1 |

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac HEM (Oil & Grease) ND 5.3 04/21/20 05:03 04/21/20 09:49 1.5 mg/L RL Analyte Result Qualifier **RL** Unit D Prepared Analyzed Dil Fac 1.0 04/21/20 12:35 **Specific Conductance** 1.0 umhos/cm 400 Settleable Solids ND 0.10 0.10 mL/L/Hr 04/14/20 15:25

Client Sample ID: TB-20200413 Lab Sample ID: 440-264557-3

Date Collected: 04/13/20 09:00 Matrix: Water

Date Received: 04/13/20 11:28

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|------|------|----|----------|----------------|---------|
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/15/20 09:42 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/15/20 09:42 | 1 |
| Trichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/15/20 09:42 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 106 | | 60 - 140 | | | ·= | | 04/15/20 09:42 | 1 |
| Dibromofluoromethane (Surr) | 100 | | 60 - 140 | | | | | 04/15/20 09:42 | 1 |
| Toluene-d8 (Surr) | 110 | | 60 - 140 | | | | | 04/15/20 09:42 | 1 |

4/22/2020

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Grab

Method **Method Description** Protocol Laboratory 40CFR136A TAL IRV 624.1 Volatile Organic Compounds (GC/MS) MCAWW 120.1 Conductivity, Specific Conductance TAL IRV HEM and SGT-HEM 1664A TAL IRV 1664A SM 2540F Solids, Settleable SM TAL IRV

Protocol References:

1664A

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.

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

HEM and SGT-HEM (SPE)

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264557-1

TAL IRV

1664A

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

Client Sample ID: Outfall002_20200413_Grab

Lab Sample ID: 440-264557-1 Date Collected: 04/13/20 09:00

Matrix: Water Date Received: 04/13/20 11:28

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 605011 | 04/14/20 18:46 | GMA | TAL IRV |
| Total/NA | Analysis | 120.1 | | 1 | | | 605665 | 04/21/20 12:35 | XL | TAL IRV |
| Total/NA | Prep | 1664A | | | 940 mL | 1000 mL | 605772 | 04/21/20 05:03 | L1A | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 605848 | 04/21/20 09:49 | L1A | TAL IRV |
| Total/NA | Analysis | SM 2540F | | 1 | 1000 mL | 1 L | 605004 | 04/14/20 15:25 | ST | TAL IRV |

Client Sample ID: TB-20200413 Lab Sample ID: 440-264557-3

Date Collected: 04/13/20 09:00 **Matrix: Water**

Date Received: 04/13/20 11:28

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|--------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 605059 | 04/15/20 09:42 | RM | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Client: Haley & Aldrich, Inc. Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

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

Lab Sample ID: MB 440-605011/4

Matrix: Water

Analysis Batch: 605011

Client Sample ID: Method Blank

Prep Type: Total/NA

| | MR MR | | | | | | |
|--------------------|------------------|------|-----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1-Dichloroethene | ND | 0.50 | 0.25 ug/L | | | 04/14/20 18:22 | 1 |
| 1,2-Dichloroethane | ND | 0.50 | 0.25 ug/L | | | 04/14/20 18:22 | 1 |
| Trichloroethene | ND | 0.50 | 0.25 ug/L | | | 04/14/20 18:22 | 1 |
| | | | | | | | |

MB MB %Recovery Qualifier Dil Fac Surrogate Limits Prepared Analyzed 04/14/20 18:22 4-Bromofluorobenzene (Surr) 106 60 - 140 Dibromofluoromethane (Surr) 102 60 - 140 04/14/20 18:22 60 - 140 Toluene-d8 (Surr) 109 04/14/20 18:22

Lab Sample ID: LCS 440-605011/1002

Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA Analysis Batch: 605011

Spike LCS LCS %Rec. Added Analyte Result Qualifier D %Rec Limits Unit 1,1-Dichloroethene 25.0 20.8 ug/L 83 19 - 212 1,2-Dichloroethane 25.0 92 23.0 ug/L 72 - 137Trichloroethene 25.0 23.1 ug/L 92 75 - 138

LCS LCS Surrogate %Recovery Qualifier Limits 60 - 140 4-Bromofluorobenzene (Surr) 106 Dibromofluoromethane (Surr) 97 60 - 140 Toluene-d8 (Surr) 108 60 - 140

Lab Sample ID: 440-264557-1 MS

Matrix: Water

Analysis Batch: 605011

Client Sample ID: Outfall002_20200413_Grab Prep Type: Total/NA

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|--------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1-Dichloroethene | ND | | 10.0 | 9.21 | | ug/L | | 92 | 10 - 234 | |
| 1,2-Dichloroethane | ND | | 10.0 | 10.3 | | ug/L | | 103 | 49 - 155 | |
| Trichloroethene | 0.66 | | 10.0 | 9.59 | | ug/L | | 89 | 70 - 157 | |

| | IVIS | IVIS | |
|-----------------------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 4-Bromofluorobenzene (Surr) | 103 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 102 | | 60 - 140 |
| Toluene-d8 (Surr) | 107 | | 60 - 140 |

1/10 1/10

Lab Sample ID: 440-264557-1 MSD

Matrix: Water

Analysis Batch: 605011

Client Sample ID: Outfall002_20200413_Grab Prep Type: Total/NA

| Times | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|--------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 1,1-Dichloroethene | ND | | 10.0 | 8.80 | | ug/L | | 88 | 10 - 234 | 5 | 32 |
| 1,2-Dichloroethane | ND | | 10.0 | 10.3 | | ug/L | | 103 | 49 - 155 | 1 | 49 |
| Trichloroethene | 0.66 | | 10.0 | 10.6 | | ug/L | | 99 | 70 - 157 | 10 | 48 |

Eurofins Calscience Irvine

4/22/2020

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

Lab Sample ID: 440-264557-1 MSD

Matrix: Water

Surrogate

Analysis Batch: 605011

Client Sample ID: Outfall002_20200413_Grab

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

MSD MSD %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 103 60 - 140 Dibromofluoromethane (Surr) 104 60 - 140

110

Lab Sample ID: MB 440-605059/4 **Client Sample ID: Method Blank**

60 - 140

Matrix: Water

Toluene-d8 (Surr)

Analysis Batch: 605059

Prep Type: Total/NA MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 1,1-Dichloroethene 0.50 0.25 ug/L 04/15/20 08:17 ND 1,2-Dichloroethane ND 0.50 0.25 ug/L 04/15/20 08:17 Trichloroethene ND 04/15/20 08:17 0.50 0.25 ug/L

MB MB Surrogate %Recovery Qualifier Limits Dil Fac Prepared Analyzed 4-Bromofluorobenzene (Surr) 104 60 - 140 04/15/20 08:17 107 60 - 140 04/15/20 08:17 Dibromofluoromethane (Surr) Toluene-d8 (Surr) 111 60 - 140 04/15/20 08:17

Lab Sample ID: LCS 440-605059/1002

Matrix: Water

Analysis Batch: 605059

| - | Spike | LCS | LCS | | | | %Rec. | |
|--------------------|-------|--------|-----------|------|---|------|----------|-------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1-Dichloroethene | 25.0 | 23.2 | | ug/L | | 93 | 19 - 212 | _ |
| 1,2-Dichloroethane | 25.0 | 25.9 | | ug/L | | 104 | 72 - 137 | |
| Trichloroethene | 25.0 | 23.3 | | ug/L | | 93 | 75 - 138 | |

| | LCS | LCS | |
|-----------------------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 4-Bromofluorobenzene (Surr) | 104 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 107 | | 60 - 140 |
| Toluene-d8 (Surr) | 104 | | 60 - 140 |

Lab Sample ID: 440-264661-A-2 MS

Matrix: Water

Analysis Batch: 605059

| Analysis Batch. 00000 | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|-----------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1-Dichloroethene | ND | | 10.0 | 8.09 | | ug/L | | 81 | 10 - 234 | |
| 1,2-Dichloroethane | ND | | 10.0 | 9.86 | | ug/L | | 99 | 49 - 155 | |
| Trichloroethene | ND | | 10.0 | 9.15 | | ug/L | | 92 | 70 - 157 | |

| | MS | MS | |
|-----------------------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 4-Bromofluorobenzene (Surr) | 106 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 102 | | 60 - 140 |
| Toluene-d8 (Surr) | 107 | | 60 - 140 |

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

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

Lab Sample ID: 440-264661-A-2 MSD

Matrix: Water

Analysis Batch: 605059

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Type: Total/NA

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier %Rec Limits RPD Limit Unit 1,1-Dichloroethene ND 10.0 83 10 - 234 3 32 8.32 ug/L 1,2-Dichloroethane ND 10.0 10.3 ug/L 103 49 - 155 4 49 Trichloroethene ND 10.0 9.48 ug/L 95 70 - 157 48

MSD MSD

| Surrogate | %Recovery Qu | ualifier | Limits |
|-----------------------------|--------------|----------|----------|
| 4-Bromofluorobenzene (Surr) | 103 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 100 | | 60 - 140 |
| Toluene-d8 (Surr) | 111 | | 60 - 140 |

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 440-605665/3 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 605665

MB MB

Analyte Result Qualifier RL **RL** Unit Prepared Analyzed Dil Fac Specific Conductance $\overline{\mathsf{ND}}$ 1.0 1.0 umhos/cm 04/21/20 12:34

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 440-605665/4 **Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 605665

Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits Specific Conductance 946 917 umhos/cm 97 90 - 110

Lab Sample ID: 440-264678-A-1 DU **Client Sample ID: Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605665

DU DU **RPD** Sample Sample Analyte Result Qualifier Result Qualifier Unit RPD Limit Specific Conductance 110 110 umhos/cm 5

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-605772/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 605848

Prep Type: Total/NA Prep Batch: 605772 MB MB

RL Analyte Result Qualifier MDL Unit Prepared Analyzed Dil Fac 5.0 04/21/20 05:03 04/21/20 09:49 HEM (Oil & Grease) 1.4 mg/L

Lab Sample ID: LCS 440-605772/2-A

Matrix: Water

Analysis Batch: 605848

Prep Type: Total/NA Prep Batch: 605772 LCS LCS Spike %Rec.

Analyte Added Result Qualifier %Rec Unit Limits HEM (Oil & Grease) 40.0 32.2 81 78 - 114 mg/L

Eurofins Calscience Irvine

4/22/2020

QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

HEM (Oil & Grease)

Method: 1664A - HEM and SGT-HEM (Continued)

| Lab Sample ID: LCSD 440-605772/3-A | | | | Client Sa | mple | ID: Lab | Control | Sample | Dup |
|------------------------------------|-------|--------|-----------|-----------|------|---------|----------------|----------|------------|
| Matrix: Water | | | | | | | Prep Ty | pe: Tot | al/NA |
| Analysis Batch: 605848 | | | | | | | Prep B | atch: 60 | 5772 |
| | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |

34.7

mg/L

| Lab Sample ID: 440-26490 Matrix: Water Analysis Batch: 605848 | | Sample | Spike | MS | MS | | CI | ient Sa | mple ID: Matrix Spike Prep Type: Total/NA Prep Batch: 605772 %Rec. |
|---|--------|-----------|-------|--------|-----------|------|----|---------|---|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| HEM (Oil & Grease) | ND | | 40.8 | 39.7 | | mg/L | | 97 | 78 - 114 |

40.0

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78 - 114

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Grab

Job ID: 440-264557-1

GC/MS VOA

Analysis Batch: 605011

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264557-1 | Outfall002_20200413_Grab | Total/NA | Water | 624.1 | |
| MB 440-605011/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-605011/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264557-1 MS | Outfall002_20200413_Grab | Total/NA | Water | 624.1 | |
| 440-264557-1 MSD | Outfall002_20200413_Grab | Total/NA | Water | 624.1 | |

Analysis Batch: 605059

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-264557-3 | TB-20200413 | Total/NA | Water | 624.1 | |
| MB 440-605059/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-605059/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264661-A-2 MS | Matrix Spike | Total/NA | Water | 624.1 | |
| 440-264661-A-2 MSD | Matrix Spike Duplicate | Total/NA | Water | 624.1 | |

General Chemistry

Analysis Batch: 605004

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|----------|------------|
| 440-264557-1 | Outfall002_20200413_Grab | Total/NA | Water | SM 2540F | |

Analysis Batch: 605665

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264557-1 | Outfall002_20200413_Grab | Total/NA | Water | 120.1 | |
| MB 440-605665/3 | Method Blank | Total/NA | Water | 120.1 | |
| LCS 440-605665/4 | Lab Control Sample | Total/NA | Water | 120.1 | |
| 440-264678-A-1 DU | Duplicate | Total/NA | Water | 120.1 | |

Prep Batch: 605772

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264557-1 | Outfall002_20200413_Grab | Total/NA | Water | 1664A | |
| MB 440-605772/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-605772/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-605772/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |
| 440-264905-A-1-A MS | Matrix Spike | Total/NA | Water | 1664A | |

Analysis Batch: 605848

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264557-1 | Outfall002_20200413_Grab | Total/NA | Water | 1664A | 605772 |
| MB 440-605772/1-A | Method Blank | Total/NA | Water | 1664A | 605772 |
| LCS 440-605772/2-A | Lab Control Sample | Total/NA | Water | 1664A | 605772 |
| LCSD 440-605772/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 605772 |
| 440-264905-A-1-A MS | Matrix Spike | Total/NA | Water | 1664A | 605772 |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|--|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| | |

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264557-1

Project/Site: Routine Outfall 002 Grab

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

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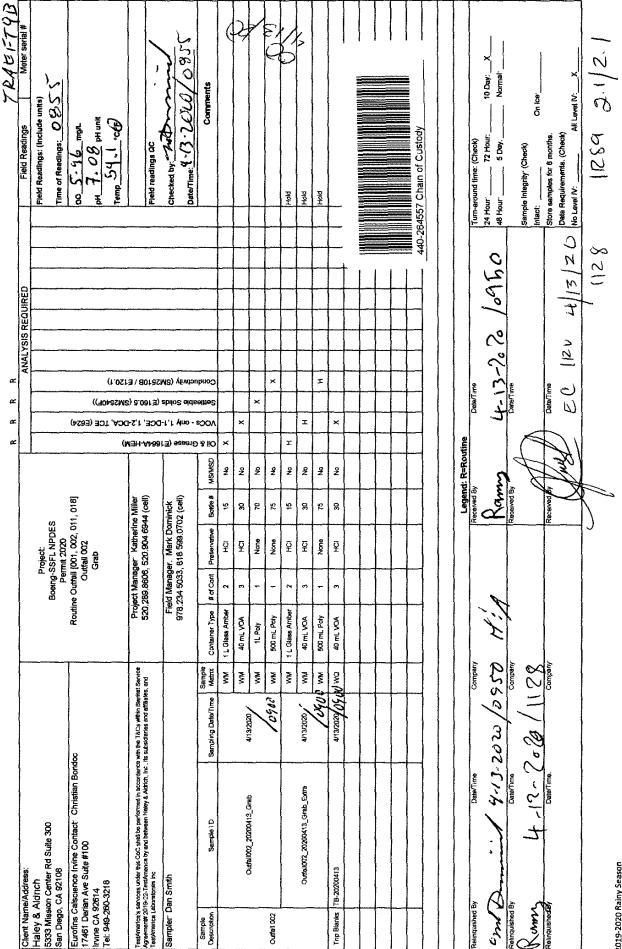
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Page 1 of 1

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

2019-2020 Rainy Season Version 4

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264557-1

Login Number: 264557 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator. Escarante, maria i | | |
|---|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |
| s 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264636-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

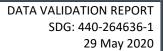
29 May 2020





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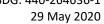


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- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264636-1





INTRODUCTION

Task Order Title: Boeing SSFL NPDES Contract: 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003D.01 002 Sample Delivery Group: 440-264636-1

Project Manager: Katherine Miller

Matrix: Water QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 Laboratory: TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|--------------------------------|--------------------|----------------------|--------|--------------------|---------------------------|---------------------|
| OUTFALL002_2020041 4_COMP | 440-264636-1 | N/A | WM | 4/14/20 9:15 AM | E1613B, E200.7, E200.8 | II |
| OUTFALL002_2020041 4 COMP F | 440-264636-3 | N/A | WM | 4/14/20 9:15 AM | E200.7, E200.8 | II |

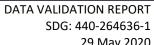
DATA VALIDATION REPORT SDG: 440-264636-1 29 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264636-1:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable, with the following exception. Sample OUTFALL002_20200414_COMP was received for metals analysis unpreserved. The sample was preserved upon receipt at the laboratory.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA- Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-Sacramento.
- Strikethroughs on the original COC were initialed but not dated.



29 May 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | Passon | | | | | | | |
|--------|--|--|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



III. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 8, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDD, 2,3,7,8-TCDF, OCDD and OCDF, and for all totals except PeCDF and TCDD. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. The sample totals for HpCDD, HpCDF, HxCDD and HxCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.



III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. Second-column confirmation analysis for isomer 2,3,7,8-TCDF was not necessary, as 2,3,7,8-TCDF was not detected in the initial analysis of the sample.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Totals HpCDD, HpCDF and HxCDF flagged by the laboratory as including one or more EMPC peaks were qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^x reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL002_20200414_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.

IV.3. QUALITY CONTROL SAMPLES

IV.3.1. METHOD BLANKS

There were no target analyte detections in the method blanks or calibration blanks of sufficient concentration to warrant qualification of associated site sample results.

IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. Interferents in site samples were not summarized; therefore, interference was not evaluated.



IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the sample (dissolved only) for Method 200.7. Recoveries were within the QAPP control limits of 70-130% and RPDs were ≤20%. MS/MSD analyses were not performed on the samples (total or dissolved) in this SDG for Method 200.8.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. INTERNAL STANDARDS PERFORMANCE

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402646361

Analysis Method E1613B

Sample Name OUTFALL002_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

| Analyte F | raction: | CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Oualifier | Validation Notes |
|--|----------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N 3 | 39001-02-0 | 0.0000047 | 0.00010 | 0.00000058 | ug/L | J,DXMBq | U | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-pdioxin (OCDD) | o- N | 3268-87-9 | 0.000015 | 0.00010 | 0.00000051 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N (| 67562-39-4 | 0.0000020 | 0.000052 | 0.00000042 | ug/L | J,DXMBq | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p dioxin (HpCDD) | - N : | 35822-46-9 | 0.0000025 | 0.000052 | 0.00000041 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N : | 55673-89-7 | ND | 0.000052 | 0.00000044 | ug/L | U | U | |
| 1,2,3,4,7,8-Hexachlorodibenzofurar (HxCDF) | ı N | 70648-26-9 | ND | 0.000052 | 0.00000079 | ug/L | U | U | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N 3 | 39227-28-6 | 0.0000025 | 0.000052 | 0.00000070 | ug/L | J,DXMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofurar (HxCDF) | n N | 57117-44-9 | ND | 0.000052 | 0.00000082 | ug/L | U | U | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 57653-85-7 | 0.0000021 | 0.000052 | 0.00000066 | ug/L | J,DX | J | DNQ |
| 1,2,3,7,8,9-Hexachlorodibenzofurar (HxCDF) | n N | 72918-21-9 | 0.0000011 | 0.000052 | 0.00000041 | ug/L | J,DXMBq | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 19408-74-3 | ND | 0.000052 | 0.00000062 | ug/L | U | U | |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-41-6 | ND | 0.000052 | 0.00000041 | ug/L | U | U | |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N 4 | 40321-76-4 | ND | 0.000052 | 0.00000053 | ug/L | U | U | |
| 2,3,4,6,7,8-Hexachlorodibenzofurar (HxCDF) | n N | 60851-34-5 | ND | 0.000052 | 0.00000046 | ug/L | U | U | |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-31-4 | ND | 0.000052 | 0.00000050 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N : | 51207-31-9 | ND | 0.000010 | 0.00000030 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxii (TCDD) | n N | 1746-01-6 | ND | 0.000010 | 0.00000045 | ug/L | U | U | |
| Total Heptachlorodibenzofuran (HpCDF) | N . | 38998-75-3 | 0.0000032 | 0.000052 | 0.00000042 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | N . | 37871-00-4 | 0.0000037 | 0.000052 | 0.00000041 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Hexachlorodibenzofuran (HxCDF) | N : | 55684-94-1 | 0.0000018 | 0.000052 | 0.00000041 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N 3 | 34465-46-8 | 0.0000045 | 0.000052 | 0.00000062 | ug/L | J,DXMB | J | B, DNQ |
| Total Pentachlorodibenzofuran (PeCDF) | N 3 | 30402-15-4 | ND | 0.000052 | 0.00000041 | ug/L | U | U | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N . | 36088-22-9 | ND | 0.000052 | 0.00000053 | ug/L | U | U | |
| Total Tetrachlorodibenzofuran (TCDF) | N : | 55722-27-5 | ND | 0.000010 | 0.00000030 | ug/L | U | U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | N 4 | 41903-57-5 | ND | 0.000010 | 0.00000045 | ug/L | U | U | |

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Analysis Method E200.7

Sample Name OUTFALL002 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

MDL Analyte Fraction: CAS No Result RLResult Lab Validation Validation Value Units Qualifier Qualifier Notes Iron T 7439-89-6 ND 0.10 0.050 mg/L U U Zinc 7440-66-6 ND 20 12 ug/L U U

Sample Name OUTFALL002 20200414 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-3

MDL Analyte Fraction: CAS No. Result RLResult Lab Validation Validation Value Units Qualifier Qualifier Notes Iron 7439-89-6 ND 0.10 0.050 mg/L D U Zinc 7440-66-6 ND 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL002_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

Fraction: CAS No Result RLMDL Analyte Result Lab Validation Validation Value Units **Qualifier** Qualifier Notes 7440-43-9 0.25 Cadmium Т ND 1.0 ug/L U U Copper Т 7440-50-8 2.0 2.0 0.50 ug/L Lead T 7439-92-1 ND 1.0 0.50 ug/L U U Selenium 7782-49-2 ND 2.0 0.50 U ug/L

Sample Name OUTFALL002 20200414 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-3

Analyte Fraction: CAS No Result RLMDL Result Lab Validation Validation Value Units Qualifier Qualifier Notes Cadmium 7440-43-9 D ND 1.0 0.25 ug/L U DNQ D 7440-50-8 1.4 2.0 0.50 J,DX J Copper ug/L Lead D 7439-92-1 ND 1.0 0.50 ug/L U U 7782-49-2 ND 0.50 U IJ Selenium D 2.0 ug/L

Wednesday, June 17, 2020 Page 2 of 2



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264636-1

Client Project/Site: Routine Outfall 002 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 4/23/2020 1:05:58 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Routine Outfall 002 Comp

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc Project Manager I

4/23/2020 1:05:58 PM

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Laboratory Job ID: 440-264636-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 002 Comp

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 002 Comp

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|----------------------------|--------|----------------|----------------|----------|
| 440-264636-1 | Outfall002_20200414_Comp | Water | 04/14/20 09:15 | 04/14/20 13:55 | |
| 440-264636-3 | Outfall002_20200414_Comp_F | Water | 04/14/20 09:15 | 04/14/20 13:55 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-1

Job ID: 440-264636-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264636-1

Comments

No additional comments.

Receipt

The samples were received on 4/14/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.5° C, 1.0° C, 1.3° C, 1.6° C and 2.1° C.

GC/MS Semi VOA

Method 625.1: Surrogate Phenol-d5 recovery for the following sample was below control limits: Outfall002 20200414 Comp (440-264636-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-605053 and analytical batch 440-605156. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-605053/2-A)

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

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: Outfall002 20200414 Comp (440-264636-1), (CCV 320-373674/2), (LCS 320-372899/2-A) and (MB 320-372899/1-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

Method FILTRATION: The following sample requested dissolved metals and was not filtered in the field: Outfall002 20200414 Comp F (440-264636-3). This sample was filtered and preserved upon receipt to the laboratory.

04/14/20 2.5mL of HNO3 HNO3 Lot # 0000234822

Method 200.7 Rev 4.4: The method blank for preparation batch 440-605121 and analytical batch 440-605236 contained Zinc 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 200.7 Rev 4.4: The method blank for preparation batch 440-605121 and analytical batch 440-605236 contained Arsenic above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for 440-605236 contained Arsenic above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-1

Job ID: 440-264636-1 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

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

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-605053. Method 8081B

Methods 3520C, 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-605674. LCS was performed in duplicate to provide precision of data.

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

Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B_Sox_Sep_P preparation/analysis: Sample Outfall002_20200414_Comp (440-264636-1) were received in a wide-mouth amber glass bottle.

Prep Batch: 372899

Method: 1613 (Waste Water)

Matrix: Water

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

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

Client Sample ID: Outfall002_20200414_Comp

Lab Sample ID: 440-264636-1 Date Collected: 04/14/20 09:15 **Matrix: Water**

Date Received: 04/14/20 13:55

| Analyte | le Organic Cor Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|--|---|-----------------------|-------------------------------------|--|--|---------------|---|--|--------|
| 2,4,6-Trichlorophenol | ND | | 6.5 | 0.11 | ug/L | | 04/20/20 10:27 | 04/22/20 10:19 | |
| Bis(2-ethylhexyl) phthalate | ND | | 5.4 | | ug/L | | 04/20/20 10:27 | 04/22/20 10:19 | |
| N-Nitrosodimethylamine | ND | | 5.4 | | ug/L | | | 04/22/20 10:19 | |
| Pentachlorophenol | ND | | 5.4 | | ug/L | | | 04/22/20 10:19 | |
| 2,4-Dinitrotoluene | ND | | 5.4 | | ug/L | | | 04/22/20 10:19 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 2,4,6-Tribromophenol | 79 | | 60 - 120 | | | | 04/20/20 10:27 | 04/22/20 10:19 | |
| -Fluorobiphenyl | 76 | | 51 - 120 | | | | 04/20/20 10:27 | 04/22/20 10:19 | |
| -Fluorophenol | 81 | | 43 - 120 | | | | 04/20/20 10:27 | 04/22/20 10:19 | |
| litrobenzene-d5 | 80 | | 53 - 150 | | | | | 04/22/20 10:19 | |
| Phenol-d5 | 27 | LG | 45 ₋ 150 | | | | | 04/22/20 10:19 | |
| erphenyl-d14 | 78 | LG | 12 - 142 | | | | | 04/22/20 10:19 | |
| Method: 608.3 - Organochio | orine Pesticido | es in Water | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| lpha-BHC | ND | <u> </u> | 0.10 | 0.021 | ug/L | | 04/15/20 05:53 | 04/15/20 14:30 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| etrachloro-m-xylene | | | 10 - 104 | | | | 04/15/20 05:53 | 04/15/20 14:30 | |
| OCB Decachlorobiphenyl (Surr) | 62 | | 18 - 134 | | | | 04/15/20 05:53 | 04/15/20 14:30 | |
| Method: 300.0 - Anions, Ion | Chromatogra | nhv | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Chloride | 8.1 | | 0.50 | | mg/L | | | 04/14/20 20:03 | |
| litrate as N | ND | | 0.11 | 0.055 | - | | | 04/14/20 20:03 | |
| Nitrite as N | ND | | 0.15 | 0.025 | - | | | 04/14/20 20:03 | |
| Sulfate | 99 | | 2.5 | | mg/L | | | 04/14/20 20:21 | |
| Method: 314.0 - Perchlorate | e (IC) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil F |
| Perchlorate | ND | | 4.0 | 0.95 | ug/L | | | 04/16/20 11:19 | |
| | | | | | | | | | |
| Method: NO3NO2 Calc - Nit | | | | | | | | | |
| Analyte | | -Nitrite Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| Analyte | | | RL 0.15 | MDL 0.055 | | <u>D</u> | Prepared | Analyzed 04/15/20 15:17 | Dil F |
| Analyte litrate Nitrite as N Method: 1613B - Dioxins an | Result ND nd Furans (HR | Qualifier GC/HRMS) | 0.15 | 0.055 | mg/L | | Prepared | 04/15/20 15:17 | |
| nalyte litrate Nitrite as N lethod: 1613B - Dioxins an nalyte | Result ND nd Furans (HR Result | Qualifier | 0.15 | 0.055 | | <u>D</u> D | Prepared | 04/15/20 15:17 Analyzed | |
| Analyte Uitrate Nitrite as N Method: 1613B - Dioxins an Analyte | Result ND nd Furans (HR | Qualifier GC/HRMS) | 0.15 | 0.055 EDL 0.0000004 | mg/L Unit | | | 04/15/20 15:17 Analyzed | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD | Result ND nd Furans (HR Result | Qualifier GC/HRMS) | 0.15 | 0.055 EDL 0.0000004 5 0.0000003 | mg/L Unit ug/L | | Prepared 04/16/20 12:05 | 04/15/20 15:17 Analyzed | |
| Analyte Alitrate Nitrite as N Alethod: 1613B - Dioxins and Analyte 1,3,7,8-TCDD 2,3,7,8-TCDF | nd Furans (HR Result ND | Qualifier GC/HRMS) | 0.15 RL 0.000010 | 0.055 EDL 0.0000004 5 0.0000003 0 | mg/L Unit ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 | 04/15/20 15:17 Analyzed 04/20/20 20:28 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDD | Result ND HTML Result ND ND ND | Qualifier GC/HRMS) | 0.15 RL 0.000010 0.000010 | 0.055 EDL 0.0000004 5 0.0000003 0 0.0000005 3 0.0000004 | mg/L Unit ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 | 04/15/20 15:17 Analyzed 04/20/20 20:28 04/20/20 20:28 | |
| Method: NO3NO2 Calc - Nite Analyte Vitrate Nitrite as N Method: 1613B - Dioxins and Analyte 2,3,7,8-TCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF | nd Furans (HR Result ND ND ND ND | Qualifier GC/HRMS) | 0.15 RL 0.000010 0.000010 0.000052 | 0.055 EDL 0.0000004 5 0.0000003 0 0.0000005 3 0.0000004 1 0.0000005 | mg/L Unit ug/L ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 | 04/15/20 15:17 Analyzed 04/20/20 20:28 04/20/20 20:28 04/20/20 20:28 | |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF | Result ND nd Furans (HR Result ND ND ND ND | GC/HRMS) Qualifier | 0.15 RL 0.000010 0.000010 0.000052 | 0.055 EDL 0.0000004 5 0.0000003 0 0.0000005 3 0.0000004 1 | mg/L Unit ug/L ug/L ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 | 04/15/20 15:17 Analyzed 04/20/20 20:28 04/20/20 20:28 04/20/20 20:28 | Dil F |
| Analyte Nitrate Nitrite as N Method: 1613B - Dioxins an Analyte 2,3,7,8-TCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF | Result ND nd Furans (HR Result ND | GC/HRMS) Qualifier | 0.15 RL 0.000010 0.000052 0.000052 | 0.055 EDL 0.0000004 5 0.0000003 0 0.0000005 3 0.0000004 1 0.0000005 0 | mg/L Unit ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 04/16/20 12:05 | 04/15/20 15:17 Analyzed 04/20/20 20:28 04/20/20 20:28 04/20/20 20:28 04/20/20 20:28 | |

Eurofins Calscience Irvine

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

Client Sample ID: Outfall002_20200414_Comp

Lab Sample ID: 440-264636-1

Date Collected: 04/14/20 09:15 **Matrix: Water** Date Received: 04/14/20 13:55

| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------|-----------|-----------|----------|----------------|------|---|----------------|----------------|---------|
| 1,2,3,7,8,9-HxCDD | ND | | 0.000052 | 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 1,2,3,4,7,8-HxCDF | ND | | 0.000052 | 2 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000052 | 9 0.0000008 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 1,2,3,7,8,9-HxCDF | 0.0000011 | J,DX MB q | 0.000052 | 2 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | , |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000052 | 1 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 1,2,3,4,6,7,8-HpCDD | 0.0000025 | J,DX MB | 0.000052 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | , |
| 1,2,3,4,6,7,8-HpCDF | 0.0000020 | J,DX MB q | 0.000052 | 1 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | , |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000052 | 2 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | , |
| OCDD | 0.000015 | J,DX MB | 0.00010 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| OCDF | 0.0000047 | J,DX MB q | 0.00010 | 1 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | , |
| Total TCDD | ND | | 0.000010 | 8 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Total TCDF | ND | | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Total PeCDD | ND | | 0.000052 | 0 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Γotal PeCDF | ND | | 0.000052 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Total HxCDD | 0.0000045 | J,DX MB | 0.000052 | 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Total HxCDF | 0.0000018 | J,DX MB q | 0.000052 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Total HpCDD | 0.0000037 | J,DX MB q | 0.000052 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Total HpCDF | 0.0000032 | J,DX MB q | 0.000052 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 20:28 | |
| Isotope Dilution | %Recovery | Qualifier | Limits | 2 | | | Prepared | Analyzed | Dil Fa |
| 13C-2,3,7,8-TCDD | 65 | - | 25 - 164 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-2,3,7,8-TCDF | 64 | | 24 - 169 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,7,8-PeCDD | 55 | | 25 - 181 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,7,8-PeCDF | 56 | | 24 - 185 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-2,3,4,7,8-PeCDF | 48 | | 21 - 178 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,4,7,8-HxCDD | 48 | | 32 - 141 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,6,7,8-HxCDD | 55 | | 28 - 130 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,4,7,8-HxCDF | 53 | | 26 - 152 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,6,7,8-HxCDF | 53 | | 26 - 123 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,7,8,9-HxCDF | 66 | | 29 - 147 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-2,3,4,6,7,8-HxCDF | 60 | | 28 - 136 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,4,6,7,8-HpCDD | 73 | | 23 - 140 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,4,6,7,8-HpCDF | 63 | | 28 - 143 | | | | 04/16/20 12:05 | 04/20/20 20:28 | |
| 13C-1,2,3,4,7,8,9-HpCDF | 83 | | 26 - 138 | | | | | 04/20/20 20:28 | |
| 13C-OCDD | 74 | | 17 - 157 | | | | | 04/20/20 20:28 | |

Job ID: 440-264636-1 Project/Site: Routine Outfall 002 Comp

Client Sample ID: Outfall002_20200414_Comp

Date Collected: 04/14/20 09:15 Date Received: 04/14/20 13:55

Lab Sample ID: 440-264636-1

Matrix: Water

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| 37CI4-2,3,7,8-TCDD | 86 | | 35 - 197 | 04/16/20 12:05 | 04/20/20 20:28 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Anaiyzea | DII Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| 37Cl4-2,3,7,8-TCDD | 86 | | 35 - 197 | 04/16/20 12:03 | 04/20/20 20:28 | 1 |
| | | | | | | |

| Method: 200.7 Rev 4.4 - Metal | ls (ICP) - Total Recovera | ble | | | | | | |
|-------------------------------|---------------------------|------|-------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Iron | ND | 0.10 | 0.050 | mg/L | | 04/15/20 09:51 | 04/15/20 17:12 | 1 |
| Zinc | ND | 20 | 12 | ug/L | | 04/15/20 09:51 | 04/15/20 17:12 | 1 |

| Method: 200.8 - Metal | s (ICP/MS) - Total Recoverable | | | | | | | |
|-----------------------|--------------------------------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/15/20 09:38 | 04/15/20 16:52 | 1 |
| Copper | 2.0 | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:52 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:52 | 1 |
| Selenium | ND | 2.0 | 0.50 | ua/L | | 04/15/20 09:38 | 04/15/20 16:52 | 1 |

| Method: 245.1 - Mercury (CVAA) Analyte | • | Qualifier | RL | MDL | Unit | D |) | Prepared | Analyzed | Dil Fac |
|---|----|-----------|------|------|------|---|---|----------------|----------------|---------|
| Mercury | ND | | 0.20 | 0.10 | ug/L | | _ | 04/14/20 15:17 | 04/15/20 12:30 | 1 |

| General Chemistry Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Turbidity | 0.31 | | 0.10 | 0.040 | NTU | | | 04/15/20 15:23 | 1 |
| Total Dissolved Solids | 280 | | 10 | 5.0 | mg/L | | | 04/21/20 09:33 | 1 |
| Total Suspended Solids | 0.60 | J,DX | 1.0 | 0.50 | mg/L | | | 04/21/20 13:42 | 1 |
| Cyanide, Total | ND | | 5.0 | 2.5 | ug/L | | 04/15/20 09:51 | 04/16/20 13:39 | 1 |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | | | 04/20/20 13:47 | 1 |
| Methylene Blue Active Substances | 0.10 | | 0.10 | 0.050 | mg/L | | | 04/15/20 13:21 | 1 |
| Biochemical Oxygen Demand | ND | | 2.0 | 2.0 | mg/L | | | 04/15/20 08:25 | 1 |

| Client Sample ID: Outfall002_20200414_Comp_F | Lab Sample ID: 440-264636-3 |
|--|-----------------------------|
| Date Collected: 04/14/20 09:15 | Matrix: Water |

Date Collected: 04/14/20 09:15 Date Received: 04/14/20 13:55

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|---------------------------------|----------------------------------|-----------------|--------|-------------|--------------|----------|----------------------------------|-------------------------|--------|
| Iron | ND | | 0.10 | 0.050 | mg/L | | 04/15/20 10:36 | 04/15/20 17:55 | |
| Zinc | ND | | 20 | 12 | ug/L | | 04/15/20 10:36 | 04/15/20 17:55 | |
| Method: 200.8 - Meta Analyte | als (ICP/MS) - Dissolv Result | ed Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Analyte | Result | | | | | <u>D</u> | | | Dil Fa |
| Analyte | | | RL 1.0 | MDL 0.25 | | D | | Analyzed 04/15/20 20:56 | Dil Fa |
| | Result ND | | | | ug/L | <u>D</u> | 04/15/20 10:40 | | Dil Fa |
| Analyte Cadmium | Result ND | Qualifier | 1.0 | 0.25 | ug/L ug/L | D | 04/15/20 10:40 04/15/20 10:40 | 04/15/20 20:56 | Dil Fa |

| Method: 245.1 - Mercury (CVAA) - Dissolved | | | | | | | | | |
|--|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.20 | 0.10 | ug/L | | 04/17/20 11:03 | 04/20/20 12:40 | 1 |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

| Method | Method Description | Protocol | Laboratory |
|---------------|---|-----------|------------|
| 625.1 | Semivolatile Organic Compounds (GC/MS) | 40CFR136A | TAL IRV |
| 608.3 | Organochlorine Pesticides in Water | 40CFR136A | TAL IRV |
| 300.0 | Anions, Ion Chromatography | MCAWW | TAL IRV |
| 314.0 | Perchlorate (IC) | EPA | TAL IRV |
| NO3NO2 Calc | Nitrogen, Nitrate-Nitrite | EPA | TAL IRV |
| 1613B | Dioxins and Furans (HRGC/HRMS) | EPA | TAL SAC |
| 200.7 Rev 4.4 | Metals (ICP) | EPA | TAL IRV |
| 200.8 | Metals (ICP/MS) | EPA | TAL IRV |
| 245.1 | Mercury (CVAA) | EPA | TAL IRV |
| 180.1 | Turbidity, Nephelometric | MCAWW | TAL IRV |
| SM 2540C | Solids, Total Dissolved (TDS) | SM | TAL IRV |
| SM 2540D | Solids, Total Suspended (TSS) | SM | TAL IRV |
| SM 4500 CN E | Cyanide, Total (Low Level) | SM | TAL IRV |
| SM 4500 NH3 G | Ammonia | SM | TAL IRV |
| SM 5540C | Methylene Blue Active Substances (MBAS) | SM | TAL IRV |
| SM5210B | BOD, 5 Day | SM | TAL IRV |
| 1613B | Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans | EPA | TAL SAC |
| 200.2 | Preparation, Total Recoverable Metals | EPA | TAL IRV |
| 245.1 | Preparation, Mercury | EPA | TAL IRV |
| 608 | Liquid-Liquid Extraction (Separatory Funnel) | 40CFR136A | TAL IRV |
| 625 | Liquid-Liquid Extraction | 40CFR136A | TAL IRV |
| Distill/CN | Distillation, Cyanide | None | TAL IRV |
| FILTRATION | Sample Filtration | None | TAL IRV |

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:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Eurofins Calscience Irvine

Job ID: 440-264636-1

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Client Sample ID: Outfall002_20200414_Comp

Date Collected: 04/14/20 09:15

Date Received: 04/14/20 13:55

| Γ | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|---------------|-----|--------|----------|---------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 625 | | | 930 mL | 2.0 mL | 605674 | 04/20/20 10:27 | NAM | TAL IRV |
| Total/NA | Analysis | 625.1 | | 1 | | | 606010 | 04/22/20 10:19 | L1B | TAL IRV |
| Total/NA | Prep | 608 | | | 965 mL | 2 mL | 605053 | 04/15/20 05:53 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 605156 | 04/15/20 14:30 | D1D | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | | | 604906 | 04/14/20 20:03 | OH1 | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | | | 604907 | 04/14/20 20:03 | OH1 | TAL IRV |
| Total/NA | Analysis | 300.0 | | 5 | | | 604907 | 04/14/20 20:21 | OH1 | TAL IRV |
| Total/NA | Analysis | 314.0 | | 1 | | | 605310 | 04/16/20 11:19 | CTH | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 605194 | 04/15/20 15:17 | TLN | TAL IRV |
| Total/NA | Prep | 1613B | | | 958.7 mL | 20.0 uL | 372899 | 04/16/20 12:05 | NR | TAL SAC |
| Total/NA | Analysis | 1613B | | 1 | | | 373674 | 04/20/20 20:28 | ALM | TAL SAC |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605121 | 04/15/20 09:51 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 605236 | 04/15/20 17:12 | P1R | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605115 | 04/15/20 09:38 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 605225 | 04/15/20 16:52 | MQP | TAL IRV |
| Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 605002 | 04/14/20 15:17 | MEM | TAL IRV |
| Total/NA | Analysis | 245.1 | | 1 | | | 605167 | 04/15/20 12:30 | MEM | TAL IRV |
| Total/NA | Analysis | 180.1 | | 1 | | | 605147 | 04/15/20 15:23 | ST | TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 605839 | 04/21/20 09:33 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 605914 | 04/21/20 13:42 | HTL | TAL IRV |
| Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 605119 | 04/15/20 09:51 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 CN E | | 1 | | | 605374 | 04/16/20 13:39 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 NH3 G | | 1 | 0.8 mL | 8.0 mL | 605752 | 04/20/20 13:47 | KMY | TAL IRV |
| Total/NA | Analysis | SM 5540C | | 1 | 100 mL | 100 mL | 605169 | 04/15/20 13:21 | KMY | TAL IRV |
| Total/NA | Analysis | SM5210B | | 1 | 300 mL | 300 mL | 605082 | 04/15/20 08:25 | KYP | TAL IRV |

Client Sample ID: Outfall002_20200414_Comp_F

Date Collected: 04/14/20 09:15

Date Received: 04/14/20 13:55

Lab Sample ID: 440-264636-3 **Matrix: Water**

Lab Sample ID: 440-264636-1

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 605017 | 04/14/20 17:29 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 605131 | 04/15/20 10:36 | M1G | TAL IRV |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 605236 | 04/15/20 17:55 | P1R | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 605017 | 04/14/20 17:29 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 605132 | 04/15/20 10:40 | M1G | TAL IRV |
| Dissolved | Analysis | 200.8 | | 1 | | | 605296 | 04/15/20 20:56 | B1H | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 605016 | 04/14/20 17:27 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 605496 | 04/17/20 11:03 | MEM | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 605723 | 04/20/20 12:40 | EMS | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Matrix: Water

Eurofins Calscience Irvine

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: MB 440-605674/1-A

Matrix: Water

Analysis Batch: 606010

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 605674

| MB N | ИВ | | | | | | • | |
|----------|----------------------------------|----------------|---|---|--|--|---|--|
| Result C | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| ND | | 6.0 | 0.10 | ug/L | | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| ND | | 5.0 | 2.0 | ug/L | | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| ND | | 5.0 | 0.30 | ug/L | | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| ND | | 5.0 | 1.0 | ug/L | | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| ND | | 5.0 | 2.0 | ug/L | | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| | Result 0 ND ND ND ND | ND ND ND | Result Qualifier RL ND 6.0 ND 5.0 ND 5.0 ND 5.0 | Result Qualifier RL MDL ND 6.0 0.10 ND 5.0 2.0 ND 5.0 0.30 ND 5.0 1.0 | Result Qualifier RL MDL Unit ND 6.0 0.10 ug/L ND 5.0 2.0 ug/L ND 5.0 0.30 ug/L ND 5.0 1.0 ug/L | Result Qualifier RL MDL ug/L Unit D ND 6.0 0.10 ug/L ug/L ND 5.0 2.0 ug/L ND 5.0 0.30 ug/L ND 5.0 1.0 ug/L | Result Qualifier RL MDL Unit D Prepared ND 6.0 0.10 ug/L 04/20/20 10:27 ND 5.0 2.0 ug/L 04/20/20 10:27 ND 5.0 0.30 ug/L 04/20/20 10:27 ND 5.0 1.0 ug/L 04/20/20 10:27 | Result Qualifier RL MDL Unit D Prepared Analyzed ND 6.0 0.10 ug/L 04/20/20 10:27 04/22/20 09:07 ND 5.0 2.0 ug/L 04/20/20 10:27 04/22/20 09:07 ND 5.0 0.30 ug/L 04/20/20 10:27 04/22/20 09:07 ND 5.0 1.0 ug/L 04/20/20 10:27 04/22/20 09:07 |

| | IVIB | MB | | | | |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 2,4,6-Tribromophenol | 73 | | 60 - 120 | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| 2-Fluorobiphenyl | 79 | | 51 - 120 | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| 2-Fluorophenol | 81 | | 43 - 120 | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| Nitrobenzene-d5 | 65 | | 53 - 150 | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| Phenol-d5 | 78 | | 45 - 150 | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| Terphenyl-d14 | 90 | | 12 - 142 | 04/20/20 10:27 | 04/22/20 09:07 | 1 |
| | | | | | | |

Lab Sample ID: LCS 440-605674/2-A

Matrix: Water

Analysis Batch: 606010

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec.

Prep Batch: 605674

Spike LCS LCS Added Result Qualifier Unit D %Rec Limits 2,4,6-Trichlorophenol 15.0 12.5 ug/L 83 52 - 129 Bis(2-ethylhexyl) phthalate 15.0 12.2 ug/L 81 29 - 137 N-Nitrosodimethylamine 15.0 12.8 85 ug/L 60 - 14028.0 Pentachlorophenol 30.0 ug/L 93 38 - 152

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 82 | | 60 - 120 |
| 2-Fluorobiphenyl | 77 | | 51 - 120 |
| 2-Fluorophenol | 78 | | 43 - 120 |
| Nitrobenzene-d5 | 84 | | 53 - 150 |
| Phenol-d5 | 80 | | 45 - 150 |
| Terphenyl-d14 | 85 | | 12 - 142 |

Lab Sample ID: LCSD 440-605674/3-A

Matrix: Water

Analysis Batch: 606010

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 605674

| | Spike | LCSD | LCSD | | | | %Rec. | | RPD | |
|-----------------------------|--|--|---|---|--|---|--|--|---|---|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | |
| 2,4,6-Trichlorophenol | 15.0 | 12.3 | | ug/L | | 82 | 52 - 129 | 2 | 35 | |
| Bis(2-ethylhexyl) phthalate | 15.0 | 12.7 | | ug/L | | 85 | 29 - 137 | 4 | 35 | |
| N-Nitrosodimethylamine | 15.0 | 12.8 | | ug/L | | 86 | 60 - 140 | 0 | 35 | |
| Pentachlorophenol | 30.0 | 27.4 | | ug/L | | 91 | 38 - 152 | 2 | 35 | |
| | 2,4,6-Trichlorophenol Bis(2-ethylhexyl) phthalate N-Nitrosodimethylamine | AnalyteAdded2,4,6-Trichlorophenol15.0Bis(2-ethylhexyl) phthalate15.0N-Nitrosodimethylamine15.0 | Analyte Added Result 2,4,6-Trichlorophenol 15.0 12.3 Bis(2-ethylhexyl) phthalate 15.0 12.7 N-Nitrosodimethylamine 15.0 12.8 | Analyte Added Result 2,4,6-Trichlorophenol Qualifier 2,4,6-Trichlorophenol 15.0 12.3 Bis(2-ethylhexyl) phthalate 15.0 12.7 N-Nitrosodimethylamine 15.0 12.8 | Analyte Added Result 2,4,6-Trichlorophenol Qualifier 15.0 Unit 20,4,6-Trichlorophenol Bis(2-ethylhexyl) phthalate 15.0 12.7 ug/L N-Nitrosodimethylamine 15.0 12.8 ug/L | Analyte Added Result 2,4,6-Trichlorophenol Qualifier 15.0 Unit ug/L ug/L D 2,4,6-Trichlorophenol 15.0 12.3 ug/L ug/L Bis(2-ethylhexyl) phthalate 15.0 12.7 ug/L N-Nitrosodimethylamine 15.0 12.8 ug/L | Analyte Added Result 2,4,6-Trichlorophenol Qualifier Unit ug/L D %Rec 2,4,6-Trichlorophenol 15.0 12.3 ug/L 82 Bis(2-ethylhexyl) phthalate 15.0 12.7 ug/L 85 N-Nitrosodimethylamine 15.0 12.8 ug/L 86 | Analyte Added Result 2,4,6-Trichlorophenol Qualifier 2,4,6-Trichlorophenol Unit 2,4,6-Trichlorophenol D 2,4,6-Trichlorophenol WRec 2,4,6-Trichlorophenol Limits 2,2,4,6-Trichlorophenol Bis(2-ethylhexyl) phthalate 15.0 12.7 ug/L 85 29 - 137 N-Nitrosodimethylamine 15.0 12.8 ug/L 86 60 - 140 | Analyte Added Result 2,4,6-Trichlorophenol Qualifier Unit D %Rec Limits RPD 2,4,6-Trichlorophenol 15.0 12.3 ug/L 82 52 - 129 2 Bis(2-ethylhexyl) phthalate 15.0 12.7 ug/L 85 29 - 137 4 N-Nitrosodimethylamine 15.0 12.8 ug/L 86 60 - 140 0 | Analyte Added Result 2,4,6-Trichlorophenol Qualifier Unit ug/L D %Rec Limits RPD Limit Limit 2,4,6-Trichlorophenol 15.0 12.3 ug/L 82 52 - 129 2 35 Bis(2-ethylhexyl) phthalate 15.0 12.7 ug/L 85 29 - 137 4 35 N-Nitrosodimethylamine 15.0 12.8 ug/L 86 60 - 140 0 35 |

| LCSD | LCSD |
|------|------|
| LUSD | LUSD |

| Surrogate | %Recovery Q | ualifier | Limits |
|----------------------|-------------|----------|----------|
| 2,4,6-Tribromophenol | 81 | | 60 - 120 |
| 2-Fluorobiphenyl | 75 | | 51 - 120 |
| 2-Fluorophenol | 80 | | 43 - 120 |
| Nitrobenzene-d5 | 82 | | 53 - 150 |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: LCSD 440-605674/3-A **Matrix: Water**

Analysis Batch: 606010

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Job ID: 440-264636-1

Prep Batch: 605674

LCSD LCSD

Limits Surrogate %Recovery Qualifier Phenol-d5 77 45 - 150 Terphenyl-d14 88 12 - 142

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-605053/1-A

Matrix: Water

alpha-BHC

Analysis Batch: 605156

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 605053

MB MB

Analyte

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared ND 0.10 0.020 ug/L 04/15/20 05:53 04/15/20 13:30

LCS LCS

MB MB

Surrogate %Recovery Qualifier Limits 50 10 - 104 Tetrachloro-m-xylene DCB Decachlorobiphenyl (Surr) 77 18 - 134

Prepared Analyzed Dil Fac 04/15/20 05:53 04/15/20 13:30 04/15/20 05:53 04/15/20 13:30

Lab Sample ID: LCS 440-605053/2-A

Matrix: Water

Analysis Batch: 605156

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

Prep Batch: 605053

%Rec.

Analyte Added Result Qualifier Unit D %Rec Limits alpha-BHC 0.400 0.243 ug/L 61 37 - 140

Spike

LCS LCS

%Recovery Qualifier Limits Surrogate Tetrachloro-m-xylene 70 10 - 104 DCB Decachlorobiphenyl (Surr) 99 18 - 134

Lab Sample ID: LCSD 440-605053/3-A

Matrix: Water

Analysis Batch: 605156

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 605053 **RPD** %Rec.

Spike LCSD LCSD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit alpha-BHC 0.400 0.231 ug/L 58 37 - 140

LCSD LCSD

Surrogate Qualifier %Recovery Limits Tetrachloro-m-xylene 65 10 - 104 DCB Decachlorobiphenyl (Surr) 90 18 - 134

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604906/6

Matrix: Water

Analysis Batch: 604906

Client Sample ID: Method Blank

Prep Type: Total/NA

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Dil Fac Analyzed 0.055 mg/L Nitrate as N ND 0.11 04/14/20 10:58 Nitrite as N ND 0.15 0.025 mg/L 04/14/20 10:58

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Job ID: 440-264636-1

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Project/Site: Routine Outfall 002 Comp

Method: 300.0 - Anions, Ion Chromatography (Continued)

Matrix: Water

Analysis Batch: 604906

Lab Sample ID: LCS 440-604906/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Nitrate as N 1.13 97 90 - 110 1 10 mg/L Nitrite as N 1.52 1.56 mg/L 102 90 - 110

Lab Sample ID: 440-264660-D-1 MS

Matrix: Water

Analysis Batch: 604906

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier %Rec Limits Analyte Unit D Nitrate as N 0.83 1.13 1.90 95 80 - 120 mg/L Nitrite as N 0.22 1 52 1.62 mg/L 92 80 - 120

Lab Sample ID: 440-264660-D-1 MSD

Matrix: Water

Analysis Batch: 604906

MSD MSD **RPD** Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Analyte 1.13 Nitrate as N 0.83 1.90 20 mg/L 95 80 - 120 0 Nitrite as N 0.22 1.52 1.62 92 mg/L 80 - 120 20

Lab Sample ID: MB 440-604907/6

Matrix: Water

Analysis Batch: 604907

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Chloride $\overline{\mathsf{ND}}$ 0.50 0.25 mg/L 04/14/20 10:58 Sulfate ND 0.50 0.25 mg/L 04/14/20 10:58

Lab Sample ID: LCS 440-604907/5

Matrix: Water

Analysis Batch: 604907

Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit D %Rec Chloride 5.00 4.51 90 90 - 110 mg/L 5.00 4.88 90 - 110 Sulfate mg/L ٩R

Lab Sample ID: 440-264660-D-1 MS

Matrix: Water

Analysis Batch: 604907

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier %Rec Limits Unit 5.00 Chloride 26 EY 32.1 EY BB mg/L 114 80 - 120 Sulfate 66 EY 5.00 72.3 EY BB mg/L 119 80 - 120

Lab Sample ID: 440-264660-D-1 MSD

Matrix: Water

Analysis Batch: 604907

MSD MSD **RPD** Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 26 EY 5.00 32.1 EY BB mg/L 113 80 - 120 20 66 EY 5.00 20 Sulfate 72.3 EY BB mg/L 119 80 - 120

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Project/Site: Routine Outfall 002 Comp

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-605310/6

Matrix: Water

Analysis Batch: 605310

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Perchlorate ND IB 4.0 0.95 ug/L 04/16/20 09:49

Lab Sample ID: LCS 440-605310/5

Matrix: Water

Analysis Batch: 605310

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 10.0 Perchlorate 9.34 IB ug/L 93 85 - 115

Lab Sample ID: MRL 440-605310/4

Matrix: Water

Analysis Batch: 605310

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit Limits D %Rec Perchlorate 1.00 0.997 J,DX 75 - 125 ug/L 100

Lab Sample ID: MRL 440-605310/8

Matrix: Water

Analysis Batch: 605310

Spike MRL MRL %Rec. Added Analyte Result Qualifier Limits Unit D %Rec Perchlorate 4.00 4.02 ug/L 100 75 - 125

Lab Sample ID: 440-264636-1 MS

Matrix: Water

Analysis Batch: 605310

Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Perchlorate ND 10.0 10.2 102 ug/L 80 - 120

Lab Sample ID: 440-264636-1 MSD

Matrix: Water

Analysis Batch: 605310

Spike MSD MSD **RPD** Sample Sample %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits **RPD** Limit Perchlorate ND 10.0 10.3 ug/L 103 80 - 120

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

Lab Sample ID: MB 320-372899/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA Analysis Batch: 373674 **Prep Batch: 372899** MR MR

| | IVID | IVID | | | | | | | |
|-----------------|-------------|-----------|----------|-----------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | 8 | | | | | |
| 1,2,3,7,8-PeCDD | 0.000000862 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | 3 | | | | | |
| 1,2,3,7,8-PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | 4 | | | | | |

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Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Outfall002_20200414_Comp

Client Sample ID: Outfall002_20200414_Comp

Prep Type: Total/NA

QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

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

| Lab | Samp | le ID: | MB | 320-37 | 72899/ [,] | 1-A |
|-----|------|--------|----|--------|---------------------|-----|
|-----|------|--------|----|--------|---------------------|-----|

Matrix: Water

Analysis Batch: 373674

| | | | | ole ID: Metho Prep Type: T Prep Batch: | otal/NA |
|----|------|---|----------|--|---------|
| DL | Unit | D | Prepared | Analyzed | Dil Fac |

| Allalysis Batch. 373074 | MD | МВ | | | | | | Prep Batch. | 312099 |
|-------------------------|-------------|-----------|----------|-----------|------|---|----------------|----------------|---------|
| Analyte | | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.00000189 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.000000710 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8-HxCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.000000893 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000730 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000720 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| OCDD | 0.0000663 | J,DX | 0.00010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| OCDF | 0.0000257 | J,DX | 0.00010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDD | ND | | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDF | 0.000000636 | J,DX | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDD | 0.00000862 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HxCDD | 0.00000260 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HxCDF | 0.000000893 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HpCDD | 0.0000130 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HpCDF | 0.0000152 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | MB | МВ | | 1 | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | 76 | | 25 - 164 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | | | | | | |

| | | | | 1 | | | |
|-----------------------|-----------|-----------|----------|---|----------------|----------------|---------|
| | MB | MB | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | 76 | | 25 - 164 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,7,8-TCDF | 72 | | 24 - 169 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8-PeCDD | 65 | | 25 - 181 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8-PeCDF | 64 | | 24 - 185 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,4,7,8-PeCDF | 72 | | 21 - 178 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDD | 70 | | 32 - 141 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 70 | | 28 - 130 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 72 | | 26 - 152 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 69 | | 26 - 123 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 68 | | 29 - 147 | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: MB 320-372899/1-A **Matrix: Water**

Analysis Batch: 373674

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 372899**

Prepared

Analyzed

MB MB Dil Fac Isotope Dilution %Recovery Qualifier Limits Prepared Analyzed 13C-2,3,4,6,7,8-HxCDF 67 28 - 136 04/16/20 12:05 04/20/20 16:41 13C-1,2,3,4,6,7,8-HpCDD 72 23 - 140 04/16/20 12:05 04/20/20 16:41 13C-1,2,3,4,6,7,8-HpCDF 72 28 - 143 04/16/20 12:05 04/20/20 16:41 13C-1,2,3,4,7,8,9-HpCDF 79 26 - 138 04/16/20 12:05 04/20/20 16:41 13C-OCDD 73 17 - 157 04/16/20 12:05 04/20/20 16:41 MB MB

Surrogate Qualifier Limits %Recovery 37CI4-2,3,7,8-TCDD 35 - 197 86

04/16/20 12:05 04/20/20 16:41

Lab Sample ID: LCS 320-372899/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Prep Type: Total/NA Analysis Batch: 373674 **Prep Batch: 372899**

| Spike | LCS | LCS | | | | %Rec. | |
|----------|---|--|--|--|--|--|---|
| Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 0.000200 | 0.000199 | | ug/L | | 99 | 67 - 158 | |
| 0.000200 | 0.000207 | MB | ug/L | | 104 | 75 ₋ 158 | |
| 0.00100 | 0.00105 | MB | ug/L | | 105 | 70 - 142 | |
| 0.00100 | 0.00106 | | ug/L | | 106 | 80 - 134 | |
| 0.00100 | 0.000992 | | ug/L | | 99 | 68 - 160 | |
| 0.00100 | 0.000959 | MB | ug/L | | 96 | 70 - 164 | |
| 0.00100 | 0.00107 | | ug/L | | 107 | 76 - 134 | |
| 0.00100 | 0.00104 | MB | ug/L | | 104 | 64 - 162 | |
| 0.00100 | 0.000915 | | ug/L | | 91 | 72 - 134 | |
| 0.00100 | 0.00101 | | ug/L | | 101 | 84 - 130 | |
| 0.00100 | 0.00103 | MB | ug/L | | 103 | 78 ₋ 130 | |
| 0.00100 | 0.00102 | | ug/L | | 102 | 70 ₋ 156 | |
| 0.00100 | 0.00101 | MB | ug/L | | 101 | 70 - 140 | |
| 0.00100 | 0.00104 | MB | ug/L | | 104 | 82 - 122 | |
| 0.00100 | 0.000964 | | ug/L | | 96 | 78 - 138 | |
| 0.00200 | 0.00199 | MB | ug/L | | 100 | 78 ₋ 144 | |
| 0.00200 | 0.00217 | MB | ug/L | | 108 | 63 ₋ 170 | |
| | Added 0.000200 0.000200 0.000200 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 | Added Result 0.000200 0.000199 0.000200 0.000207 0.00100 0.00105 0.00100 0.00106 0.00100 0.000992 0.00100 0.000959 0.00100 0.00107 0.00100 0.00104 0.00100 0.00104 0.00100 0.00101 0.00100 0.00103 0.00100 0.00103 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00100 0.00104 0.00200 0.00199 | Added Result Qualifier 0.000200 0.000199 0.000199 0.000200 0.000207 MB 0.00100 0.00105 MB 0.00100 0.000992 MB 0.00100 0.000959 MB 0.00100 0.00107 MB 0.00100 0.00104 MB 0.00100 0.000915 MB 0.00100 0.00103 MB 0.00100 0.00103 MB 0.00100 0.00101 MB 0.00100 0.00104 MB 0.00100 0.00104 MB 0.00100 0.00104 MB 0.00100 0.000964 0.00199 | Added Result Qualifier Unit 0.000200 0.000199 ug/L 0.000200 0.000207 MB ug/L 0.00100 0.00105 MB ug/L 0.00100 0.00106 ug/L 0.00100 0.000992 ug/L 0.00100 0.000959 MB ug/L 0.00100 0.00107 ug/L 0.00100 0.00104 MB ug/L 0.00100 0.000915 ug/L 0.00100 0.00101 ug/L 0.00100 0.00103 MB ug/L 0.00100 0.00101 MB ug/L 0.00100 0.00101 MB ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00104 MB ug/L | Added Result Qualifier Unit D 0.000200 0.000199 ug/L ug/L 0.000200 0.000207 MB ug/L 0.00100 0.00105 MB ug/L 0.00100 0.00106 ug/L 0.00100 0.000992 ug/L 0.00100 0.000959 MB ug/L 0.00100 0.00107 ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00101 ug/L 0.00100 0.00103 MB ug/L 0.00100 0.00102 ug/L 0.00100 0.00101 MB ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00104 MB ug/L 0.00100 0.00109 MB ug/L | Added Result Qualifier Unit D %Rec 0.000200 0.000199 ug/L 99 0.000200 0.000207 MB ug/L 104 0.00100 0.00105 MB ug/L 105 0.00100 0.00106 ug/L 99 0.00100 0.000992 ug/L 99 0.00100 0.000959 MB ug/L 96 0.00100 0.00107 ug/L 107 0.00100 0.00104 MB ug/L 104 0.00100 0.00101 ug/L 91 0.00100 0.00101 ug/L 103 0.00100 0.00103 MB ug/L 103 0.00100 0.00101 MB ug/L 101 0.00100 0.00104 MB ug/L 104 0.00100 0.00104 MB ug/L 104 0.00100 0.00104 MB ug/L 104 0.0010 | Added Result Qualifier Unit D %Rec Limits 0.000200 0.000199 ug/L 99 67 - 158 0.000200 0.000207 MB ug/L 104 75 - 158 0.00100 0.00105 MB ug/L 105 70 - 142 0.00100 0.00106 ug/L 106 80 - 134 0.00100 0.000992 ug/L 99 68 - 160 0.00100 0.000959 MB ug/L 96 70 - 164 0.00100 0.00107 ug/L 107 76 - 134 0.00100 0.00104 MB ug/L 104 64 - 162 0.00100 0.000915 ug/L 91 72 - 134 0.00100 0.00101 ug/L 101 84 - 130 0.00100 0.00103 MB ug/L 103 78 - 130 0.00100 0.00102 ug/L 102 70 - 156 0.00100 0.00104 MB ug/L |

LCS LCS

| | | _00 | |
|-------------------------|-----------|-----------|----------|
| Isotope Dilution | %Recovery | Qualifier | Limits |
| 13C-2,3,7,8-TCDD | 69 | | 20 - 175 |
| 13C-2,3,7,8-TCDF | 64 | | 22 - 152 |
| 13C-1,2,3,7,8-PeCDD | 59 | | 21 - 227 |
| 13C-1,2,3,7,8-PeCDF | 60 | | 21 - 192 |
| 13C-2,3,4,7,8-PeCDF | 64 | | 13 - 328 |
| 13C-1,2,3,4,7,8-HxCDD | 62 | | 21 - 193 |
| 13C-1,2,3,6,7,8-HxCDD | 63 | | 25 - 163 |
| 13C-1,2,3,4,7,8-HxCDF | 64 | | 19 - 202 |
| 13C-1,2,3,6,7,8-HxCDF | 61 | | 21 - 159 |
| 13C-1,2,3,7,8,9-HxCDF | 63 | | 17 - 205 |
| 13C-2,3,4,6,7,8-HxCDF | 63 | | 22 - 176 |
| 13C-1,2,3,4,6,7,8-HpCDD | 68 | | 26 - 166 |
| 13C-1,2,3,4,6,7,8-HpCDF | 66 | | 21 - 158 |
| 13C-1,2,3,4,7,8,9-HpCDF | 75 | | 20 - 186 |
| 13C-OCDD | 67 | | 13 - 199 |

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Dil Fac

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: LCS 320-372899/2-A **Matrix: Water**

Analysis Batch: 373674

LCS LCS

Surrogate %Recovery Qualifier Limits 37CI4-2.3.7.8-TCDD 31 - 191 84

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Job ID: 440-264636-1

Prep Batch: 372899

Lab Sample ID: MB 320-372899/1-A

Matrix: Water

Analysis Batch: 373924

MB MB

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

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

Prep Batch: 372899

Result Qualifier RL **EDL Unit** Prepared Analyzed Dil Fac 0.0000011 ug/L 2,3,7,8-TCDD - RA ND 0.000010 04/16/20 12:05 04/21/20 13:45 2,3,7,8-TCDF - RA ND 0.000010 0.0000007 04/16/20 12:05 04/21/20 13:45 ug/L

MB MB

Isotope Dilution %Recovery Qualifier Limits Prepared Analyzed Dil Fac 13C-2,3,7,8-TCDF - RA 67 24 - 169 04/16/20 12:05 04/21/20 13:45

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 37CI4-2,3,7,8-TCDD - RA 85 35 - 197 04/16/20 12:05 04/21/20 13:45

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-605121/1-A

Matrix: Water

Analysis Batch: 605236

Prep Type: Total Recoverable Prep Batch: 605121 MB MB

Client Sample ID: Method Blank

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Iron 0.10 0.050 mg/L 04/15/20 09:51 04/15/20 16:00 $\overline{\mathsf{ND}}$ 04/15/20 09:51 04/15/20 16:00 Zinc 12.0 J,DX 20 12 ug/L

Lab Sample ID: LCS 440-605121/2-A

Matrix: Water

Analysis Batch: 605236

Client Sample ID: Lab Control Sample **Prep Type: Total Recoverable Prep Batch: 605121** Spike LCS LCS %Rec.

Added Result Qualifier Limits Analyte Unit %Rec Iron 0.500 0.455 mg/L 91 85 - 115 Zinc 500 492 ug/L 98 85 - 115

Lab Sample ID: 440-264642-E-1-B MS

Matrix: Water

Analysis Batch: 605236

Client Sample ID: Matrix Spike **Prep Type: Total Recoverable Prep Batch: 605121**

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 0.19 0.500 0.668 95 70 - 130 Iron mg/L Zinc 140 MB 500 655 102 70 - 130 ug/L

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Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: 440-264642-E-1-C MSD

Matrix: Water

Matrix: Water

Analyte Iron

Zinc

Analysis Batch: 605236

Client: Haley & Aldrich, Inc.

Analysis Batch: 605236

Lab Sample ID: MB 440-605017/1-C

Spike Sample Sample Result Qualifier Added 0.19 0.500 140 MB 500

MSD MSD Result Qualifier 0.667 640

Unit %Rec mg/L 95 ug/L 99

Limits RPD Limit 70 - 130 n 70 - 130 2

Prep Type: Total Recoverable

%Rec.

Client Sample ID: Method Blank Prep Type: Dissolved

Client Sample ID: Matrix Spike Duplicate

Prep Batch: 605131

Prep Batch: 605121

MB MB Result Qualifier RL **MDL** Unit D Dil Fac Analyte Prepared Analyzed $\overline{\mathsf{ND}}$ 0.10 0.050 mg/L 04/15/20 10:36 04/15/20 17:50 Iron Zinc ND 20 12 ug/L 04/15/20 10:36 04/15/20 17:50

Lab Sample ID: LCS 440-605017/2-C

Matrix: Water

Analyte

Iron

Zinc

Analysis Batch: 605236

Spike Added 0.500 500

LCS LCS 0.478

MS MS

MSD MSD

0.487

503

Result Qualifier

0.483

491

Result Qualifier

Result Qualifier Unit mg/L 490 ug/L

D %Rec 96 98

%Rec.

Prep Type: Dissolved

Prep Batch: 605131

Limits

85 - 115 85 - 115

%Rec.

Limits

70 - 130

70 - 130

Client Sample ID: Lab Control Sample

Client Sample ID: Outfall002_20200414_Comp_F

Prep Type: Dissolved

Prep Batch: 605131

Lab Sample ID: 440-264636-3 MS

Matrix: Water

Matrix: Water

Analyte

Iron

Zinc

Analysis Batch: 605236

Analysis Batch: 605236

Analyte

Sample Sample Spike Result Qualifier Added Iron ND 0.500 Zinc ND 500

Lab Sample ID: 440-264636-3 MSD

Sample Sample

ND

ND

Result Qualifier

Client Sample ID: Outfall002_20200414_Comp_F

D

%Rec

97

98

Unit

mg/L

ug/L

Unit

mg/L

ug/L

Prep Type: Dissolved Prep Batch: 605131

%Rec. **RPD** Limits Limit %Rec **RPD** 97 70 - 130 20 101 70 - 1302 20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-605115/1-A

Matrix: Water

Analysis Batch: 605225

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 605115

| - | MB | MB | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |

Spike

Added

0.500

500

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RPD

20

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: LCS 440-605115/2-A

Matrix: Water

Analysis Batch: 605225

| Client | Sample | ID: | Lab (| Control | Samp | le |
|--------|--------|------|-------|---------|---------|----|
| | Prep ' | Гуре | : To | tal Rec | overab | le |
| | | - | Dror | Ratch | · 60544 | 5 |

Prep Batch: 605115

| _ | Spike | LCS | LCS | | | | %Rec. | |
|----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cadmium | 80.0 | 74.5 | | ug/L | | 93 | 85 - 115 | |
| Copper | 80.0 | 79.4 | | ug/L | | 99 | 85 - 115 | |
| Lead | 80.0 | 75.2 | | ug/L | | 94 | 85 - 115 | |
| Selenium | 80.0 | 77.9 | | ug/L | | 97 | 85 - 115 | |

Lab Sample ID: 440-264639-A-11-B MS

Matrix: Water

Analysis Batch: 605225

Client Sample ID: Matrix Spike Prep Type: Total Recoverable

Prep Batch: 605115

| | Analysis Daten. 000220 | Sample | Sample | Spike | MS | MS | | | | %Rec. |
|---|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| | Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| | Cadmium | ND | | 80.0 | 72.6 | | ug/L | | 91 | 70 - 130 |
| | Copper | 460 | | 80.0 | 488 | BB | ug/L | | 37 | 70 - 130 |
| | Lead | ND | | 80.0 | 75.5 | | ug/L | | 94 | 70 - 130 |
| l | Selenium | ND | | 80.0 | 74.7 | | ug/L | | 93 | 70 - 130 |

Lab Sample ID: 440-264639-A-11-C MSD

Matrix: Water

Analyte

Copper

Lead

Cadmium

Selenium

Analysis Batch: 605225

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

Prep Batch: 605115

Sample Sample MSD MSD Spike %Rec. **RPD** Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit ND 80.0 73.3 ug/L 92 70 - 130 20 460 80.0 519 BB ug/L 75 70 - 130 6 20 ND 80.0 77.1 ug/L 96 70 - 130 20 ND 80.0 77.6 ug/L 97 70 - 130

Lab Sample ID: MB 440-605017/1-D

Matrix: Water

Analysis Batch: 605296

Client Sample ID: Method Blank

Prep Type: Dissolved Prep Batch: 605132

| | MB MB | | | | | | | |
|----------|--------------|---------|------|------|---|----------------|----------------|---------|
| Analyte | Result Quali | fier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/15/20 10:40 | 04/15/20 20:39 | 1 |
| Copper | ND | 2.0 | 0.50 | ug/L | | 04/15/20 10:40 | 04/15/20 20:39 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/15/20 10:40 | 04/15/20 20:39 | 1 |
| Selenium | ND | 2.0 | 0.50 | ua/l | | 04/15/20 10:40 | 04/15/20 20:39 | 1 |

Lab Sample ID: LCS 440-605017/2-D

Matrix: Water

Analysis Batch: 605296

Client Sample ID: Lab Control Sample Prep Type: Dissolved Prep Batch: 605132

| - | Spike | LCS | LCS | | | | %Rec. | | |
|----------|-------|--------|-----------|------|---|------|----------|--|---|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | | |
| Cadmium | 80.0 | 73.0 | | ug/L | _ | 91 | 85 - 115 | | - |
| Copper | 80.0 | 78.5 | | ug/L | | 98 | 85 - 115 | | |
| Lead | 80.0 | 77.3 | | ug/L | | 97 | 85 - 115 | | |
| Selenium | 80.0 | 79.5 | | ug/L | | 99 | 85 - 115 | | |

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Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: 720-98114-C-1-D MS Client Sample ID: Matrix Spike **Prep Type: Dissolved Matrix: Water**

Analysis Ratch: 605296

| Analysis batch: 605296 | Sample | Sample | Spike | MS | MS | | | | %Rec. | lCII: 605132 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--------------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cadmium | ND | | 80.0 | 72.7 | | ug/L | | 91 | 70 - 130 | |
| Copper | 12 | | 80.0 | 90.1 | | ug/L | | 98 | 70 - 130 | |
| Lead | ND | | 80.0 | 78.1 | | ug/L | | 98 | 70 - 130 | |
| Selenium | 0.57 | J,DX | 80.0 | 79.3 | | ug/L | | 98 | 70 - 130 | |

Lab Sample ID: 720-98114-C-1-E MSD **Client Sample ID: Matrix Spike Duplicate**

| Matrix: Water Analysis Batch: 605296 | | | | | | | | | Prep Type Prep Ba | | |
|---|--------|-----------|-------|--------|-----------|------|---|------|----------------------|-----|-------|
| _ | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cadmium | ND | | 80.0 | 72.1 | | ug/L | | 90 | 70 - 130 | 1 | 20 |
| Copper | 12 | | 80.0 | 92.7 | | ug/L | | 101 | 70 - 130 | 3 | 20 |
| Lead | ND | | 80.0 | 77.3 | | ug/L | | 97 | 70 - 130 | 1 | 20 |
| Selenium | 0.57 | J,DX | 80.0 | 76.6 | | ug/L | | 95 | 70 - 130 | 3 | 20 |

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-605002/1-A

Matrix: Water

Analysis Batch: 605167

MB MB

| | | 111.0 | | | | | | | |
|---------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.20 | 0.10 | ug/L | | 04/14/20 15:17 | 04/15/20 12:13 | 1 |

Lab Sample ID: LCS 440-605002/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605167** Prep Batch: 605002 LCS LCS Snika %Rec

| | | | | | | | , | |
|---------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit |) | %Rec | Limits | |
| Mercury | 4.00 | 3.64 | | ug/L | | 91 | 85 - 115 | |

Lab Sample ID: 320-60074-C-1-D MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605167 Prep Batch: 605002** Sample Sample Spike MS MS %Rec.

Analyte Result Qualifier Added Result Qualifier D %Rec Limits Unit ND 4.00 75 - 125 Mercury 3.75 ug/L 94

Lab Sample ID: 320-60074-C-1-E MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605167 Prep Batch: 605002 Sample Sample Spike MSD MSD %Rec. RPD **Result Qualifier** Added Result Qualifier Limits RPD Limit **Analyte** Unit D %Rec 75 - 125 7 Mercury ND 4.00 4.03 ug/L 101

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4/23/2020

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 605002

RL

0.20

Spike

Added

4.00

Spike

Added

4.00

Spike

Added

4.00

RI

0.10

MDL Unit

0.10 ug/L

LCS LCS

MS MS

MSD MSD

3.97

Result Qualifier

MDI Unit

0.040 NTU

DU DU

0.250

Result Qualifier

4.01

Result Qualifier

3.98

Result Qualifier

Unit

ug/L

Unit

ug/L

Unit

ug/L

Unit

NTU

D

Project/Site: Routine Outfall 002 Comp

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 440-605016/1-C

Matrix: Water

Mercury

Analyte

Mercury

Turbidity

Analysis Batch: 605723 MB MB

Result Qualifier Analyte

ND

Sample Sample

Sample Sample

 $\overline{\mathsf{ND}}$

Result Qualifier

MB MB

 $\overline{\mathsf{ND}}$

Sample Sample

Result Qualifier

ND

Result Qualifier

Lab Sample ID: LCS 440-605016/2-C **Matrix: Water Analysis Batch: 605723**

Analyte Mercury

Lab Sample ID: 440-264636-3 MS **Matrix: Water**

Analysis Batch: 605723

Mercury

Lab Sample ID: 440-264636-3 MSD **Matrix: Water**

Analysis Batch: 605723

Analyte

Method: 180.1 - Turbidity, Nephelometric Lab Sample ID: MB 440-605147/5

Matrix: Water

Analysis Batch: 605147

Analyte

Lab Sample ID: 440-264630-B-2 DU

Matrix: Water

Analysis Batch: 605147

Analyte

Result Qualifier 0.28 Turbidity

Lab Sample ID: MB 440-605839/1

Matrix: Water

Analysis Batch: 605839

Analyte Total Dissolved Solids

 $\overline{\mathsf{ND}}$

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

Result Qualifier

MB MB

RL 10 **MDL** Unit 5.0 ma/L

Prepared

D

04/21/20 09:33

RPD Limit

20

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

> Analyzed Dil Fac

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4/23/2020

Client Sample ID: Method Blank

04/17/20 11:03 04/20/20 12:35

Client Sample ID: Lab Control Sample

%Rec.

Limits

85 - 115

%Rec.

I imits

75 - 125

%Rec.

Limits

75 - 125

Client Sample ID: Method Blank

Analyzed

04/15/20 15:23

Client Sample ID: Duplicate

Prepared

D %Rec

D %Rec

D %Rec

Prepared

99

Client Sample ID: Outfall002 20200414 Comp F

100

Client Sample ID: Outfall002_20200414_Comp_F

99

Prep Type: Dissolved

Prep Type: Dissolved

Prep Type: Dissolved

Prep Type: Dissolved

Prep Batch: 605496

Prep Type: Total/NA

Prep Type: Total/NA

RPD

RPD

Prep Batch: 605496

Prep Batch: 605496

Analyzed

Prep Batch: 605496

Dil Fac

RPD

Limit

Dil Fac

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: LCS 440-605839/2 Client Sample ID: Lab Control Sample

Matrix: Water Analysis Batch: 605839

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits 1000 98 90 - 110

Total Dissolved Solids

Lab Sample ID: 720-98174-F-8 DU

Matrix: Water

Analysis Batch: 605839

RPD DU DU Sample Sample Analyte Result Qualifier Result Qualifier Unit D RPD Limit Total Dissolved Solids 1600 1550 mg/L

982

mg/L

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

Lab Sample ID: MB 440-605914/1

Matrix: Water

Analysis Batch: 605914

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac **Total Suspended Solids** $\overline{\mathsf{ND}}$ 1.0 0.50 mg/L 04/21/20 13:42

Lab Sample ID: LCS 440-605914/2

Matrix: Water

Analysis Batch: 605914

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits **Total Suspended Solids** 1000 1010 mg/L 101 85 - 115

Lab Sample ID: 440-264709-B-4 DU

Matrix: Water

Analysis Batch: 605914

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit ח RPD Limit **Total Suspended Solids** 18 17.2 mg/L

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

Lab Sample ID: MB 440-605119/1-A

Matrix: Water

Analysis Batch: 605374

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 5.0 04/15/20 09:51 04/16/20 13:39 Cyanide, Total $\overline{\mathsf{ND}}$ 2.5 ug/L

Spike

Lab Sample ID: LCS 440-605119/2-A

Matrix: Water

Analysis Batch: 605374

Analyte Cyanide, Total **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Prep Batch: 605119

Prep Type: Total/NA

Prep Batch: 605119

Prep Type: Total/NA

Client Sample ID: Duplicate

Client Sample ID: Method Blank

Client Sample ID: Duplicate

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

%Rec. Limits

Added Result Qualifier Unit %Rec 100 101 ua/L 101 80 - 120

LCS LCS

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Project/Site: Routine Outfall 002 Comp

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

| Lab Sample ID: 440-264517 | -F-1-B MS | | | | | | C | lient Sa | mple ID: Matrix Spike |
|---------------------------|-----------|-----------|-------|--------|-----------|------|---|----------|---------------------------|
| Matrix: Water | | | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 605374 | | | | | | | | | Prep Batch: 605119 |
| | Sample | Sample | Spike | MS | MS | | | | %Rec. |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |

Cyanide, Total ND 100 69.3 LN ug/L 69 75 - 125

Lab Sample ID: 440-264517-F-1-C MSD

Matrix: Water

Analysis Batch: 605374

Decrease of the control of the c

MSD MSD %Rec. **RPD** Sample Sample Spike Result Qualifier Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit ND Cyanide, Total 100 68.5 LN ug/L 69 75 - 125 20

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-605752/10

Client Sample ID: Method Blank
Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605752

MB MB

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Ammonia (as N)
 ND
 0.200
 0.100
 mg/L
 04/20/20 13:20
 1

Lab Sample ID: LCS 440-605752/11

Client Sample ID: Lab Control Sample
Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605752

 Analyte
 Added Ammonia (as N)
 Ecs LCS
 KRec.
 %Rec.

 4.980
 4.980
 mg/L
 100
 90 - 110

Lab Sample ID: MRL 440-605752/9 Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 605752

 Analyte
 Added Ammonia (as N)
 MRL MRL MRL MRL
 WRec.

 Analyte (Ammonia (as N))
 0.200
 0.1720
 J,DX
 mg/L
 D
 %Rec.
 Limits
 MRL MRL
 MRL
 MRL
 MRL
 MRL
 MRL
 Limits
 MRL
 <td

Lab Sample ID: 440-264517-F-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605752

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Ammonia (as N) 5.00 ND 5.270 mg/L 105 90 - 110

Lab Sample ID: 440-264517-F-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 605752

MSD MSD RPD Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Unit Limits RPD Limit %Rec 90 - 110 Ammonia (as N) ND 5.00 5.450 mg/L 109

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4/23/2020

Prep Type: Total/NA

Project/Site: Routine Outfall 002 Comp

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

Lab Sample ID: MB 440-605169/4

Matrix: Water

Analysis Batch: 605169

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared 0.10 Methylene Blue Active Substances 0.050 mg/L 04/15/20 13:20 ND

Lab Sample ID: LCS 440-605169/5

Matrix: Water

Analysis Batch: 605169

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.250 0.226 mg/L 90 90 - 110 Methylene Blue Active

Substances

Lab Sample ID: MRL 440-605169/3

Matrix: Water

Analysis Batch: 605169

Spike MRL MRL %Rec. Added Result Qualifier Unit %Rec Limits 0.100 102 Methylene Blue Active 0.102 mg/L 50 - 150

Substances

Lab Sample ID: 440-264636-1 MS

Matrix: Water

Analysis Batch: 605169

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Analyte Unit D %Rec I imits Methylene Blue Active 0.10 0.250 0.328 mg/L 90 50 - 125

Substances

Lab Sample ID: 440-264636-1 MSD

Matrix: Water

Analysis Batch: 605169

Spike MSD MSD %Rec. **RPD** Sample Sample Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Methylene Blue Active 0.10 0.250 0.350 mg/L 50 - 125 Substances

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-605082/3

Matrix: Water

Analysis Batch: 605082

USB USB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Biochemical Oxygen Demand ND 2.0 2.0 mg/L 04/15/20 08:25

Lab Sample ID: LCS 440-605082/7

Matrix: Water

Analysis Batch: 605082

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits **Biochemical Oxygen Demand** 199 211 mg/L 106 85 - 115

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Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Outfall002 20200414 Comp

Client Sample ID: Outfall002 20200414 Comp

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

Lab Sample ID: LCSD 440-605082/8

Method: SM5210B - BOD, 5 Day (Continued)

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

Matrix: Water

Analysis Batch: 605082 RPD Spike LCSD LCSD %Rec. Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Biochemical Oxygen Demand 199 204 103 85 - 115 mg/L

Lab Sample ID: LCSD 440-605082/9 Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605082

LCSD LCSD RPD Spike %Rec. Added Result Qualifier Unit D %Rec Limits RPD Limit 199 **Biochemical Oxygen Demand** 216 mg/L 109 85 - 115 3

Client Sample ID: Duplicate Lab Sample ID: 440-264632-R-1 DU Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605082

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit D RPD Limit Biochemical Oxygen Demand ND NC 20 ND mg/L

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

GC/MS Semi VOA

Prep Batch: 605674

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 625 | |
| MB 440-605674/1-A | Method Blank | Total/NA | Water | 625 | |
| LCS 440-605674/2-A | Lab Control Sample | Total/NA | Water | 625 | |
| LCSD 440-605674/3-A | Lab Control Sample Dup | Total/NA | Water | 625 | |

Analysis Batch: 606010

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 625.1 | 605674 |
| MB 440-605674/1-A | Method Blank | Total/NA | Water | 625.1 | 605674 |
| LCS 440-605674/2-A | Lab Control Sample | Total/NA | Water | 625.1 | 605674 |
| LCSD 440-605674/3-A | Lab Control Sample Dup | Total/NA | Water | 625.1 | 605674 |

GC Semi VOA

Prep Batch: 605053

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 608 | |
| MB 440-605053/1-A | Method Blank | Total/NA | Water | 608 | |
| LCS 440-605053/2-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCSD 440-605053/3-A | Lab Control Sample Dup | Total/NA | Water | 608 | |

Analysis Batch: 605156

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 608.3 | 605053 |
| MB 440-605053/1-A | Method Blank | Total/NA | Water | 608.3 | 605053 |
| LCS 440-605053/2-A | Lab Control Sample | Total/NA | Water | 608.3 | 605053 |
| LCSD 440-605053/3-A | Lab Control Sample Dup | Total/NA | Water | 608.3 | 605053 |

HPLC/IC

Analysis Batch: 604906

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|--------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 300.0 | - |
| MB 440-604906/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604906/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264660-D-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264660-D-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

Analysis Batch: 604907

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 300.0 | |
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 300.0 | |
| MB 440-604907/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604907/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264660-D-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264660-D-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

Analysis Batch: 605194

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | NO3NO2 Calc | |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

HPLC/IC

Analysis Batch: 605310

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 314.0 | |
| MB 440-605310/6 | Method Blank | Total/NA | Water | 314.0 | |
| LCS 440-605310/5 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-605310/4 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-605310/8 | Lab Control Sample | Total/NA | Water | 314.0 | |
| 440-264636-1 MS | Outfall002_20200414_Comp | Total/NA | Water | 314.0 | |
| 440-264636-1 MSD | Outfall002_20200414_Comp | Total/NA | Water | 314.0 | |

Specialty Organics

Prep Batch: 372899

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 1613B | |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | |
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 373674

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 1613B | 372899 |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | 372899 |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | 372899 |

Analysis Batch: 373924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|------------------|-----------|--------|--------|------------|
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | 372899 |

Metals

Prep Batch: 605002

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 245.1 | _ |
| MB 440-605002/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-605002/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |
| 320-60074-C-1-D MS | Matrix Spike | Total/NA | Water | 245.1 | |
| 320-60074-C-1-E MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | |

Filtration Batch: 605016

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-605016/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-605016/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264636-3 MS | Outfall002_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264636-3 MSD | Outfall002_20200414_Comp_F | Dissolved | Water | FILTRATION | |

Filtration Batch: 605017

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-605017/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-605017/1-D | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-605017/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-605017/2-D | Lab Control Sample | Dissolved | Water | FILTRATION | |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Metals (Continued)

| Filtration | Ratch: | 605017 | (Continued) |
|-------------------|---------|--------|-------------|
| i iili alioii | Dattii. | 003017 | (Continued) |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|----------------------------|-----------|--------|------------|------------|
| 440-264636-3 MS | Outfall002_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264636-3 MSD | Outfall002_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| 720-98114-C-1-D MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 720-98114-C-1-E MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Prep Batch: 605115

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605115/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605115/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264639-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264639-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

Prep Batch: 605121

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605121/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605121/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264642-E-1-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264642-E-1-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

Prep Batch: 605131

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |
| MB 440-605017/1-C | Method Blank | Dissolved | Water | 200.2 | 605017 |
| LCS 440-605017/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 605017 |
| 440-264636-3 MS | Outfall002_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |
| 440-264636-3 MSD | Outfall002_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |

Prep Batch: 605132

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|----------------------------|-----------|--------|--------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |
| MB 440-605017/1-D | Method Blank | Dissolved | Water | 200.2 | 605017 |
| LCS 440-605017/2-D | Lab Control Sample | Dissolved | Water | 200.2 | 605017 |
| 720-98114-C-1-D MS | Matrix Spike | Dissolved | Water | 200.2 | 605017 |
| 720-98114-C-1-E MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 605017 |

Analysis Batch: 605167

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 245.1 | 605002 |
| MB 440-605002/1-A | Method Blank | Total/NA | Water | 245.1 | 605002 |
| LCS 440-605002/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 605002 |
| 320-60074-C-1-D MS | Matrix Spike | Total/NA | Water | 245.1 | 605002 |
| 320-60074-C-1-E MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | 605002 |

Analysis Batch: 605225

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total Recoverable | Water | 200.8 | 605115 |
| MB 440-605115/1-A | Method Blank | Total Recoverable | Water | 200.8 | 605115 |
| LCS 440-605115/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 605115 |
| 440-264639-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.8 | 605115 |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Metals (Continued)

| Analysis Batch: 605225 (Continued) | Analysis | Batch: | 605225 | (Continued) |
|------------------------------------|----------|--------|--------|-------------|
|------------------------------------|----------|--------|--------|-------------|

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|------------------------|-------------------|--------|--------|------------|
| 440-264639-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.8 | 605115 |

Analysis Batch: 605236

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-------------------|--------|---------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| MB 440-605017/1-C | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| MB 440-605121/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| LCS 440-605017/2-C | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| LCS 440-605121/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| 440-264636-3 MS | Outfall002_20200414_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| 440-264636-3 MSD | Outfall002_20200414_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| 440-264642-E-1-B MS | Matrix Spike | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| 440-264642-E-1-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |

Analysis Batch: 605296

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|----------------------------|-----------|--------|--------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | 200.8 | 605132 |
| MB 440-605017/1-D | Method Blank | Dissolved | Water | 200.8 | 605132 |
| LCS 440-605017/2-D | Lab Control Sample | Dissolved | Water | 200.8 | 605132 |
| 720-98114-C-1-D MS | Matrix Spike | Dissolved | Water | 200.8 | 605132 |
| 720-98114-C-1-E MSD | Matrix Spike Duplicate | Dissolved | Water | 200.8 | 605132 |

Prep Batch: 605496

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | 245.1 | 605016 |
| MB 440-605016/1-C | Method Blank | Dissolved | Water | 245.1 | 605016 |
| LCS 440-605016/2-C | Lab Control Sample | Dissolved | Water | 245.1 | 605016 |
| 440-264636-3 MS | Outfall002_20200414_Comp_F | Dissolved | Water | 245.1 | 605016 |
| 440-264636-3 MSD | Outfall002 20200414 Comp F | Dissolved | Water | 245.1 | 605016 |

Analysis Batch: 605723

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264636-3 | Outfall002_20200414_Comp_F | Dissolved | Water | 245.1 | 605496 |
| MB 440-605016/1-C | Method Blank | Dissolved | Water | 245.1 | 605496 |
| LCS 440-605016/2-C | Lab Control Sample | Dissolved | Water | 245.1 | 605496 |
| 440-264636-3 MS | Outfall002_20200414_Comp_F | Dissolved | Water | 245.1 | 605496 |
| 440-264636-3 MSD | Outfall002_20200414_Comp_F | Dissolved | Water | 245.1 | 605496 |

General Chemistry

Analysis Batch: 605082

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | SM5210B | |
| USB 440-605082/3 | Method Blank | Total/NA | Water | SM5210B | |
| LCS 440-605082/7 | Lab Control Sample | Total/NA | Water | SM5210B | |
| LCSD 440-605082/8 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| LCSD 440-605082/9 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| 440-264632-R-1 DU | Duplicate | Total/NA | Water | SM5210B | |

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Job ID: 440-264636-1

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14

Client: Haley & Aldrich, Inc.

Job ID: 440-264636-1 Project/Site: Routine Outfall 002 Comp

General Chemistry

Prep Batch: 605119

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | Distill/CN | |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| 440-264517-F-1-B MS | Matrix Spike | Total/NA | Water | Distill/CN | |
| 440-264517-F-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | Distill/CN | |

Analysis Batch: 605147

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | 180.1 | <u> </u> |
| MB 440-605147/5 | Method Blank | Total/NA | Water | 180.1 | |
| 440-264630-B-2 DU | Duplicate | Total/NA | Water | 180.1 | |

Analysis Batch: 605169

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|----------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | SM 5540C | |
| MB 440-605169/4 | Method Blank | Total/NA | Water | SM 5540C | |
| LCS 440-605169/5 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| MRL 440-605169/3 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| 440-264636-1 MS | Outfall002_20200414_Comp | Total/NA | Water | SM 5540C | |
| 440-264636-1 MSD | Outfall002_20200414_Comp | Total/NA | Water | SM 5540C | |

Analysis Batch: 605374

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | SM 4500 CN E | 605119 |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 605119 |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-F-1-B MS | Matrix Spike | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-F-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 CN E | 605119 |

Analysis Batch: 605752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | SM 4500 NH3 G | |
| MB 440-605752/10 | Method Blank | Total/NA | Water | SM 4500 NH3 G | |
| LCS 440-605752/11 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| MRL 440-605752/9 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MS | Matrix Spike | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 NH3 G | |

Analysis Batch: 605839

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|----------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | SM 2540C | |
| MB 440-605839/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-605839/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 720-98174-F-8 DU | Duplicate | Total/NA | Water | SM 2540C | |

Analysis Batch: 605914

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | SM 2540D | |
| MB 440-605914/1 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-605914/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 440-264709-B-4 DU | Duplicate | Total/NA | Water | SM 2540D | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

Qualifiers

| 001 | MC | C | MOA |
|-----|-------|------|-----|
| GC/ | IVI 5 | Semi | VOA |

Qualifier Qualifier Description

LG LG=Surrogate recovery below the acceptance limits

HPLC/IC

BB Sample > 4X spike concentration

EY Result exceeds normal dynamic range; reported as a min. est.

IB CCV recovery above limit; analyte not detected

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

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.

Metals

Qualifier Qualifier Description

BB Sample > 4X spike concentration

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

General Chemistry

Qualifier Description

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

LN MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | | rogram state | Identification Number | Expiration Date 06-30-20 |
|----------------------|----------------------|-------------------------------|---|--|
| • , | | oort, but the laboratory is r | 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 | |
| NO3NO2 Calc | | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-21 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-22 |
| Michigan | State | 9947 | 01-29-20 * |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Jersey | NELAP | CA005 | 06-30-20 |
| New York | NELAP | 11666 | 04-01-21 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-21 |
| Virginia | NELAP | 460278 | 03-14-21 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

Eurofins Calscience Irvine

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

12-94

14/16,11/13,03/10,03/0.5,19/21

| Part | Client Name/Address | e/Address | | | | | | | | | | | | | AN | ANALYSIS REQUIRED | OUIRED | | |
|--|---|---|--|------------|-----------------|---|-------------------------------|----------------------------|-----------|-------------------------|-----------|---------------|--------------------------|-----------|----|----------------------------|------------------|--------------------------------|---|
| The control of the first allows 200 The control of the first allow | Haley & / | Varich | | | | | Droight | | | | | | | | | | (| | |
| Control Cont | 5333 Missi | on Center Rd Suite 300 | | | | Boei | ng-SSFL NPD | ES | | | | (1 | 'N-20 | | | | \$ 5 \$ | | |
| Comparison Com | | | | | | 0 | Fermit 2020 | 10.40 | | | (6 | 97,1 |)N+ | | | -7 | | | |
| State Continues of the property continue | Eurofins C. 17461 Der Irvine CA 9 Tel 949-26 | alscience Irvine Contact: Christian Bondt ran Ave Suite #100 2614 10-3218 | ≫ p | | | TO ME | Comp | | | etais 98 ,t | {(| (Opeooo | τίπ ε -Ν, ΝΟЭ | | | otoluene, Bis(909, PCP | nuoneM alatel | ة غيرنين | Comments |
| Simple S | FestAmerica's s 2019-22-TestAn | ervices under this CoC shall be performed in accordance vinerice by and between Haley & Aldhoh, Inc., its subsidiarie | e with the T&Cs within Blanket Service hes and efflictes, and TeetAmerice La | Agreement# | | Project M. 520,289.86 | anager: Kathe | rine Miller 6944 (cell) | | Pb, Co | o seauti | B0129 | 1, N-ater (E300) | | | | M aldere | M crd.n= 5-1 5-1 | |
| Sample () Generally Distriction British Contribed Type of circle Preservation (British Contribed Type October 1997) Vision Contribed Type of Contribed Type of Contribed Type October 1997 Vision Contribed Type October 1997 Vision Contribed Type Type Type Type Type Type Type Type | Sampler D | an Smith | | | | Field Ma 978.234.50 | nager: Mark [)33, 818 599 | Jominick 0702 (cell) | | Kecove | 9P (0Z) 9 | SMS) L | io, Nation | | | | Recov | ا محر | |
| Outhild 200014 Comp. Will 1 Cates Arther 2 Nove 110 No X X Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y | Sample Description | | Sampling Date/Time | Sample | Container Type | # of Cont | Preservative | | MS/MSD | Total (E200 (E200 | 30D8 | (E406 | CI-, S Perch | | | | IstoT |)*, 'E., F,© ' . | |
| Outhord 2000044_Cmp Vivid 11,Pay 1, None 115 No | | | | W. | 500 ml. Poly | - | HNO | 8 | 8 | × | | | | | | | × | , | Cultimus and produce to Fig. |
| Outhind 200044, Comp. Outhind 200444, Comp. | | | | N. | 1 L Glass Amber | 2 | None | 110 | ž | | × | - | | _ | | L | | _ | |
| Outhiddly, 2000M IL, Comp. (A174200) (A174 | | | | WW | 1. Paly | - | None | 115 | £ | | Ľ | | | | | | | | |
| Outhaided, Comp. Sect. Virial Comp. Poly 2 Notice 150 No No No No No No No N | | | | ××× | 500 mL Poly | 2 | None | 136 | ş | | - | × | | <u> </u> | | _ | | | |
| Contraction Corner Contraction Contr | | Outhal 1002_20200414_Comp | 4/14/2020 | * | 500 mt. Poly | 2 | -Kone | 55 | £ | | | - | × | - | _ | _ | | | 48 hours Holding Time NO ₃ & NO ₂ |
| Outshill 202 2020654, Comp. Excr. VMA 1, Class Amber 2 Norm 150 No No No No No No No N | | | 62% | ₩. | 500 mL Poty | | None | \$ <u></u> | ž | | | _ | | × | | | | _ | 48 hour holding time for furbidity |
| Outside 2 None 170 No | Ouffall DD2 | | | WW | 500 ml. Poly | * | "OS ² H | 85 | £ | | - | _ | | - | × | | | | |
| Outside 2, 2000-04, Comp. Earls Outside 3, 2000-04, Comp. Earls | | | | W. | 1 L Glass Amber | 2 | None | 170 | £ | | ļ | | | - | | × | _ | | |
| Wind 1, Poly 1, None 185 No No No No No No No N | | | | W | 1 L Glass Amber | 2 | None | 89 | £ | | | | | <u> </u> | | × | | | |
| Outside 2 None 110 No | | | | W | 1L Poly | * | None | 3 8 | ž | | | | | _ <u></u> | | | | | |
| Outside 2, 2000-14, Comp. Each Vith 500 mi. Poly 2 Norse 150 No | | | | Ş | 1 ¿ Glass Amber | 2 | None | 110 | ¥ | | ı | | | | | | | | Ною |
| Outside 20200014_Comp. Earls | | | | * | 500 mt. Poly | 2 | None | 120 | ¥ | | | I | | | | | | | Hord |
| Company Comp | | Ourfalk002_20200614_Comp_Entra | 411422020 | | 500 mi. Poly | 2 | None | £. | ¥ | | | | Ι | | | | _ | | Hold |
| Company | | - | 1800 | ŀ | 1 L Gtass Amber | 2 | None | £ | ž | | | | | - | | I | | | Hold |
| DesiryTime Company Legend: C=Conditional, R=Routine CaterTime CaterTime | | | | | 1 £ Glass Amber | 2 | None | 180 | Š | | | | | H | | Ξ | | | Hold |
| Detertine Detertine Detertine Company Compan | | | | | | | | | | | , | | | | | | | | |
| Detertine Company (155 10.50 | | | | | | | Legend: | C=Conditional | R=Routine | | | | | | | | | ŀ | |
| DaterTime Company (355) Received By DaterTime (1/20 1355) | July July | fine | 14. Br | 5 /// | 7 0 | 11 | | Kacawad By | | - J | " 4-2 | \mathcal{O} | | 1 | Ŏ | 7 um - 24 Ho 48 Ho | around tim ur | e (Check) 72 Hour 5 Day |) ur 10 DayX Norma! |
| DaterTime. DaterTime. | elinquished | | 14-20 | shpany' | 1,80 | | , | Resilved By | 1-5 | á | 5 | - | 1 | (2) | เก | | le Integrity | / (Check) | <u>8</u> |
| N | mquished | | | ripany | | | | Received By | | Date/Tim | | | | | | Store | samples fi | or 6 mont ents (Che | |
| | | | | | | | | | | | | | | | | No Le | ≱ } | | Ail Level IV X |

Page 1 of 2

CHAIN OF CUSTODY FORM

440-264636 Chain of Custody

Eurofins Calscience Irvine

4/14/20 15

| Client Na | Client Name/Address | | - | | | | | | | | | | | NALYSIS | ANALYSIS REQUIRED | SED SED | | |
|--|--|---|--------------------|--------------------|------------------------------------|--|---------------------------------|---------------|--------------------------------|--------------|--|--------|--------------------|---|---------------------------|--|--|-------|
| Haley & Aldrich | Aldrich | | | | | Divided | | | | _ | Ot | - | - | | _ | | | τ- |
| 5333 Mts | 5333 Mission Center Rd Suite 300 | | - | | Boel | Boeing-SSFL NPDES | ES | | | (0) | 11) & 11) & 11) & | | | | | | | |
| San Dreg | San Liego, CA 92108 | | | | i i | Permit 2020 | 27 | | | 006 | 0 90 0 06 | 11.3 | C# | | _ | | - | |
| Eurofins Calscier 17461 Denan Av Irvine CA 92614 Tel. 949-260-321 | Eurofins Calscience Irvine Contact Christian Bondoc 17461 Denan Ave Sutta #100 Irvine CA 92614 Tel: 949-280-3218 | | | | Routine Ou | tfall (002, 002, Courtell (002 Courtell (002 Courtell (002 Courtell (003 | , U11, D18] | | 95 | 3025 Seta(E9 | 5:-90 (E905 0 (E903 0 or E9 Unanium (E90 1 1) | | Mercury (E2 | | | | Comments | |
| TestAmenca 2019-22-Test | Difference under this CIC chairs be performed in accordance with the TICC within Blanket Service Agramment 2016/2027 restuments by and between Halley & Aknob, Inc. (to subedigations and affiliation, and Testuments inconducted for | ifs the T&Cs within Blanket Service Agrees and #fillates, and TestAmence Laborator | mentile fes inc | | Project M | Manager Katherine Miller | rine Miller | | t Metals pp, Cd, | 10 000 | 100 226 1904 0), 1904 0), 1904 00 | | | | | | | |
| Sampler | Sampler: Dan Smith | | 1 | | 520 289 8 Field Ma 978 234 5 | 520 289 8606, 520 304,5944 (cell) Field Manager: Mark Dominick 978 234 5033, 818 599 0702 (cell) | See (cell) Dominick 0702 (cell) | | Dissolved 7) Zn 8) Cu, F | 3)sdriA | ned Rad ned Rad 7 (E901 | | 90 (1 291 1991) | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | |
| Sample Description | on Sample I D | Sampling Date/Time N | Sample | Container Type | # of Cont | Preservative | Bottle # | MS/MSD | 1 lstoT (E200 (E200 | ຂອດາຄ | Combi Radiur CS-13 | | _ | · | | | | |
| | Ouffato02_2000414_Comp_F | 020274174 | MW. | 1t, Poly | - | Nore | 30 30 | è | × | | | | ` | | | | Control of | |
| Outal 002 | Zi | 6815 | A A | borosilicate vials | - | None | 888 | Š | | | | | × | | | | Sample recewing DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures | T |
| | | | ¥. | 500 mL Poly | - | HOSA | 220 | ş | | × | | | | | - | _ | | |
| | | · | ; | 25 Gal Cube | * | Nome | 225 | Š | | | , | | _ | | | | Unfiltered and unpreserved analysis Separate RAD | 9 |
| | Outhalloo2, 20200414_Comp | W. 147.000 | <u> </u> | 1 E Glass Amber | - | None | 230 | S. | | | κ. | | | | | | ONTO ATTOURN WORKDINGE AND ZE GUDINGER, NOT MISSINGED. | |
| | | | Į, | ano re- | + | #Bits | - | g | | \parallel | | + | - | \parallel | | 1 | Only test if first or second removes at the year | वर |
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| | | | + | | | | | | | | | | | | 11 | | | 1 1 1 |
| | | Legend: / | t=Annu | al, C=Conditk | onal, EP=Exp | ert Panel, R= | Routine, Q=Qı | Jarterly, QRS | W=Quarte | rly Recen | ing Water, | S=Semi | Annual | | | | | |
| Relinquished By | ed By | Company | _ | | `. | • | Company Received By Date/Time | 1 | Date/Tim | | | | | 2 8 | Tum-ground to | Turn-around time (Check) | ok) to Day X | |
| m | draw. | 414-2020 | | 27 | II. | N | Favor | | 7 | 4-4-70 | 0 | = | 150 | | 48 Hour | 72 Peg. | | |
| Kelinquished by | Date I me | Company | • | ~ | | | Yecen A | h () h | U 14 20 | 5 5 | 1355 | S | | <i>8</i> | mple integ | Sample Integrity (Check) | | |
| Relinquished By | Date/Time | Company | | 1 | 2 | | Received By | - | Date/Time | | | | | # # B 2 | Store sample Data Require | Store samples for 6 months Data Requirements (Check) | on too mitter that it was it. All leads IV. | |
| | | | | | | | | | | | | | | | | | , ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 7 |

Chain of Custody Record

Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

Eurofins Calscience Irvine

17461 Derian Ave Suite 100

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| | | | | | | | | | | | | | | 44(1-155(1.44 | |
|--|---|---|--|---|--|--------------------|---------------------------------------|-------------------------|------------------------|--|---------------------|-------------|------------------------------|--|---|
| Client Contact: Shinning Becelving | Phone; | | | E-Mail: | E-Mail: | 0 | | | | State o | State of Origin: | | | Page: | |
| Company: | | l | l | curis | Accreditations Required (See note): | ons Req | stameri uired (Ser | e note): | E | California | rnia | | | Page 1 of 1 Job #: | |
| TestAmerica Laboratories, Inc. | | | | | State Pr | ogram | Califor | nia | | | | | | 440-264636-1 | |
| Address: 13715 Rider Trail North, , | Due Date Requested: 4/24/2020 | ed: | | | | | | Analysis | sis Re | Requested | pa | | | Preservation Codes | codes: |
| City. Earth City | TAT Requested (days) | ays): | | | | | | | | | | | | A - HCL B - NaOH C - Zn Acetate | M - Hexane N - None O - AsNaO2 |
| State, Zip: MO, 63045 | | | | | | L | | | | | | | | D - Nitric Acid E - NaHSO4 | P - Na204S O - Na2SO3 |
| Phone: 314-298-8566(TeI) 314-298-8757(Fax) | # Od | | | | | | 181 | | | | | | | G - Amchlor H - Ascorbic Acid | |
| Email: | #OM | | | | (0) | - | | _ | _ | | | | | I - Ice J - DI Water | |
| Project Name: Boeing NPDES SSFL outfalls | Project #: 44009879 | | | | es or h | | | | | | | | tainer | K-EDTA L-EDA | W - pH 4-5 Z - other (specify) |
| Site; | SSOW#: | | | | ap (x | | | - | | 0.10 | | | | Other: | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (wawster, Sasolid Oawsstefoll, BT=Tissue, A-Ar) | Field Filtered S | 901.1_Cs/Fill_Gi | 900.07Evaporatio | _qeSost No.000 | 806.0/LSC_Dist_ | | | | Total Number o | Special | Special Instructions/Note: |
| | | X | Preservation Code: | ion Code: | X | | | | | | | | X | | |
| THE CONTRACT OF THE CONTRACT C | | 09:15 | | | 1 | + | + | + | + | | | | - | Rooing SSEL . | O NOT E!! TED. 1100 DO |
| Outfall002 20200414 Comp (440-264636-1) | 4/14/20 | 09:15 | | Water | | | | - | - | | | | _ | Boeing SSFL; D | Boeing SSFL; DO NOT FILTER; use prep |
| Outrail002_2020414_C011p (440-204030-1) | 4/14/20 | Pacific | | water | | × | × | × | × | | | | 2 | date from preservation | ervation |
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| 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 current maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should 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. | alscience places the ownersh its/matrix being analyzed, the rrent to date, return the signe | ip of method, a samples must d Chain of Cus | nalyte & accre be shipped bar tody attesting t | ditation compli ox to the Eurol o said complic | ance upon ins Calscier ance to Eur | out subcrace labor | atory or o science. | boratorie ther instr | s. This s uctions v | ample shi | pment is fo | r changes ! | inder chain- to accredita | -of-custody. If the ation status should | method; analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently ples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins ain of Custody attesting to said complicance to Eurofins Calscience. |
| Possible Hazard Identification | | | | | Sam | ole Dis |) Jesoa | A fee n | nay be | assess | ed if sar | nples ar | e retaine | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | n 1 month) |
| Unconfirmed | | | | |] | Return | Return To Client | ant | | Disposa | Disposal By Lab | | Archive For | ve For | Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | able Rank: | ~ | | Spec | ial Instr | Special Instructions/QC Requirements: | 'QC Re | quirem | ents: | | | | | |
| Empty Kit Relinquished by: | | Date: | | | Time: | | | | | 2 | Method of Shipment. | hipment | | | |
| Relinquished by: | T | 20 1 | 500 | Company □C-1 | PV R | Received by: | 3%3 | <u>u</u> | FED EX | × | | Date/Time: | | | Company |
| Relinquished by: FED E> | Date/Time: | | | Company | α — | Received | 3 | 1 | hus | y | | Date/Time: | 070 | 2580 | Company STL |
| Relinquished by: | Date/Time: | | | Company | rtr. | Received by: | .yc | | | | | Date/Time: | | | Company |
| 0 | | | | | 0 | ooler Ter | nperature | (s) °C ar | d Other | Cooler Temperature(s) "C and Other Remarks | | | | | |
| A Yes A No | | | | | | | | | | | | | | | |



CONDITION UPON RECEIPT FORM

| S | hipping #(s):* | hermometer | r#: | Packag | ge Temp:** | Document #: |
|----------------|---|------------|----------|---------------------------|---|---|
| 1. 1540 410 | 7- 8342 | 19215262 | ۵ | | .3 | |
| 2. | | | | | | |
| 3. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |
| 3141 | | | | | | |
| N N | for yes, "N" for no and "N/A" for not applical Are there custody seals present on the cooler? | | Υρ | 4 | Are there custo | dy seals present on bottle |
| Y N/A | Do custody seals on cooler appear to tampered with? | be 9. | Y | N NA | Do custody sea tampered with? | ls on bottles appear to be |
| Ø N | Were contents of cooler frisked after opening, but before unpacking? | 10. | Y (| N/A | | below) |
| N (V) | Sample received with Chain of Custo | dy? 11. | 10 | N N/A | Containers for | Rn-222, C-14, Cl-36, H-3 ed with "Do Not Preserve |
| N N/A | Does the Chain of Custody match san ID's on the container(s)? | nple 12. | By 1 | 1 | Neviron en esta | d in proper containers? |
| A Ø | Was sample received broken? | 13. | Y | 1 0 | Headspace in V samples? (>6m (If Yes, note samp | |
| N B | Is sample volume sufficient for analyst | | Y N | U | Soil containers 129/131 marked | for C-14, H-3,Tc-99 & I- l with "Do Not Dry" labe |
| tes: 440 - 264 | ANL, Sandia) sites, pH of ALL containers receiv | | | Col. III and the color of | il & Grease, Rn-222 | and soils. |
| 10 -0 | 1636-K-1 preserved upon | WIIVA' | <u> </u> | ib. | | |
| | | | | | | |
| | | | | | | |
| I Adjustment | NAME OF TAXABLE PARTY OF TAXABLE PARTY. | | | | ervation: 4/13 | Maria Company of the |
| | strip lot#: PM=7 HC905617 | Pres | ervati | ve and l | ot#: HN03 | 000024882 |
| nal pH and pH | strip lot#: pHCL HC905612 | Ame | ount o | f Preser | vative: 6ml | |
| | | | | | | |
| mple Labels A | pplied By: \ \(\frac{1}{2} \land \) | Lab | els 2" | Review | ved By: | |

Chain of Custody Record

Eurofins Calscience Irvine

seurofins Calscience 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

| Client Information (Sub Contract Lab) | Sampler: | | | Bondoc, (| Lab PM: Bondoc, Christian M | Carrier Tracking No(s): | | COC No: 440-155033.1 |
|--|--|---|---|---|--|---|---|--|
| Client Contact: Shipping/Receiving | Phone: | | | E-Mail: christian.t | E-Mail: christian.bondoc@testamericainc.com | State of Origin: California | Page: Page 1 of | 1 of 1 |
| Company. TestAmerica Laboratories, Inc. | | | | Accre | Accreditations Required (See note): State Program - California | | Job #: | Job #: 440-264636-1 |
| Address: 880 Riverside Parkway. | Due Date Requested: 4/24/2020 | ;pe | | | Analysis | Analysis Requested | Presen | Preservation Codes: |
| City. West Sacramento State, Zip; CA, 95605 | TAT Requested (days): | :(ske | | | | | B - HOLL C - Zn Acktate D - Nitric Acid E - NatSO4 | |
| Phone: 916-373-5600(Tel) 916-372-1059(Fax) | PO #. | | | (0 | v isi J p | | F - MeC G - Amc H - Aso | o |
| Email: | WO#: | | | | _ | | | |
| Project Name: Boeing NPDES SSFL outfalls | Project #. 44009879 | | | | | | ntaine: | TA W - pH 4-5 Z - other (specify) |
| Site: | SSOW#. | | | | _ | | ot co | |
| Samula idantification . Cliant ID (1 ah ID) | Sample Date | Sample | Sample Type (C=comp, | Matrix (W-water, S-solid O-washeld) | M/SM mrohag 2_86faf\a6fa | | Total Number | Special Instructions/Note: |
| | \setminus | X | | X | | | | |
| Outfall002_20200414_Comp (440-264636-1) | 4/14/20 | 09:15 Pacific | | Water | × | | 2 See Q/ Boeing | See QAS, Boeing_w/u to zero, ug/l., Use Boeing glassware. |
| Outfall 002 - 20200414 - Comp - Extra | tor | | | | | | | |
| (440-264636-2) | 2) 4/14/20 | Pac 15 | | Worter | × | | 2 | on hold |
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| Note: Since aboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratores. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience alterior instructions will be provided. Any changes to accreditation status should 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. | ience places the ownerst natrix being analyzed, the it to date, return the signe | ip of method, is samples must ad Chain of Cus | nalyte & accre be shipped be tody attesting | editation compliance sek to the Eurofins Ca to said complicance | upon out subcontract laboratories. T elecience laboratory or other instruction to Eurofins Calscience. | nis sample shipment is fon ons will be provided. Any o | warded under chain-of-custo changes to accreditation sta | ody. If the laboratory does not o atus should be brought to Eurofin |
| Possible Hazard Identification | | | | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | be assessed if sam | ples are retained long | ger than 1 month) |
| Unconfirmed | | | | | Return To Client | Disposal By Lab | Archive For | Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | rable Rank: | 2 | | Special Instructions/QC Requirements: | ements: | | |
| Empty Kit Relinquished by: | | Date: | | Time: | 1.5 | Method of Shipment | pment | |
| Relinquished by: | - | 2.0 | 2051 | Company FC-1RV | | | Date/Time. | 930 CTA - Sea |
| Relinquished by: | Date/Time: | | | Company | Received by | ă | ate/Time. | |
| Relinquished by: | Date/Time: | | | Company | Received by: | ă | Date/Time: | Сотрану |
| Custody Seals Intact: Custody Seal No.: Seal | | | | | Cooler Temperature(s) "C and Other Remarks | ó | J.t. | |
| | | | | | | | | Ver. 01/16/2019 |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264636-1

Login Number: 264636 List Source: Eurofins Irvine

List Number: 1

Creator: Dolidze, Lado

| Creator. Dolluze, Lauo | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264636-1

Login Number: 264636 List Source: Eurofins TestAmerica, Sacramento

List Creation: 04/15/20 11:59 AM List Number: 2

| Creator: | Oropeza, | Salvador |
|----------|----------|----------|
| | | |

| oreator. Oropeza, Jarvador | | |
|--|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | 0.7c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | True | |
| | | |

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 440-264636-1

Project/Site: Routine Outfall 002 Comp

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

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
|------------------------|--------------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (25-164) | (24-169) | (25-181) | (24-185) | (21-178) | (32-141) | (28-130) | (26-152) |
| 440-264636-1 | Outfall002_20200414_Comp | 65 | 64 | 55 | 56 | 48 | 48 | 55 | 53 |
| MB 320-372899/1-A | Method Blank | 76 | 72 | 65 | 64 | 72 | 70 | 70 | 72 |
| MB 320-372899/1-A - RA | Method Blank | | 67 | | | | | | |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264636-1 | Outfall002_20200414_Comp | 53 | 66 | 60 | 73 | 63 | 83 | 74 | |
| MB 320-372899/1-A | Method Blank | 69 | 68 | 67 | 72 | 72 | 79 | 73 | |
| MB 320-372899/1-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

11.05 100 1,2,0,0,1,0 11.05

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

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|--------------------|--------------------|------------------|------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|
| 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 320-372899/2-A | Lab Control Sample | 69 | 64 | 59 | 60 | 64 | 62 | 63 | 64 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-372899/2-A | Lab Control Sample | 61 | 63 | 63 | 68 | 66 | 75 | 67 | |

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

Eurofins Calscience Irvine

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine 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

Job ID: 440-264636-1

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Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Tracking #: 1540 4107 8353

| HIBITAR | litera panna | hite | 100100 | |
|---|--------------|------|--------|--|
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| | | Ш | ШП | |
| 111111111111111111111111111111111111111 | | Ш | | |
| | | | | |

| 440-264636 Field Sheet | SO PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier |
|------------------------|---|
| Joh: | CSO / OnTrop / Coldstants / LICES / ON |

| lotes: | Therm. ID: AK () Corr. Factor: (| +/-) | °C |
|--------|---|---------|------|
| lotes | lce_ √ Wet_ ✓ Gel | | |
| | | | |
| | Cooler Custody Seal: Seal | | |
| | Cooler ID: | | |
| | Temp Observed: O. 7 °C Corrected | d: 0. A | - 00 |
| | From: Temp Blank D Sample | | |
| | Opening/Processing The Shipment | Yes No | NA |
| | Cooler compromised/tampered with? | DØ | D |
| | Cooler Temperature is acceptable? | Ø o | |
| | Samples received within holding time? | Ø D | D |
| | Initials: Pk Date: 04/ | 15/2 | 0 |
| | Unpacking/Labeling The Samples | Yes No | NA |
| | CoC is complete w/o discrepancies? | 9 P | |
| | Samples compromised/tampered with? | | |
| | Sample containers have legible labels? | D D | |
| | Sample custody seal? | 0 0 | Ø |
| | Containers are not broken or leaking? | p p | |
| | Sample date/times are provided? | p D | |
| | Appropriate containers are used? | \ D | |
| | Sample bottles are completely filled? | p p | |
| | Sample preservatives verified? | 0 0 | Ø |
| | Samples w/o discrepancies? | D D | |
| | Zero headspace?* | 0 0 | Ø |
| | Alkalinity has no headspace? | | Ø |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | 0 0 | ø |
| | Multiphasic samples are not present? | 9 0 | |
| | | Yes No | NA |
| | NCM Filed? | | 9 |

IITACORPICORPIQAIQA_FACILITIESISACRAMENTO-QAIDOCUMENT-MANAGEMENTIFORMSIQA-812 SAMPLE RECEIVING NOTES DOC

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264636-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

5 June 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264636-2

Project Manager: Katherine Miller

Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|--------------------|--|
| OUTFALL002_20200414 _COMP | 440-264636-1 | N | WM | 4/14/20 9:15 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL002_20200414 _COMP | 440-264636-2 | N | WM | 4/14/20 9:15 AM | RADIUM |

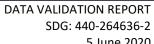




II. SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264636-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- The sample containers were received at TA-SL unpreserved. The containers were preserved to pH≤2 upon receipt.
- Field and laboratory personnel signed and dated the COCs.
- Some corrections to the original COCs were not dated. The cross-outs did not affect data quality.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-SL.



5 June 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



II. VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 5, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and A-01-R* and the *National Functional Guidelines for Superfund Inorganic Method Data Review* (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved (except as noted in the Sample Management section above) and holding time requirements were met.

III.2. CALIBRATION:

The detector efficiencies for gross alpha and radium-226 were less than 20%; therefore, the results for gross alpha and radium-226 were qualified as estimated nondetects (UJ). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC with the exception of radium-228. The result for radium-228 was nondetect and was not qualified. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 1% level of confidence for total uranium. The detected sample result for total uranium was qualified as nondetect (U). The comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample result was not significantly different at the 5% level of confidence for gross beta. The detected sample result for gross beta was qualified as estimated (J+).

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were not performed on the sample from this SDG.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

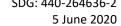
Matrix spike and matrix spike duplicate analyses were not performed on the sample from this SDG.

III.4. Sample Result Verification:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC.

III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the





associated site samples. The following are findings associated with field QC samples:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402646362

Analysis Method E900

Sample Name OUTFALL002 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

CAS No Result Total RL**MDC** Result Analyte Lab Validation Validation Uncert. Value Units Qualifier Qualifier Notes *Ш Gross Alpha Analytes GROSSALPHA 1.41 1.27 3.00 1.89 pCi/L U UJ Gross Beta Analytes GROSSBETA 3.23 0.829 4.00 0.848 pCi/L J+ В

Analysis Method E901.1

Sample Name OUTFALL002_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Units Value Uncert. Qualifier **Qualifier** Notes Cesium-137 10045-97-3 1.46 7.36 20.0 9.50 pCi/L U U Potassium-40 U U 13966-00-2 68.4 90.0 143 143 pCi/L

Analysis Method E903.0

Sample Name OUTFALL002 20200414 COMP Matrix Type: WM Result Type: TRO

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

Total RL**MDC** Analyte CAS No Result Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes 0.0484 *Ш Radium-226 0.0735 1.00 0.126 pCi/L IJ 13982-63-3

Analysis Method E904.0

Sample Name OUTFALL002 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 0.105 0.257 1.00 0.442 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name OUTFALL002 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.168 0.212 3.00 0.351 pCi/L

Analysis Method E906.0

Sample Name OUTFALL002_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes 136 Tritium 10028-17-8 176 500 292 pCi/L

Analysis Method HASL-300 U Mod

Sample Name OUTFALL002 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-1

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Total Uranium **URANIUM** 0.552 0.289 1.00 0.280 pCi/L

Analysis Method RADIUM

Sample Name OUTFALL002_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:15:00 AM Validation Level: 9

Lab Sample Name: 440-264636-2

RLMDC Analyte CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 UJ *Ш RADIUM226228 0.442 0.267 pCi/L

Friday, June 12, 2020 Page 2 of 2



Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Trvine, CA 92614-5817 Tel: (949)261-1022

Laboratory Job ID: 440-264636-2

Client Project/Site: Routine Outfall 002 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/14/2020 11:33:10 AM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

.....LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Laboratory Job ID: 440-264636-2

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc Project Manager I

5/14/2020 11:33:10 AM

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 002 Comp Laboratory Job ID: 440-264636-2

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264636-1 | Outfall002_20200414_Comp | Water | 04/14/20 09:15 | 04/14/20 13:55 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264636-2

Comments

No additional comments.

Receipt

The samples were received on 4/14/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.5° C, 1.0° C, 1.3° C, 1.6° C and 2.1° C.

RAD

Method 900.0: Gross Alpha/Beta Prep Batch 160-469494

The Gross Alpha and Gross Beta detection goals were not met for the following samples due to a reduction of the sample size attributed to high residual mass: (160-37832-C-2-A), (160-37832-C-2-D DU), (160-37832-C-2-B MS) and (160-37832-C-2-C MSBT). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha/Beta Prep Batch 160-469494

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 20200414 Comp (440-264636-1), (LCS 160-469494/2-A), (LCSB 160-469494/3-A), (MB 160-469494/1-A), (160-37832-C-2-A), (160-37832-C-2-D DU), (160-37832-C-2-B MS) and (160-37832-C-2-C MSBT)

Method 901.1: Gamma Prep Batch 160-468154

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.

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 |

Job ID: 440-264636-2

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

Job ID: 440-264636-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Outfall002 20200414 Comp (440-264636-1), (LCS 160-468154/2-A), (MB 160-468154/1-A), (440-264517-R-1-F) and (440-264517-R-1-G DU)

Method 903.0: Radium-226 Prep Batch 160-467982

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 20200414 Comp (440-264636-1), (LCS 160-467982/1-A), (MB 160-467982/23-A), (440-264517-R-1-A), (440-264517-M-1-B MS) and (440-264517-M-1-C MSD)

Method 904.0: Radium-228 Prep Batch 160-468070

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 20200414 Comp (440-264636-1), (LCS 160-468070/1-A), (MB 160-468070/23-A), (440-264517-R-1-E), (440-264517-M-1-F) MS) and (440-264517-M-1-G MSD)

Method 905: Sr-90 Prep Batch 160-468677

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_20200414_Comp (440-264636-1), (LCS 160-468677/1-A), (MB 160-468677/22-A), (440-264517-R-1-H), (440-264517-M-1-H) MS) and (440-264517-M-1-I MSD)

Method 906.0: Tritium Prep Batch 160-469023

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 20200414 Comp (440-264636-1), (LCS 160-469023/2-A), (MB 160-469023/1-A), (160-37794-B-1-A), (160-37794-B-1-B DU), (440-264517-Q-1-A), (440-264517-L-1-B MS) and (440-264517-L-1-C MSD)

Methods A-01-R, U-02-RC: Isotopic Uranium Prep Batch 160-468046

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 20200414 Comp (440-264636-1), (LCS 160-468046/2-A), (MB 160-468046/1-A), (440-263721-S-1-J), (440-263721-M-1-I MS) and (440-263721-M-1-J MSD)

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

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Client Sample ID: Outfall002_20200414_Comp

Lab Sample ID: 440-264636-1 Date Collected: 04/14/20 09:15 **Matrix: Water**

Date Received: 04/14/20 13:55

| Method: 900.0 - | Gross Alpha | and Gros | s Beta Rac | dioactivity | | | | | | |
|-----------------|--------------------|-----------|------------|-------------|------|-------|-------|----------------|-----------------|---------|
| | • | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 1.41 | Ū | 1.26 | 1.27 | 3.00 | 1.89 | pCi/L | 05/04/20 10:53 | 05/10/20 22:24 | 1 |
| Gross Beta | 3.23 | | 0.763 | 0.829 | 4.00 | 0.848 | pCi/L | 05/04/20 10:53 | 05/10/20 22:24 | 1 |
| | 0.20 | | 3.700 | 3.020 | | 5.010 | P | 00.0.720 10.00 | 33 3. 20 22.2 1 | |

| | | | Count Uncert. | Total Uncert. | | | | | | |
|--------------|--------|-----------|------------------|------------------|------|------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 1.46 | U | 7.36 | 7.36 | 20.0 | 9.50 | pCi/L | 04/19/20 14:22 | 04/21/20 08:35 | 1 |
| Potassium-40 | 68.4 | U | 89.7 | 90.0 | | 143 | pCi/L | 04/19/20 14:22 | 04/21/20 08:35 | 1 |

| Welliou. 303.0 - Ka | ululli-226 | (GFFC) | | | | | | | | |
|---------------------|------------|-----------|----------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.0484 | U | 0.0734 | 0.0735 | 1.00 | 0.126 | pCi/L | 04/16/20 13:59 | 05/12/20 04:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 78.4 | | 40 - 110 | | | | | 04/16/20 13:59 | 05/12/20 04:41 | |

| Method: 904.0 - I | ≀adium-228 (| (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-------------------|---------------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.105 | U | 0.257 | 0.257 | 1.00 | 0.442 | pCi/L | 04/19/20 16:36 | 04/30/20 07:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 78.4 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:41 | 1 |
| Y Carrier | 94.6 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:41 | 1 |

| Method: 905 - St | trontium-90 (| GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|------------------|---------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.168 | Ū | 0.212 | 0.212 | 3.00 | 0.351 | pCi/L | 04/23/20 09:24 | 05/06/20 09:28 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 85.3 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:28 | 1 |
| Y Carrier | 91.6 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:28 | 1 |

| Method: 906.0 - | Tritium, Tota | ıl (LSC) | | | | | | | | |
|-----------------|---------------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Tritium | 136 | U | 175 | 176 | 500 | 292 | pCi/L | 04/28/20 04:41 | 04/29/20 08:00 | 1 |

| Method: A-01-R - | Isotopic Ura | anium (Al | pha Spectr | ometry) | | | | | | |
|------------------|--------------|-----------|------------|---------|------|-------|-------|----------------|----------------|---------|
| | • | ` ' | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Total Uranium | 0.552 | | 0.287 | 0.289 | 1.00 | 0.280 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 |

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Eurofins Calscience Irvine

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Client Sample ID: Outfall002_20200414_Comp Lab Sample ID: 440-264636-1

Date Received: 04/14/20 13:55

Date Collected: 04/14/20 09:15 **Matrix: Water**

Dil Fac Tracer %Yield Qualifier Limits Prepared Analyzed Uranium-232 82.5 30 - 110

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

| l lethod | Method Description | Protocol | Laboratory |
|-----------------|--|----------|------------|
| 0.00 | Gross Alpha and Gross Beta Radioactivity | EPA | TAL SL |
| 01.1 | Cesium 137 & Other Gamma Emitters (GS) | EPA | TAL SL |
| 03.0 | Radium-226 (GFPC) | EPA | TAL SL |
| 04.0 | Radium-228 (GFPC) | EPA | TAL SL |
| 05 | Strontium-90 (GFPC) | EPA | TAL SL |
| 06.0 | Tritium, Total (LSC) | EPA | TAL SL |
| -01-R | Isotopic Uranium (Alpha Spectrometry) | DOE | TAL SL |
| vaporation | Preparation, Evaporation | None | TAL SL |
| xtChrom | Preparation, Extraction Chromatography Resin Actinide Separation | None | TAL SL |
| ill_Geo-0 | Fill Geometry, No In-Growth | None | TAL SL |
| SC_Dist_Susp | Distillation and Suspension (LSC) | None | TAL SL |
| recSep_0 | Preparation, Precipitate Separation | None | TAL SL |
| recSep-21 | Preparation, Precipitate Separation (21-Day In-Growth) | None | TAL SL |
| recSep-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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

J

Job ID: 440-264636-2

Δ

G

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Client Sample ID: Outfall002_20200414_Comp

Lab Sample ID: 440-264636-1 Date Collected: 04/14/20 09:15 **Matrix: Water**

Date Received: 04/14/20 13:55

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|------------|--------|--------|----------------|---------|--------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 200.23 mL | 1.0 g | 469494 | 05/04/20 10:53 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | | 469946 | 05/10/20 22:24 | CJQ | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 468154 | 04/19/20 14:22 | MLG | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 468186 | 04/21/20 08:35 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 999.29 mL | 1.0 g | 467982 | 04/16/20 13:59 | RBR | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 470197 | 05/12/20 04:41 | KLS | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 999.29 mL | 1.0 g | 468070 | 04/19/20 16:36 | MNH | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | | | 469238 | 04/30/20 07:41 | KRR | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 1000.26 mL | 1.0 g | 468677 | 04/23/20 09:24 | RBR | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 469750 | 05/06/20 09:28 | CJQ | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.4 mL | 1.0 g | 469023 | 04/28/20 04:41 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 469168 | 04/29/20 08:00 | KRR | TAL SL |
| Total/NA | Prep | ExtChrom | | | 500.07 mL | 1.0 mL | 468046 | 04/17/20 17:03 | CMM | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 468777 | 04/24/20 09:34 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-469494/1-A

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 469946

Prep Batch: 469494

Count Total мв мв Uncert. Uncert. Result Qualifier RL **MDC** Unit Dil Fac Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed Gross Alpha 05/04/20 08:52 05/10/20 13:29 0.1119 U 0.445 0.446 3.00 0.866 pCi/L **Gross Beta** 0.6416 U 0.525 0.529 4.00 0.829 pCi/L 05/04/20 08:52 05/10/20 13:29

Lab Sample ID: LCS 160-469494/2-A

Matrix: Water

Analysis Batch: 469946

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 469494

Analysis Batch: 469946

Total

Spike LCS LCS Upport

LCS LCS %Rec. Spike Uncert. RL Analyte Added Result Qual $(2\sigma + / -)$ **MDC** Unit %Rec Limits Gross Alpha 49.6 45.79 6.94 3.00 1.72 pCi/L 92 75 - 125

Lab Sample ID: LCSB 160-469494/3-A

Matrix: Water

Analysis Batch: 469946

Total

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

Prep Batch: 469494

Spike LCSB LCSB %Rec. Uncert. Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Analyte **Gross Beta** 84.4 4.00 91 75 - 125 77.14 8.24 0.831 pCi/L

Lab Sample ID: 160-37832-C-2-B MS

Matrix: Water

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

Analysis Batch: 469946 Prep Batch: 469494

Total MS MS %Rec. Sample Sample **Spike** Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits 1060 pCi/L Gross Alpha 8680 G 23600 31670 4720 3.00 97 60 - 140

Lab Sample ID: 160-37832-C-2-C MSBT

Matrix: Water

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

Analysis Batch: 469946 Prep Batch: 469494

Total Sample Sample Spike MSBT MSBT %Rec. Uncert. RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits Gross Beta 2680 G 38300 33740 G 3630 4.00 526 pCi/L 60 - 140

Lab Sample ID: 160-37832-C-2-D DU

Matrix: Water

Client Sample ID: Duplicate
Prep Type: Total/NA

Analysis Batch: 469946 Prep Batch: 469494

Total DU DU Sample Sample **RER** Uncert. Result Qual Result Qual **MDC** Unit Analyte $(2\sigma + / -)$ RL RER Limit Gross Alpha 8680 G 9783 G 2130 3.00 1210 pCi/L 0.27 1 **Gross Beta** 2680 G 2894 G 606 4.00 0.18 544 pCi/L

Eurofins Calscience Irvine

5/14/2020

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-468154/1-A

Matrix: Water

Analysis Batch: 468184

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468154

| • | МВ | МВ | Count Uncert. | Total Uncert. | | | | | • | |
|--------------|--------|-----------|------------------|------------------|------|------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 9.865 | U | 9.03 | 9.08 | 20.0 | 10.3 | pCi/L | 04/19/20 14:22 | 04/21/20 07:26 | 1 |
| Potassium-40 | -10.82 | U | 156 | 156 | | 222 | pCi/L | 04/19/20 14:22 | 04/21/20 07:26 | 1 |

Lab Sample ID: LCS 160-468154/2-A

Matrix: Water

Analysis Batch: 468186

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468154

| | | | Total | | | | | | |
|--------|--------------------------|--|---|--|---|--|---|---|--|
| Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| 136000 | 126300 | | 14600 | | 415 | pCi/L | 93 | 90 - 111 | |
| 43700 | 43710 | | 4380 | 20.0 | 106 | pCi/L | 100 | 90 - 111 | |
| 26200 | 25510 | | 2530 | | 64.4 | pCi/L | 97 | 89 - 110 | |
| | Added 136000 43700 | Added Result 136000 126300 43700 43710 | Added Result Qual 136000 126300 43700 43710 | Spike LCS LCS Uncert. Added Result Qual (2σ+/-) 136000 126300 14600 43700 43710 4380 | Spike LCS LCS Uncert. Added Result Qual (2σ+/-) RL 136000 126300 14600 20.0 | Spike LCS LCS Uncert. Added Result Qual (2σ+/-) RL MDC 136000 126300 14600 415 43700 43710 4380 20.0 106 | Spike LCS LCS Uncert. Added Result Qual (2σ+/-) RL MDC Unit 136000 126300 14600 415 pCi/L 43700 43710 4380 20.0 106 pCi/L | Spike LCS LCS Uncert. Added Result Qual (2σ+/-) RL MDC Unit %Rec 136000 126300 14600 415 pCi/L 93 43700 43710 4380 20.0 106 pCi/L 100 | Spike LCS LCS Uncert. %Rec. Added Result Qual (2σ+/-) RL MDC Unit %Rec. 136000 126300 14600 415 pCi/L 93 90 - 111 43700 43710 4380 20.0 106 pCi/L 100 90 - 111 |

Lab Sample ID: 440-264517-R-1-G DU

Matrix: Water

Analysis Batch: 468183

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 468154

Total DU DU **RER** Sample Sample Uncert. Analyte Result Qual Result Qual $(2\sigma + / -)$ RL **MDC** Unit RER Limit Cesium-137 2.76 U 2.790 U 5.70 20.0 7.42 pCi/L 0 Potassium-40 16.6 U -35.24 U 119 175 pCi/L 0.26

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467982/23-A

Matrix: Water

Analysis Batch: 470197

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467982

| Analysis Daten | . 470137 | | Count | Total | | | | | r rep Daten. | 407 302 |
|----------------|----------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | МВ | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.05167 | U | 0.0787 | 0.0788 | 1.00 | 0.135 | pCi/L | 04/16/20 13:59 | 05/12/20 06:30 | 1 |
| | MB | МВ | | | | | | | | |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

Lab Sample ID: LCS 160-467982/1-A

87.2

Matrix: Water

Ba Carrier

Analysis Batch: 470197

Client Sample ID: Lab Control Sample

04/16/20 13:59 05/12/20 06:30

Prep Type: Total/NA

Prep Batch: 467982

Total LCS LCS **Spike** Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Radium-226 0.101 pCi/L 75 - 125 11.3 10.36 1.07 1.00 91

40 - 110

LCS LCS

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 97.0

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Method: 903.0 - Radium-226 (GFPC) (Continued)

Spike

Added

15.1

Lab Sample ID: 440-264517-M-1-B MS

Matrix: Water

Analyte

Analyte

Radium-226

Radium-226

Analysis Batch: 470197

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 467982

Total MS MS %Rec. Uncert. RL MDC Unit Limits Result Qual $(2\sigma + / -)$ %Rec 75 - 138 14.73 1.53 1.00 0.124 pCi/L 96

0.136 MS MS

Sample Sample

Result Qual

Carrier %Yield Qualifier Limits 82.3 Ba Carrier 40 - 110

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 467982

Lab Sample ID: 440-264517-M-1-C MSD

Matrix: Water

Analysis Batch: 470197

Total Spike MSD MSD Uncert. %Rec. **RER** Added RL Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits RER Limit 15.1 14.06 1.00 0.101 pCi/L 92 0.22 1.45

0.136 MSD MSD

Sample Sample

Result Qual

Carrier %Yield Qualifier I imits 95.4 40 - 110 Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

MB MB

Lab Sample ID: MB 160-468070/23-A

Matrix: Water

Analysis Batch: 469237

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

Prep Batch: 468070

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.3732 0.242 0.244 1.00 0.372 pCi/L 04/19/20 16:36 04/30/20 07:45

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 40 - 110 04/19/20 16:36 04/30/20 07:45 87.2 Y Carrier 91.2 40 - 110 04/19/20 16:36 04/30/20 07:45

Lab Sample ID: LCS 160-468070/1-A

Matrix: Water

Analysis Batch: 469238

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

Prep Batch: 468070

Total **Spike** LCS LCS Uncert. %Rec. Added $(2\sigma + / -)$ RL Analyte Result Qual MDC Unit %Rec Limits 1.00 75 - 125 Radium-228 8.88 8.918 1.03 0.383 pCi/L 100

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 97.0 40 - 110 Y Carrier 93.5 40 - 110

Eurofins Calscience Irvine

5/14/2020

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 440-264517-M-1-F MS

Matrix: Water

Analysis Batch: 469237

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 468070

Total Sample Sample Spike MS MS %Rec. Uncert. Added RL **MDC** Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec Radium-228 -0.0386 U 45 - 150 11.8 12.22 1.44 1.00 0.503 pCi/L 103

MS MS

Carrier %Yield Qualifier Limits Ba Carrier 82.3 40 - 110 Y Carrier 92.0 40 - 110

Lab Sample ID: 440-264517-M-1-G MSD

Matrix: Water

Analysis Batch: 469237

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468070

Total MSD MSD %Rec. **RER** Sample Sample Spike Uncert. Analyte Result Qual Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Result Qual RER Limit Radium-228 -0.0386 U 11.8 1.49 1.00 0.505 pCi/L 45 - 150 0.26 12.99 110

MSD MSD

Carrier %Yield Qualifier Limits Ba Carrier 95.4 40 - 110 Y Carrier 85.6 40 - 110

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Matrix: Water

Analysis Batch: 469750

Analysis Batch: 469763

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468677

Dil Fac

Count Total MB MB Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac Strontium-90 0.2727 U 0.395 0.395 3.00 0.660 pCi/L 04/23/20 09:24 05/06/20 09:25

MΒ MB

Carrier %Yield Qualifier Limits Sr Carrier 93.4 40 - 110 92.0 40 - 110 Y Carrier

Client Sample ID: Lab Control Sample

04/23/20 09:24 05/06/20 09:25

04/23/20 09:24 05/06/20 09:25

Prepared

Lab Sample ID: LCS 160-468677/1-A Prep Type: Total/NA

Prep Batch: 468677

Analyzed

Total

Spike LCS LCS Uncert.

%Rec. Added Result Qual $(2\sigma + / -)$ RL MDC Unit Limits Analyte %Rec Strontium-90 16.9 16.93 1.79 3.00 0.626 pCi/L 100 75 - 125

LCS LCS

| Carrier | %Yield | Qualifier | Limits |
|------------|--------|-----------|----------|
| Sr Carrier | 91.7 | | 40 - 110 |
| Y Carrier | 85.6 | | 40 - 110 |

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: 440-264517-M-1-H MS Client Sample ID: Matrix Spike

Matrix: Water

Analysis Batch: 469750

Prep Type: Total/NA

Prep Batch: 468677

Total Sample Sample Spike MS MS Uncert. %Rec. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec 0.284 U 19 - 150 Strontium-90 16.9 16.73 1.77 3.00 0.633 pCi/L 98

MS MS

Carrier %Yield Qualifier Limits Sr Carrier 88.8 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264517-M-1-I MSD **Client Sample ID: Matrix Spike Duplicate**

Matrix: Water

Analysis Batch: 469750

Prep Type: Total/NA

Prep Batch: 468677

Total MSD MSD %Rec. **RER** Sample Sample Spike Uncert. Analyte Result Qual Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Result Qual Limit 0.284 U Strontium-90 16.9 1.68 3.00 0.641 pCi/L 91 19 - 150 0.30 15.70

MSD MSD %Yield Qualifier Limits

Carrier Sr Carrier 87.6 40 - 110 Y Carrier 92.7 40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-469023/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 469168

Prep Batch: 469023 Count Total MB MB Uncert. Uncert. **MDC** Unit Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Dil Fac Analyzed Tritium -32.88 U 154 154 500 285 pCi/L 04/28/20 04:41 04/29/20 02:20

Lab Sample ID: LCS 160-469023/2-A

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 469023

Total **Spike** LCS LCS Uncert. %Rec.

Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Tritium 391 500 283 pCi/L 97 75 - 114 2450 2379

Lab Sample ID: 440-264517-L-1-B MS

Matrix: Water

Analysis Batch: 469168

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

Prep Batch: 469023

Total Sample Sample Spike MS MS Uncert. %Rec. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 194 U 2460 2681 432 500 308 pCi/L 101 67 - 130

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5/14/2020

Job ID: 440-264636-2

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 440-264517-L-1-C MSD

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 469023

Total Sample Sample Spike MSD MSD %Rec. **RER** Uncert. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec RFR Limit 194 U Tritium 2450 2654 424 500 297 pCi/L 100 67 - 130 0.03

Lab Sample ID: 160-37794-B-1-B DU

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 469023

Total Sample Sample DU DU **RER** Uncert. Result Qual Analyte Result Qual $(2\sigma + / -)$ RL MDC Unit **RER** Limit Tritium 10.8 U 77.48 U 166 500 284 pCi/L 0.21

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A

Matrix: Water

Matrix: Water

Analysis Batch: 468752

Analysis Batch: 468749

Lab Sample ID: LCS 160-468046/2-A

Count Total Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 468046**

MB MB Uncert. Uncert. **Analyte** Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Total Uranium 0.03978 Ū 0.1101 0.1102 1.00 0.152 pCi/L 04/17/20 17:03 04/24/20 09:34

MB MB

Tracer **%Yield Qualifier** Limits Prepared Analyzed Uranium-232 92.6 30 - 110 04/17/20 17:03 04/24/20 09:34

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468046

Total Spike LCS LCS Uncert. %Rec. RL **MDC** Unit **Analyte** Added Result Qual $(2\sigma + / -)$ %Rec Limits Uranium-234 12.7 13.10 1.50 1.00 0.150 pCi/L 103 75 - 125 Uranium-238 13.0 13.96 1.58 1.00 0.0962 pCi/L 107 75 - 125

LCS LCS

Tracer %Yield Qualifier Limits Uranium-232 81.2 30 - 110

Lab Sample ID: 440-263721-M-1-I MS **Client Sample ID: Matrix Spike**

Matrix: Water

Analysis Batch: 468757

Prep Type: Total/NA **Prep Batch: 468046**

Total Sample Sample **Spike** MS MS Uncert. %Rec. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Uranium-234 0.0485 U 12.7 12.44 1.46 1.00 0.164 pCi/L 97 65 - 146 Uranium-238 0.150 13.0 14.35 1.63 1.00 0.129 pCi/L 109 68 - 143

MS MS

Tracer %Yield Qualifier Limits Uranium-232 65.3 30 - 110

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Dil Fac

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 440-263721-M-1-J MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Analysis Batch: 468759

Prep Type: Total/NA

Prep Batch: 468046

| | | | | | | iotai | | | | | | | |
|-------------|--------|--------|-------|--------|------|---------|------|-------|-------|------|----------|------|-------|
| | Sample | Sample | Spike | MSD | MSD | Uncert. | | | | | %Rec. | | RER |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | RER | Limit |
| Uranium-234 | 0.0485 | U | 12.8 | 13.87 | | 1.59 | 1.00 | 0.158 | pCi/L | 108 | 65 - 146 | 0.47 | 1 |
| Uranium-238 | 0.150 | | 13.0 | 12.82 | | 1.50 | 1.00 | 0.141 | pCi/L | 97 | 68 - 143 | 0.49 | 1 |
| | | | | | | | | | | | | | |

MSD MSD

Tracer %Yield Qualifier Limits
Uranium-232 65.1 30 - 110

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

Rad

| Prep Batch: 46798 |
|-------------------|
|-------------------|

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467982/23-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467982/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| 440-264517-M-1-B MS | Matrix Spike | Total/NA | Water | PrecSep-21 | |
| 440-264517-M-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-21 | |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|----------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | ExtChrom | |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-I MS | Matrix Spike | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | Total/NA | Water | ExtChrom | |

Prep Batch: 468070

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-468070/23-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-468070/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| 440-264517-M-1-F MS | Matrix Spike | Total/NA | Water | PrecSep_0 | |
| 440-264517-M-1-G MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep_0 | |

Prep Batch: 468154

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | Fill_Geo-0 |
| MB 160-468154/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 |
| LCS 160-468154/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 |
| 440-264517-R-1-G DU | Duplicate | Total/NA | Water | Fill_Geo-0 |

Prep Batch: 468677

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | PrecSep-7 | |
| MB 160-468677/22-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-468677/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-H MS | Matrix Spike | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-7 | |

Prep Batch: 469023

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|----------------------|--------------------------|-----------|--------|-------------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | LSC_Dist_Susp |
| MB 160-469023/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp |
| LCS 160-469023/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp |
| 440-264517-L-1-B MS | Matrix Spike | Total/NA | Water | LSC_Dist_Susp |
| 440-264517-L-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | LSC_Dist_Susp |
| 160-37794-B-1-B DU | Duplicate | Total/NA | Water | LSC_Dist_Susp |

Prep Batch: 469494

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|-------------|------------|
| 440-264636-1 | Outfall002_20200414_Comp | Total/NA | Water | Evaporation | · |
| MB 160-469494/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-469494/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |

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5/14/2020

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QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264636-2 Project/Site: Routine Outfall 002 Comp

Rad (Continued)

Prep Batch: 469494 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batc | h |
|----------------------|--------------------|-----------|--------|------------------|---|
| LCSB 160-469494/3-A | Lab Control Sample | Total/NA | Water | Evaporation | _ |
| 160-37832-C-2-B MS | Matrix Spike | Total/NA | Water | Evaporation | |
| 160-37832-C-2-C MSBT | Matrix Spike | Total/NA | Water | Evaporation | |
| 160-37832-C-2-D DU | Duplicate | Total/NA | Water | Evaporation | |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264636-2

Project/Site: Routine Outfall 002 Comp

Qualifiers

| Rad |
|-----------|
| Qualifier |

| | <u> </u> |
|---|--|
| G | The Sample MDC is greater than the requested RL. |

Result is less than the sample detection limit.

Qualifier Description

Glossary

| Abbreviation | These commonly | used abbreviations may | or may not be | present in this report. |
|--------------------------|------------------|------------------------|-----------------|-------------------------|
| / (DD) 0 1 1 a c 1 a c 1 | THOSE COMMISSING | acca approvidencino ma | , or may not so | procent in time reporti |

¤ Listed under the "D" column to designate that the result is reported on a dry weight basis

Percent Recovery %R CFL Contains Free Liquid **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

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) Limit of Quantitation (DoD/DOE) LOQ

Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDI Method Detection Limit ML Minimum Level (Dioxin) MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL **Practical Quantitation Limit**

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) Toxicity Equivalent Quotient (Dioxin) TEQ

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, St. LouisAll 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| Iowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

Eurofins Calscience Irvine

Store samples for 6 months Data Requirements (Check)

12-94

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0.3/0.5

14/16,111/13,03/1.01

No Level IV

Sample Integrity (Check)

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48 hours Holding Time NO₃ & NO₂ 48 hour holding time for turbidity Comments 10 Oay __x_ Hold Hold Hold 72 Hour Turn-around time (Check) 5 Day 94 **44.** 1 04. 3 24 Hour ____ Lotal Recoverable Metals Mercury (E245 1) 48 Hour 2,4,6 TCP, 2,4 Dintrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (5VOCs E625) I (8093) OH8-shqle /mmonia-N (350 2) Q(二) (22 (100 5 (2W5240O)) Infoldity, TDS (SM2540C/E1801) CI., 50₄, Nitrate-N, Nitrate-N, NO3+NO2-N, Perchlorate (E300) oc. × I Surfactants (MBAS) (SMSS40C/E425 1) 4-14-20 œ × (E1913B) (E1913B) I œ Total Recoverable Metats (E200 7) Zn (E200 8) Cu, Pb, Cd, Se Legend: C=Conditional, R=Routine MS/MSD £ ĝ ક્ર 운 £ 2 ĝ £ £ £ ĝ £ 운 Project
Boeing-SSFL NPDES
Permit 2020
Routine Outfail (701, 078)
Comp Bottle # 8 8 藣 苔薯 5 5 Ş Š 窓 170 운 \$ 8 Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818 599 0702 (cell) 8 Preservative None 05°H Š None Secon Š NOT S None Youe 5 Noge N Sp NO. None # of Cont 1 L Graes Amber 1 L Glass Amber 1 L Glass Amber Container Type 1 L Glass Amber 1 ¿ Glass Amber 1 £ Glass Amber 500 mt. Poly 500 mi. Poly 500 ml. Poly 500 mL Poly 500 mL Poly 500 ml. Poly 500 mit. Poly 11. Poly il Poly ask-marica's services under this CGC shall be parformed in accordance with the T&Cs within Blanket Service Agreements 019-22 TestAmerics by and between Haley & Adhich, Inc., its subsidiantes and affiliates, and TestAmerica Laboratories Sample Matrix Š Š ₹ ₹ š ₹ Š Š 3 ₹ ž ₹ * ₹ Š Sampling Date/Time Eurofins Celscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218 Outsill002_20200414_Comp_Emira Outhai 002_20200414_Comp Sample ID Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Sampler Dan Smith Sample Description Outfall DD2 Cont

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CHAIN OF CUSTODY FORM

440-264636 Chain of Custody

Eurofins Calscience Irvine

4/14/20 15

2019-2020 Rainy Season O Version 4

Eurofins Calscience Irvine

| Tutum (H-3) (E906 0), Sr-90 (E905 0) Combined Sedium 226 (E904 0), Uranium (E906 0) (E907 1) Chronic Toxicity - Selenseirum (E908 0), Sr-90 (E908 0) |
|---|
| Total Dissolved Metals |
| Total Dissolved Metals CS00 7) Zn (E200 7) Zn (E200 8) Zu, Pb, Zd, Se CS00 8) Zu, Pb, Zd, Se Combined Reduum 226 (E903 0) Gross Bet Tribum (H-3) (E905 0), Sr-90 (E903 0) Combined Reduum 226 (E903 0) |
| |
| Project Manager Katherine Miller |
| 45 sign 5- 20 |
| Sampling Date/Time Sample Sample |
| 4/14/2020 / WM 11. Poly 1 4/14/2020 / WM 500 ml. Poly 1 4/14/2020 / WM 11. Geo ml. Poly 1 4/14/2020 / WM 11. Geo mn. Poly 1 |
| 4/14/2020 VMM borosilicate vials 1 1 2 6 Gal Cube 1 1 1 Cases Arriver 1 1 1 Cases Arriver 1 1 |
| 414/2020/ VVM 2.5 Gal Cabe 1 None None |
| 4/14/2020 / VAM 2.5 Gill Clabs 11 None 1 None |
| 4) 16/2020 Amber 1 None |
| |
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| |
| |

2019-2020 Rainy Season O Version 4

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264636-2

Login Number: 264636 List Source: Eurofins Irvine

List Number: 1

Creator: Dolidze, Lado

| Creator. Dolluze, Lauo | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264636-2

Login Number: 264636 List Source: Eurofins TestAmerica, St. Louis
List Number: 3 List Creation: 04/15/20 03:55 PM

Creator: Mazariegos, Leonel A

| Answer | Comment |
|--------|---|
| True | |
| True | |
| True | |
| N/A | |
| True | 440-264636-R-1 preserved upon arrival to lab. |
| True | |
| True | |
| True | |
| True | |
| N/A | |
| | True True True True True True True True |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Job ID: 440-264636-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------------------------------|
| | | Ba Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | |
| 440-264517-M-1-B MS | Matrix Spike | 82.3 | |
| 440-264517-M-1-C MSD | Matrix Spike Duplicate | 95.4 | |
| 440-264636-1 | Outfall002_20200414_Comp | 78.4 | |
| LCS 160-467982/1-A | Lab Control Sample | 97.0 | |
| MB 160-467982/23-A | Method Blank | 87.2 | |
| Tracer/Carrier Legend | | | |
| Ba Carrier = Ba Carrier | | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-----------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Ba Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264517-M-1-F MS | Matrix Spike | 82.3 | 92.0 | |
| 440-264517-M-1-G MSD | Matrix Spike Duplicate | 95.4 | 85.6 | |
| 440-264636-1 | Outfall002_20200414_Comp | 78.4 | 94.6 | |
| LCS 160-468070/1-A | Lab Control Sample | 97.0 | 93.5 | |
| MB 160-468070/23-A | Method Blank | 87.2 | 91.2 | |
| Tracer/Carrier Legend | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Sr Carrier (40-110) | Y Carrier (40-110) | |
| 440-264517-M-1-H MS | Matrix Spike | 88.8 | 90.8 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | 87.6 | 92.7 | |
| 440-264636-1 | Outfall002_20200414_Comp | 85.3 | 91.6 | |
| LCS 160-468677/1-A | Lab Control Sample | 91.7 | 85.6 | |
| MB 160-468677/22-A | Method Blank | 93.4 | 92.0 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |
| | | | | |

Y Carrier = Y Carrier

Y Carrier = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| | | ranium-23 |
|----------------------|--------------------------|-----------|
| Lab Sample ID | Client Sample ID | (30-110) |
| 440-263721-M-1-I MS | Matrix Spike | 65.3 |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | 65.1 |
| 440-264636-1 | Outfall002_20200414_Comp | 82.5 |
| LCS 160-468046/2-A | Lab Control Sample | 81.2 |
| MB 160-468046/1-A | Method Blank | 92.6 |

Eurofins Calscience Irvine

5/14/2020

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Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 002 Comp

Tracer/Carrier Legend

Uranium-232 = Uranium-232

Job ID: 440-264636-2

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ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

Laboratory Job ID: 440-264369-1

Client Project/Site: Routine Outfall 008 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/20/2020 4:28:42 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Christian Bondoc Project Manager I 4/20/2020 4:28:42 PM Laboratory Job ID: 440-264369-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

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Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Grab Laboratory Job ID: 440-264369-1

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Grab

Job ID: 440-264369-1

| | | | _ | | |
|---------------|--------------------------|--------|----------------|----------------|----------|
| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
| 440-264369-1 | Outfall008_20200408_Grab | Water | 04/08/20 07:20 | 04/09/20 15:45 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264369-1 Project/Site: Routine Outfall 008 Grab

Job ID: 440-264369-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264369-1

Comments

No additional comments.

Receipt

The samples were received on 4/9/2020 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

Organic Prep

Methods 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-605605 and analytical batch 440-605653. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664A/B.

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

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264369-1

Project/Site: Routine Outfall 008 Grab

Client Sample ID: Outfall008_20200408_Grab Lab Sample ID: 440-264369-1

Date Collected: 04/08/20 07:20 Matrix: Water

Date Received: 04/09/20 15:45

| General Chemistry | | | | | | | |
|--------------------|------------------|-----|----------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| HEM (Oil & Grease) | ND - | 5.3 | 1.5 mg/L | | 04/20/20 05:12 | 04/20/20 08:48 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Grab

 Method
 Method Description
 Protocol
 Laboratory

 1664A
 HEM and SGT-HEM
 1664A
 TAL IRV

 1664A
 HEM and SGT-HEM (SPE)
 1664A
 TAL IRV

Protocol References:

1664A = EPA-821-98-002

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Job ID: 440-264369-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264369-1

Project/Site: Routine Outfall 008 Grab

Client Sample ID: Outfall008_20200408_Grab Lab Sample ID: 440-264369-1

Date Collected: 04/08/20 07:20 Matrix: Water

Date Received: 04/09/20 15:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|--------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 1664A | | | 950 mL | 1000 mL | 605605 | 04/20/20 05:12 | L1A | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 605653 | 04/20/20 08:48 | L1A | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264369-1

RL

5.0

Project/Site: Routine Outfall 008 Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-605605/1-A

Analysis Batch: 605653

Matrix: Water

MB MB Analyte

Result Qualifier HEM (Oil & Grease) ND

Lab Sample ID: LCS 440-605605/2-A

Matrix: Water Analysis Batch: 605653

HEM (Oil & Grease)

Lab Sample ID: LCSD 440-605605/3-A

Matrix: Water Analysis Batch: 605653

Analyte

HEM (Oil & Grease)

Spike Added 40.0

Spike

Added

40.0

LCSD LCSD 36.4

LCS LCS

36.0

Result Qualifier Unit

MDL Unit

Result Qualifier Unit

1.4 mg/L

mg/L

mg/L

D %Rec

Prepared

D %Rec

90

Client Sample ID: Lab Control Sample Dup

Limits 91 78 - 114

%Rec.

RPD Limit

Client Sample ID: Method Blank

04/20/20 05:12 04/20/20 08:48

Client Sample ID: Lab Control Sample

%Rec.

Limits

78 - 114

Prep Type: Total/NA

Prep Batch: 605605

Prep Type: Total/NA

Prep Batch: 605605

Prep Type: Total/NA

Prep Batch: 605605

Dil Fac

Analyzed

RPD

QC Association Summary

Client: Haley & Aldrich, Inc. Job ID: 440-264369-1

Project/Site: Routine Outfall 008 Grab

General Chemistry

Prep Batch: 605605

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264369-1 | Outfall008_20200408_Grab | Total/NA | Water | 1664A | |
| MB 440-605605/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-605605/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-605605/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |

Analysis Batch: 605653

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264369-1 | Outfall008_20200408_Grab | Total/NA | Water | 1664A | 605605 |
| MB 440-605605/1-A | Method Blank | Total/NA | Water | 1664A | 605605 |
| LCS 440-605605/2-A | Lab Control Sample | Total/NA | Water | 1664A | 605605 |
| LCSD 440-605605/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 605605 |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264369-1

Project/Site: Routine Outfall 008 Grab

Glossary

DL

| 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 | | | | |
| CNF | Contains No Free Liquid | | | | |
| DER | Duplicate Error Ratio (normalized absolute difference) | | | | |
| Dil Fac | Dilution Factor | | | | |

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)

Detection Limit (DoD/DOE)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 440-264369-1

Project/Site: Routine Outfall 008 Grab

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

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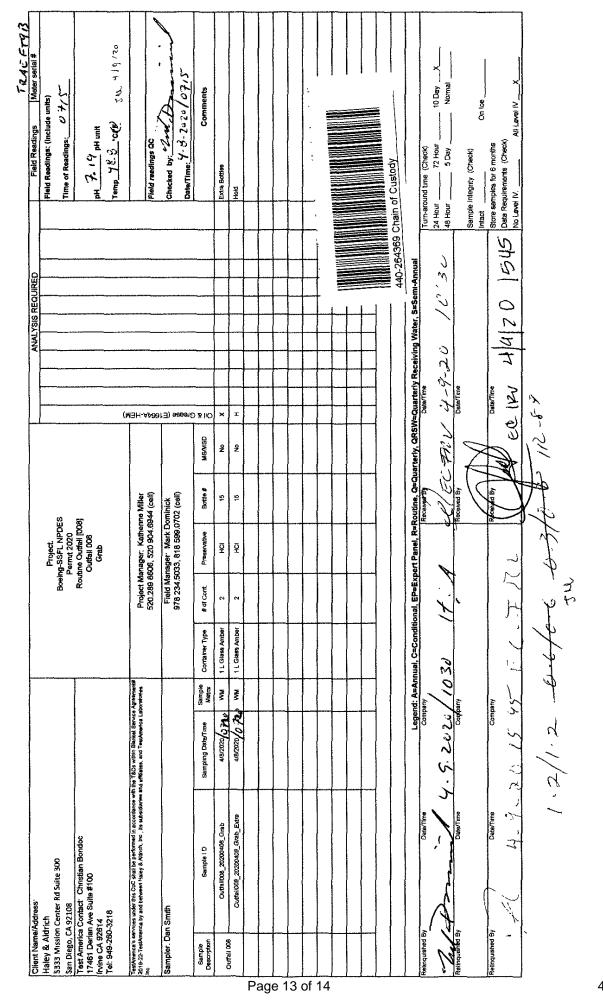
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Page 1 of 1

CHAIN OF CUSTODY FORM

Test America

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264369-1

Login Number: 264369 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| ordator. Educatio, maria i | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | N/A | Not present |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| s 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is 6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264370-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

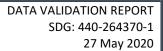
29 May 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264370-1





INTRODUCTION

Task Order Title: Boeing SSFL NPDES Contract: 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003D.01 002 Sample Delivery Group: 440-264370-1

Project Manager: Katherine Miller

Matrix: Water QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 Laboratory: TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|--------------------------------|--------------------|----------------------|--------|-------------------|---------------------------|---------------------|
| OUTFALL008_20200409 _COMP | 440-264370-1 | N/A | WM | 4/9/20 7:25 AM | E1613B, E200.7, E200.8 | II |
| OUTFALL008_20200409 _COMP_F | 440-264370-2 | N/A | WM | 4/9/20 7:25 AM | E200.7, E200.8 | II |

DATA VALIDATION REPORT SDG: 440-264370-1 27 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264370-1:

- The laboratories received the samples in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA- Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-Sacramento.
- Strikethroughs on the COC were initialed but not dated.





TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE REFERENCE | | | | | | | | | |
|--------|--|--|--|--|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | | | | | |



| Reason Code | Organic | Inorganic | | | | |
|----------------|--|--|--|--|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. | | | | |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. | | | | |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | | | | |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. | | | | |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. | | | | |
| ? | TIC identity or reported retention time has been changed. | Not applicable. | | | | |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. | | | | |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. | | | | |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. | | | | |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | | | | |



III. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 3, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,7,8-PeCDF, OCDD and OCDF, and for totals HpCDD, HpCDF and PeCDF. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. Totals HpCDF and PeCDF in the sample (containing both a qualified method blank isomer and a qualified EMPC isomer) were qualified as estimated nondetects (UJ). The sample total for HpCDD was qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.

DATA VALIDATION REPORT SDG: 440-264370-1 27 May 2020



III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. Second-column confirmation analysis for isomer 2,3,7,8-TCDF was not required, as 2,3,7,8-TCDF was not detected in the initial analysis of the sample.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects (UJ) at the level of the EMPC. Totals HpCDF and PeCDF in the sample (containing both a qualified method blank isomer and a qualified EMPC isomer) were qualified as estimated nondetects (UJ). The concentration of total PeCDD in the sample matched the qualified isomer and was therefore also qualified as an estimated nondetect (UJ). Remaining totals flagged by the laboratory as including one or more EMPC peaks were qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^x reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL008_20200409_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were not within 0.1 atomic mass units of the true value. In the tune associated with the total metals analyzed on 4/21/2020, the mass calibration resolution for mass 115 (no gas) and mass 59 (He) failed. In the absence of information about which target masses are associated with the failed resolution masses, results for all ICP-MS total metals results were qualified as estimated (J for detects, UJ for nondetects). The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.



IV.3. QUALITY CONTROL SAMPLES

IV.3.1. METHOD BLANKS

There were no target analyte detections in the method blanks or calibration blanks with the exception of total antimony in a bracketing continuing calibration blank (0.887 μ g/L). The associated sample result was a detect at less than the RL and was qualified as nondetect (U).

IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or $\pm 2 \times$ the reporting limit, whichever is greater. No non-spiked target analytes were present in the ICP-MS ICSA at greater than MDL; therefore, matrix interference was not suspected. Interferents in site samples were not summarized for ICP-AES analyses; therefore, interference was not evaluated for Method 200.7.

IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the samples in this SDG (total and dissolved). Recoveries were within the QAPP control limits of 70-130% for all target analytes. RPDs were ≤20%.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. Internal Standards Performance

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6.FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402643701

Analysis Method E1613B

Sample Name OUTFALL008_20200409_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

| Analyte F | raction: | CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---|----------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N 3 | 39001-02-0 | 0.000010 | 0.00011 | 0.00000085 | ug/L | J,DXqMB | Ū | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p dioxin (OCDD) | o- N 3 | 3268-87-9 | 0.000093 | 0.00011 | 0.0000025 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N (| 67562-39-4 | 0.0000028 | 0.000053 | 0.00000050 | ug/L | J,DXqMB | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p- dioxin (HpCDD) | - N 3 | 35822-46-9 | 0.0000051 | 0.000053 | 0.00000092 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N : | 55673-89-7 | 0.0000013 | 0.000053 | 0.00000062 | ug/L | J,DXq | UJ | *Ш |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | ı N ′ | 70648-26-9 | 0.0000018 | 0.000053 | 0.0000010 | ug/L | J,DX | J | DNQ |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N . | 39227-28-6 | 0.0000029 | 0.000053 | 0.00000054 | ug/L | J,DX | J | DNQ |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | N : | 57117-44-9 | ND | 0.000053 | 0.00000099 | ug/L | U | U | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 57653-85-7 | 0.0000015 | 0.000053 | 0.00000056 | ug/L | J,DXq | UJ | *III |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | ı N | 72918-21-9 | 0.0000013 | 0.000053 | 0.00000070 | ug/L | J,DXq | UJ | *Ⅲ |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 19408-74-3 | 0.0000015 | 0.000053 | 0.00000050 | ug/L | J,DX | J | DNQ |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-41-6 | 0.0000013 | 0.000053 | 0.00000067 | ug/L | J,DXqMB | U | В |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N 4 | 40321-76-4 | 0.0000010 | 0.000053 | 0.00000069 | ug/L | J,DXq | UJ | *Ш |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | ı N | 60851-34-5 | 0.00000098 | 0.000053 | 0.00000068 | ug/L | J,DXq | UJ | *Ш |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-31-4 | 0.00000099 | 0.000053 | 0.00000065 | ug/L | J,DXq | UJ | *111 |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N : | 51207-31-9 | ND | 0.000011 | 0.00000042 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxir (TCDD) | n N | 1746-01-6 | ND | 0.000011 | 0.00000065 | ug/L | U | U | |
| Total Heptachlorodibenzofuran (HpCDF) | N 3 | 38998-75-3 | 0.0000040 | 0.000053 | 0.00000056 | ug/L | J,DXqMB | UJ | В, *Ш |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | N 3 | 37871-00-4 | 0.0000078 | 0.000053 | 0.00000092 | ug/L | J,DXMB | J | B, DNQ |
| Total Hexachlorodibenzofuran (HxCDF) | N : | 55684-94-1 | 0.0000040 | 0.000053 | 0.00000085 | ug/L | J,DXq | J | DNQ, *Ⅲ |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N 3 | 34465-46-8 | 0.0000059 | 0.000053 | 0.00000054 | ug/L | J,DXq | J | DNQ, *Ⅲ |
| Fotal Pentachlorodibenzofuran PeCDF) | N 3 | 30402-15-4 | 0.0000023 | 0.000053 | 0.00000066 | ug/L | J,DXqMB | UJ | В, *Ш |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N : | 36088-22-9 | 0.0000010 | 0.000053 | 0.00000069 | ug/L | J,DXq | UJ | *Ш |
| Feedb) Total Tetrachlorodibenzofuran (TCDF) | N : | 55722-27-5 | ND | 0.000011 | 0.00000042 | ug/L | U | U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | N 4 | 41903-57-5 | ND | 0.000011 | 0.00000065 | ug/L | U | U | |

Analysis Method E200.7

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---------|---------|------------|-----------------|----|-----|-----------------|------------------|-------------------------|---------------------|
| Nickel | T | 7440-02-0 | ND | 10 | 5.0 | ug/L | U | UJ | L1 |
| Zinc | T | 7440-66-6 | 60 | 20 | 12 | ug/L | | J | L1 |

Sample Name OUTFALL008 20200409 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-2

MDL Analyte Fraction: CAS No Result RLResult Lab Validation Validation Value Units Qualifier Notes Qualifier Nickel 7440-02-0 ND 10 5.0 ug/L Zinc 7440-66-6 47 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL008_20200409_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

Fraction: CAS No Result RL**MDL Analyte** Result Lab Validation Validation Value Units **Qualifier** Qualifier Notes J,DX Antimony Τ 7440-36-0 0.51 2.0 0.50 ug/L L1, B UJ Cadmium Τ 7440-43-9 ND 0.25 U UJ 1.0 ug/L L1 Copper T 7440-50-8 1.8 2.0 0.50 ug/L J,DX J L1, DNQ 7439-92-1 ND 1.0 0.50 UJ Lead Τ ug/L U L1 7782-49-2 0.66 2.0 0.50 J,DX L1, DNQ Selenium T ug/L J 7440-22-4 0.50 UJ Silver Τ ND 1.0 ug/L U L1 Thallium ND 0.20 U UJ Τ 7440-28-0 1.0 ug/L L1

Sample Name OUTFALL008 20200409 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-2

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|---------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Antimony | D | 7440-36-0 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 1.5 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Silver | D | 7440-22-4 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Thallium | D | 7440-28-0 | ND | 1.0 | 0.20 | ug/L | U | U | |

Friday, June 12, 2020 Page 2 of 2



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264370-1

Client Project/Site: Routine Outfall 008 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 4/22/2020 3:22:08 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Laboratory Job ID: 440-264370-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Ch f

Christian Bondoc Project Manager I 4/22/2020 3:22:08 PM

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Laboratory Job ID: 440-264370-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|----------------------------|--------|----------------|----------------|----------|
| 440-264370-1 | Outfall008_20200409_Comp | Water | 04/09/20 07:25 | 04/09/20 15:45 | |
| 440-264370-2 | Outfall008_20200409_Comp_F | Water | 04/09/20 07:25 | 04/09/20 15:45 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264370-1

Comments

No additional comments.

Receipt

The samples were received on 4/9/2020 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.3° C, 0.6° C and 1.2° C.

HPLC/IC

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

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/or 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: Outfall008_20200409_Comp (440-264370-1), (CCV 320-372808/13), (LCS 320-372221/2-A) and (MB 320-372221/1-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

Method FILTRATION: The following sample requested dissolved metals and was not filtered in the field: Outfall008_20200409_Comp_F (440-264370-2). This sample was filtered and preserved upon receipt to the laboratory.

04/09/20 2.5mL of HNO3 HNO3 Lot # 0000234822

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

General Chemistry

Method SM 4500 CN E: The continuing calibration blank (CCB) for analytical batch 440-604615 contained cyanide above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B_Sox_Sep_P preparation/analysis: Sample Outfall008_20200409_Comp (440-264370-1) was provided in a wide-mouth amber glass bottle.

preparation batch 320-372221 Method: 1613B_Sox_Sep_P / 1613B

Matrix: Aqueous

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

Job ID: 440-264370-1

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp Lab Sample ID: 440-264370-1

Date Collected: 04/09/20 07:25 **Matrix: Water**

Date Received: 04/09/20 15:45

| Method: 300.0 - Anions, Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fa |
|------------------------------------|------------|--------------------|----------|----------------|--------------|---|----------------|----------------------------|--------|
| Chloride | 4.8 | | 0.50 | | mg/L | | | 04/09/20 19:52 | |
| Nitrate as N | 0.16 | | 0.11 | 0.055 | - | | | 04/09/20 19:52 | |
| Nitrite as N | ND | | 0.15 | 0.025 | J | | | 04/09/20 19:52 | |
| Sulfate | 4.0 | | 0.50 | 0.25 | mg/L | | | 04/09/20 19:52 | |
| Method: 314.0 - Perchlo | • • | | | | | | | | |
| Analyte | Result ND | Qualifier | 4.0 | | Unit ug/L | D | Prepared | Analyzed 04/14/20 10:57 | Dil Fa |
| Perchlorate | ND | | 4.0 | 0.95 | ug/L | | | 04/14/20 10.57 | |
| Method: NO3NO2 Calc - | | | | | | _ | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fa |
| Nitrate Nitrite as N | 0.16 | | 0.15 | 0.055 | mg/L | | | 04/10/20 12:03 | • |
| Method: 1613B - Dioxins | • | • | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fa |
| 2,3,7,8-TCDD | ND | | 0.000011 | 0.0000006 5 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 2,3,7,8-TCDF | ND | | 0.000011 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| | | | | 2 | | | | | |
| 1,2,3,7,8-PeCDD | 0.0000010 | J,DX q | 0.000053 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | • |
| 1,2,3,7,8-PeCDF | 0.0000013 | J,DX q MB | 0.000053 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 2,3,4,7,8-PeCDF | 0.00000099 | J,DX q | 0.000053 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,4,7,8-HxCDD | 0.0000029 | J,DX | 0.000053 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,6,7,8-HxCDD | 0.0000015 | J,DX q | 0.000053 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,7,8,9-HxCDD | 0.0000015 | J,DX | 0.000053 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,4,7,8-HxCDF | 0.000018 | J,DX | 0.000053 | 0.0000010 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000053 | 0.0000009 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,7,8,9-HxCDF | 0.0000013 | J,DX q | 0.000053 | 0.0000007 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 2,3,4,6,7,8-HxCDF | 0.00000098 | J,DX q | 0.000053 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,4,6,7,8-HpCDD | 0.0000051 | J,DX MB | 0.000053 | 0.0000009 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,4,6,7,8-HpCDF | 0.0000028 | J,DX q MB | 0.000053 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 1,2,3,4,7,8,9-HpCDF | 0.0000013 | J,DX q | 0.000053 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| OCDD | 0.000093 | J,DX MB | 0.00011 | 0.0000025 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| OCDF | 0.000010 | J,DX q MB | 0.00011 | 0.0000008 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| Total TCDD | ND | | 0.000011 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| Total TCDF | ND | | 0.000011 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| Total PeCDD | 0.0000010 | J,DX q | 0.000053 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| Total PeCDF | 0.0000023 | J,DX q MB | 0.000053 | 0.0000006 | ua/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| | 0.000020 | 3,5% 4 IIID | 2.30000 | 6.0000000 | 3 | | | | |

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp

Lab Sample ID: 440-264370-1 Date Collected: 04/09/20 07:25 **Matrix: Water**

Date Received: 04/09/20 15:45

| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fa |
|---|---|---|--|--|--|----------|--|--|--------|
| Total HxCDD | 0.0000059 | J,DX q | 0.000053 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| Total HxCDF | 0.0000040 | J,DX a | 0.000053 | 4 0.0000008 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| | | • | | 5 | • | | | | |
| Total HpCDD | 0.0000078 | J,DX MB | 0.000053 | 0.0000009 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| Total HpCDF | 0.0000040 | J,DX q MB | 0.000053 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/16/20 00:52 | |
| sotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 13C-2,3,7,8-TCDD | 64 | | 25 - 164 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 3C-2,3,7,8-TCDF | 59 | | 24 - 169 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 13C-1,2,3,7,8-PeCDD | 56 | | 25 - 181 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 13C-1,2,3,7,8-PeCDF | 56 | | 24 - 185 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 13C-2,3,4,7,8-PeCDF | 62 | | 21 - 178 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 13C-1,2,3,4,7,8-HxCDD | 60 | | 32 - 141 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 3C-1,2,3,6,7,8-HxCDD | 60 | | 28 - 130 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 13C-1,2,3,4,7,8-HxCDF | 59 | | 26 - 152 | | | | 04/14/20 08:57 | 04/16/20 00:52 | |
| 13C-1,2,3,6,7,8-HxCDF | 56 | | 26 - 123 | | | | | 04/16/20 00:52 | |
| 13C-1,2,3,7,8,9-HxCDF | 57 | | 29 - 147 | | | | | 04/16/20 00:52 | |
| 3C-2,3,4,6,7,8-HxCDF | 58 | | 28 - 136 | | | | | 04/16/20 00:52 | |
| 3C-1,2,3,4,6,7,8-HpCDD | 64 | | 23 - 140 | | | | | 04/16/20 00:52 | |
| 3C-1,2,3,4,6,7,8-HpCDF | 65 | | 28 - 143 | | | | | 04/16/20 00:52 | |
| 3C-1,2,3,4,7,8,9-HpCDF | 69 | | 26 - 138 | | | | | 04/16/20 00:52 | |
| 3C-OCDD | 59 | | 17 ₋ 157 | | | | | 04/16/20 00:52 | |
| | | | | | | | _ | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analvzed | Dil I |
| • | %Recovery 89 | Qualifier | 35 ₋ 197 | | | | Prepared 04/14/20 08:57 | Analyzed 04/16/20 00:52 | Dil F |
| 87C/4-2,3,7,8-TCDD Method: 200.7 Rev 4.4 - M Analyte | 89 etals (ICP) - Tot Result | | 35 - 197 able RL | | Unit | <u>D</u> | 04/14/20 08:57 Prepared | 04/16/20 00:52 Analyzed | |
| 87C/4-2,3,7,8-TCDD Method: 200.7 Rev 4.4 - M Analyte dickel | etals (ICP) - Tot Result | al Recover | 35 - 197 able RL 10 | 5.0 | ug/L | D | 04/14/20 08:57 Prepared 04/14/20 09:09 | 04/16/20 00:52 Analyzed 04/15/20 13:42 | |
| 87C/4-2,3,7,8-TCDD Method: 200.7 Rev 4.4 - M Analyte dickel | 89 etals (ICP) - Tot Result | al Recover | 35 - 197 able RL | 5.0 | | <u>D</u> | 04/14/20 08:57 Prepared 04/14/20 09:09 | 04/16/20 00:52 Analyzed | |
| Method: 200.7 Rev 4.4 - M Analyte Jickel Zinc Method: 200.8 - Metals (IC | | cal Recover Qualifier ecoverable | 35 - 197 able RL 10 20 | 5.0 | ug/L ug/L | | 04/14/20 08:57 Prepared 04/14/20 09:09 04/14/20 09:09 | 04/16/20 00:52 Analyzed 04/15/20 13:42 04/15/20 13:42 | Dil I |
| Method: 200.7 Rev 4.4 - Manalyte lickel Linc Method: 200.8 - Metals (IC) Analyte | | cal Recover Qualifier | 35 - 197 able RL 10 20 | 5.0 12 MDL | ug/L ug/L | <u>D</u> | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared | 04/16/20 00:52 Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed | Dil I |
| Method: 200.7 Rev 4.4 - Monalyte Slickel Linc Method: 200.8 - Metals (IC) Linglyte | 89 89 89 89 80 80 80 80 | cal Recover Qualifier ecoverable | 35 - 197 able RL 10 20 RL 1.0 | 5.0 12 MDL 0.50 | ug/L ug/L Unit ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 | Dil I |
| Method: 200.7 Rev 4.4 - M Analyte Nickel Zinc Method: 200.8 - Metals (IC Analyte | | cal Recover Qualifier ecoverable Qualifier | 35 - 197 able RL 10 20 RL 1.0 1.0 | 5.0 12 MDL 0.50 0.25 | ug/L ug/L Unit ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 | Dil I |
| Method: 200.7 Rev 4.4 - Manalyte Mickel Zinc Method: 200.8 - Metals (IC) Analyte Silver Cadmium Copper | 189 189 | cal Recover Qualifier ecoverable | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 | ug/L ug/L Unit ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil I |
| Method: 200.7 Rev 4.4 - Manalyte Vickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead | 189 189 | ecoverable Qualifier J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 | ug/L ug/L Unit ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Vickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony | EP/MS - Total R Result ND C C ND ND ND ND 1.8 ND 0.51 ND 0.51 ND ND ND ND ND ND ND N | ecoverable Qualifier J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Nickel Zinc Method: 200.8 - Metals (ICAnalyte Biliver Cadmium Copper Lead Antimony Selenium | EP/MS - Total R Result ND 60 | ecoverable Qualifier J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 2.0 2.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 | ug/L ug/L Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Mickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium | EP/MS - Total R Result ND C C ND ND ND ND 1.8 ND 0.51 ND 0.51 ND ND ND ND ND ND ND N | ecoverable Qualifier J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Nickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (| ## Provided Result | ecoverable Qualifier J,DX J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 1.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Nickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Challium Method: 245.1 - Mercury (Analyte | ## Result ND | ecoverable Qualifier J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 1.0 RL | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/16/20 00:52 Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 Analyzed | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Nickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte | ## Provided Result | ecoverable Qualifier J,DX J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 1.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |
| Surrogate 37C/4-2,3,7,8-TCDD Method: 200.7 Rev 4.4 - M Analyte Nickel Zinc Method: 200.8 - Metals (IC Analyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte Mercury General Chemistry | ## Result ND | ecoverable Qualifier J,DX J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 1.0 RL | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/16/20 00:52 Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 Analyzed | Dil F |
| Method: 200.7 Rev 4.4 - Manalyte Nickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte Mercury General Chemistry | Result ND 60 | ecoverable Qualifier J,DX J,DX J,DX | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 1.0 RL | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 0.10 MDL 0.10 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 | Analyzed 04/16/20 00:52 Analyzed 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 Analyzed | Dil F |
| Method: 200.7 Rev 4.4 - Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte Mercury | Result ND 60 | ecoverable Qualifier J,DX J,DX J,DX Qualifier | 35 - 197 able RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 1.0 2.0 1.0 RL 0.20 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 0.10 MDL 0.10 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/14/20 09:09 04/14/20 09:09 04/14/20 09:09 Prepared 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 09:01 04/21/20 10:42 | Analyzed 04/15/20 13:42 04/15/20 13:42 04/15/20 13:42 Analyzed 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 04/21/20 13:43 | Dil F |

Eurofins Calscience Irvine

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp

Date Collected: 04/09/20 07:25 Date Received: 04/09/20 15:45

Lab Sample ID: 440-264370-1

Matrix: Water

| General Chemistry (Continued) | | | | | | | | | |
|-------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cyanide, Total | ND | | 5.0 | 2.5 | ug/L | | 04/10/20 11:07 | 04/10/20 15:40 | 1 |
| Ammonia (as N) | 0.180 | J,DX | 0.200 | 0.100 | mg/L | | | 04/20/20 13:52 | 1 |

Lab Sample ID: 440-264370-2 Client Sample ID: Outfall008_20200409_Comp_F **Matrix: Water**

Date Collected: 04/09/20 07:25 Date Received: 04/09/20 15:45

| Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved | | | | | | | | | | | |
|--|---------|------------------|----|-----|------|---|----------------|----------------|---------|--|--|
| | Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | | |
| | Nickel | ND | 10 | 5.0 | ug/L | | 04/09/20 18:25 | 04/10/20 09:44 | 1 | | |
| | Zinc | 47 | 20 | 12 | ug/L | | 04/09/20 18:25 | 04/10/20 09:44 | 1 | | |

| Method: 200.8 - Metal Analyte | s (ICP/MS) - Dissolved Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------------|--|-----|------|------|---|----------------|----------------|---------|
| Silver | ND | 1.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |
| Copper | 1.5 J,DX | 2.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |
| Antimony | ND | 2.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |
| Selenium | ND | 2.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |
| Thallium | ND | 1.0 | 0.20 | ug/L | | 04/10/20 08:18 | 04/10/20 15:19 | 1 |

| Method: 245.1 - Mercury (CVAA) - Dissolved | | | | | | | | | |
|--|---------|------------------|------|------|------|---|----------------|----------------|---------|
| | Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| | Mercury | ND | 0.20 | 0.10 | ug/L | | 04/10/20 10:44 | 04/10/20 16:28 | 1 |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method **Method Description** Protocol Laboratory MCAWW 300.0 Anions, Ion Chromatography TAL IRV Perchlorate (IC) **EPA** TAL IRV 314.0 NO3NO2 Calc Nitrogen, Nitrate-Nitrite **EPA** TAL IRV 1613B Dioxins and Furans (HRGC/HRMS) EPA TAL SAC 200.7 Rev 4.4 Metals (ICP) **EPA** TAL IRV Metals (ICP/MS) 200.8 **EPA** TAL IRV 245.1 Mercury (CVAA) EPA TAL IRV Solids, Total Dissolved (TDS) SM 2540C SM TAL IRV SM 2540D Solids, Total Suspended (TSS) SM TAL IRV Cyanide, Total (Low Level) SM 4500 CN E SM TAL IRV SM 4500 NH3 G Ammonia SM TAL IRV 1613B Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans **EPA** TAL SAC 200.2 Preparation, Total Recoverable Metals EPA TAL IRV 245.1 Preparation, Mercury **EPA** TAL IRV Distill/CN Distillation, Cyanide TAL IRV None **FILTRATION** Sample Filtration TAL IRV None

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:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 440-264370-1

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Lab Chronicle

Job ID: 440-264370-1 Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp

Lab Sample ID: 440-264370-1 Date Collected: 04/09/20 07:25 **Matrix: Water**

Date Received: 04/09/20 15:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|---------------|-----|--------|----------|---------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 300.0 | | 1 | | | 604365 | 04/09/20 19:52 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | | | 604366 | 04/09/20 19:52 | NTN | TAL IRV |
| Total/NA | Analysis | 314.0 | | 1 | | | 604893 | 04/14/20 10:57 | PS | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 604580 | 04/10/20 12:03 | TLN | TAL IRV |
| Total/NA | Prep | 1613B | | | 948.2 mL | 20 uL | 372221 | 04/14/20 08:57 | RDR | TAL SAC |
| Total/NA | Analysis | 1613B | | 1 | | | 372808 | 04/16/20 00:52 | AS | TAL SAC |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604822 | 04/14/20 09:09 | M1G | TAL IRV |
| Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 605180 | 04/15/20 13:42 | TQN | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605761 | 04/21/20 09:01 | M1G | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 605922 | 04/21/20 13:43 | B1H | TAL IRV |
| Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 604477 | 04/10/20 10:42 | DB | TAL IRV |
| Total/NA | Analysis | 245.1 | | 1 | | | 604948 | 04/10/20 16:25 | MEM | TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 605340 | 04/16/20 10:34 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 605365 | 04/16/20 12:37 | XL | TAL IRV |
| Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 604575 | 04/10/20 11:07 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 CN E | | 1 | | | 604615 | 04/10/20 15:40 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 NH3 G | | 1 | 0.8 mL | 8.0 mL | 605752 | 04/20/20 13:52 | KMY | TAL IRV |

Client Sample ID: Outfall008_20200409_Comp_F

Date Collected: 04/09/20 07:25

Date Received: 04/09/20 15:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 200 mL | 200 mL | 604462 | 04/09/20 17:59 | M1G | TAL IR\ |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604463 | 04/09/20 18:25 | M1G | TAL IR\ |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 604586 | 04/10/20 09:44 | P1R | TAL IR\ |
| Dissolved | Filtration | FILTRATION | | | 200 mL | 200 mL | 604462 | 04/09/20 17:59 | M1G | TAL IR\ |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604464 | 04/10/20 08:18 | M1G | TAL IR\ |
| Dissolved | Analysis | 200.8 | | 1 | | | 604614 | 04/10/20 15:19 | EMS | TAL IR\ |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 604462 | 04/09/20 17:59 | M1G | TAL IR\ |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 604470 | 04/10/20 10:44 | DB | TAL IR\ |
| Dissolved | Analysis | 245.1 | | 1 | | | 604649 | 04/10/20 16:28 | DB | TAL IR\ |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Matrix: Water

Lab Sample ID: 440-264370-2

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604365/6

Matrix: Water

Analysis Batch: 604365

Client Sample ID: Method Blank

Prep Type: Total/NA

| • | MB | MB | | | | | | | |
|--------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nitrate as N | ND | | 0.11 | 0.055 | mg/L | | | 04/09/20 11:50 | 1 |
| Nitrite as N | ND | | 0.15 | 0.025 | mg/L | | | 04/09/20 11:50 | 1 |

Lab Sample ID: LCS 440-604365/5

Matrix: Water

Analyte

Analyte

Chloride

Nitrate as N

Nitrite as N

Analysis Batch: 604365

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

Spike LCS LCS %Rec. Added Result Qualifier D %Rec Limits Unit 1.13 1.08 mg/L 96 90 - 110 1.52 1.52 mg/L 100 90 - 110

Lab Sample ID: MB 440-604366/6 **Client Sample ID: Method Blank Matrix: Water Prep Type: Total/NA**

Analysis Batch: 604366

MB MB Result Qualifier RL **MDL** Unit D Dil Fac Prepared Analyzed ND 0.50 0.25 mg/L 04/09/20 11:50

Sulfate ND 0.50 0.25 ma/L 04/09/20 11:50 Lab Sample ID: LCS 440-604366/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604366

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Chloride 5.00 4.84 97 90 - 110 mg/L Sulfate 5.00 5.03 mg/L 101 90 - 110

Lab Sample ID: 440-264037-A-1 MS **Client Sample ID: Matrix Spike** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604366

Sample Sample Spike MS MS %Rec. Added Limits Analyte Result Qualifier Result Qualifier D %Rec Unit Chloride 280 250 551 107 80 - 120 mg/L Sulfate 86 250 332 80 - 120 mg/L 98

Lab Sample ID: 440-264037-A-1 MSD **Client Sample ID: Matrix Spike Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Ratch: 604366

| Allalysis Datcil. 004300 | | | | | | | | | | | | |
|--------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|--|
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | |
| Chloride | 280 | | 250 | 551 | | mg/L | | 107 | 80 - 120 | 0 | 20 | |
| Sulfate | 86 | | 250 | 332 | | mg/L | | 98 | 80 - 120 | 0 | 20 | |

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Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-604893/6 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 604893

MB MB Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Perchlorate 4.0 0.95 ug/L 04/14/20 10:01 ND

Lab Sample ID: LCS 440-604893/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604893

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 25.0 Perchlorate 24.5 ug/L 98 85 - 115

Lab Sample ID: MRL 440-604893/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604893

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit Limits D %Rec Perchlorate 1.00 1.07 J,DX 75 - 125 ug/L 107

Lab Sample ID: MRL 440-604893/8 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604893

Spike MRL MRL %Rec. Added Analyte Result Qualifier Limits Unit D %Rec Perchlorate 4.00 3.65 J,DX ug/L 91 75 - 125

Lab Sample ID: 440-264370-1 MS

Matrix: Water

Analysis Batch: 604893

Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Perchlorate ND 25.0 25.4 102 ug/L 80 - 120

Lab Sample ID: 440-264370-1 MSD

Matrix: Water

Analysis Batch: 604893

Spike MSD MSD %Rec. **RPD** Sample Sample D %Rec Analyte Result Qualifier Added Result Qualifier Unit Limits RPD Limit ug/L Perchlorate ND 25.0 25.5 102 80 - 120

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

Lab Sample ID: MB 320-372221/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 372808

MR MR Result Qualifier RL **EDL Unit** Prepared Analyzed Dil Fac 2,3,7,8-TCDD $\overline{\mathsf{ND}}$ 0.000010 0.0000006 ug/L 04/14/20 08:57 04/15/20 23:21 2 0.0000003 ug/L 04/14/20 08:57 04/15/20 23:21 2.3.7.8-TCDF ND 0.000010 3 1,2,3,7,8-PeCDD ND 0.000050 04/14/20 08:57 04/15/20 23:21 0.0000006 ug/L 0

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Prep Type: Total/NA

Client Sample ID: Outfall008_20200409_Comp

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Outfall008_20200409_Comp

Prep Type: Total/NA Prep Batch: 372221

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

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

Lab Sample ID: MB 320-372221/1-A

Matrix: Water

13C-1,2,3,7,8-PeCDD

13C-1,2,3,7,8-PeCDF

13C-2,3,4,7,8-PeCDF

13C-1,2,3,4,7,8-HxCDD

13C-1,2,3,6,7,8-HxCDD

13C-1,2,3,4,7,8-HxCDF

13C-1,2,3,6,7,8-HxCDF

13C-1,2,3,7,8,9-HxCDF

Analysis Batch: 372808

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

Prep Batch: 372221

| 7 , 0.0 0.1 _ 0.0 | MB | MB | | | | | | | |
|--------------------------|-------------|-----------|----------|-----------|------|---|----------------|----------------|---------|
| Analyte | | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,2,3,7,8-PeCDF | 0.000000699 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,4,7,8-HxCDD | ND | | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,7,8,9-HxCDD | ND | | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,4,7,8-HxCDF | ND | | 0.000050 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000050 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,7,8,9-HxCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000294 | J.DX a | 0.000050 | 0.0000011 | ua/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000124 | • | 0.000050 | 0.0000005 | • | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| OCDD | 0.0000954 | J.DX | 0.00010 | 0.0000029 | ua/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| OCDF | 0.00000733 | J,DX | 0.00010 | 0.0000009 | • | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total TCDD | ND | | 0.000010 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total TCDF | ND | | 0.000010 | 0.0000003 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total PeCDD | ND | | 0.000050 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total PeCDF | 0.000000699 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total HxCDD | ND | | 0.000050 | 0.0000005 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total HxCDF | ND | | 0.000050 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total HpCDD | 0.00000294 | J,DX q | 0.000050 | 0.0000011 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| Total HpCDF | 0.00000124 | J,DX q | 0.000050 | 0.0000006 | ug/L | | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| | MR | МВ | | 6 | | | | | |
| Isotope Dilution | %Recovery | | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | 82 | | 25 - 164 | | | | • | 04/15/20 23:21 | 1 |
| 13C-2,3,7,8-TCDF | 78 | | 24 - 169 | | | | | 04/15/20 23:21 | 1 |
| 12C 1 2 2 7 9 BaCDD | 60 | | 25 101 | | | | | 04/45/20 22:24 | 1 |

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

04/14/20 08:57 04/15/20 23:21

25 - 181

24 - 185

21 - 178

32 - 141

28 - 130

26 - 152

26 - 123

29 - 147

69

69

77

72

71

72

69

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

Lab Sample ID: LCS 320-372221/2-A

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

Lab Sample ID: MB 320-372221/1-A **Matrix: Water**

Matrix: Water

OCDF

Analysis Batch: 372808

Analysis Batch: 372808

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

Prep Batch: 372221

| Isotope Dilution | %Recovery Qu | ualifier Limits | Prepared | Analyzed | Dil Fac |
|-------------------------|--------------|-----------------|----------------|----------------|---------|
| 13C-2,3,4,6,7,8-HxCDF | 71 | 28 - 136 | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 70 | 23 - 140 | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 73 | 28 - 143 | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 79 | 26 - 138 | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| 13C-OCDD | 62 | 17 - 157 | 04/14/20 08:57 | 04/15/20 23:21 | 1 |
| | MD ME | D | | | |

мв мв

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 37CI4-2,3,7,8-TCDD 35 - 197 91

Client Sample ID: Lab Control Sample

115

63 - 170

Prep Type: Total/NA

Prep Batch: 372221

| | Spike | LCS L | _cs | | | | %Rec. | |
|---------------------|----------|-----------|-----------|------|---|------|---------------------|--|
| Analyte | Added | Result C | Qualifier | Unit | D | %Rec | Limits | |
| 2,3,7,8-TCDD | 0.000200 | 0.000202 | | ug/L | | 101 | 67 - 158 | |
| 2,3,7,8-TCDF | 0.000200 | 0.000197 | | ug/L | | 99 | 75 ₋ 158 | |
| 1,2,3,7,8-PeCDD | 0.00100 | 0.00107 | | ug/L | | 107 | 70 - 142 | |
| 1,2,3,7,8-PeCDF | 0.00100 | 0.00108 N | ИΒ | ug/L | | 108 | 80 - 134 | |
| 2,3,4,7,8-PeCDF | 0.00100 | 0.000993 | | ug/L | | 99 | 68 - 160 | |
| 1,2,3,4,7,8-HxCDD | 0.00100 | 0.00101 | | ug/L | | 101 | 70 - 164 | |
| 1,2,3,6,7,8-HxCDD | 0.00100 | 0.00110 | | ug/L | | 110 | 76 - 134 | |
| 1,2,3,7,8,9-HxCDD | 0.00100 | 0.00107 | | ug/L | | 107 | 64 - 162 | |
| 1,2,3,4,7,8-HxCDF | 0.00100 | 0.000975 | | ug/L | | 97 | 72 - 134 | |
| 1,2,3,6,7,8-HxCDF | 0.00100 | 0.00107 | | ug/L | | 107 | 84 - 130 | |
| 1,2,3,7,8,9-HxCDF | 0.00100 | 0.00107 | | ug/L | | 107 | 78 - 130 | |
| 2,3,4,6,7,8-HxCDF | 0.00100 | 0.00108 | | ug/L | | 108 | 70 - 156 | |
| 1,2,3,4,6,7,8-HpCDD | 0.00100 | 0.00108 N | ИΒ | ug/L | | 108 | 70 - 140 | |
| 1,2,3,4,6,7,8-HpCDF | 0.00100 | 0.00111 N | ИB | ug/L | | 111 | 82 - 122 | |
| 1,2,3,4,7,8,9-HpCDF | 0.00100 | 0.00103 | | ug/L | | 103 | 78 - 138 | |
| OCDD | 0.00200 | 0.00215 N | ИΒ | ug/L | | 108 | 78 - 144 | |

0.00200

0.00230 MB

ug/L

LCS LCS

| | 200 200 | |
|-------------------------|---------------------|----------|
| Isotope Dilution | %Recovery Qualifier | Limits |
| 13C-2,3,7,8-TCDD | 80 | 20 - 175 |
| 13C-2,3,7,8-TCDF | 77 | 22 - 152 |
| 13C-1,2,3,7,8-PeCDD | 71 | 21 - 227 |
| 13C-1,2,3,7,8-PeCDF | 71 | 21 - 192 |
| 13C-2,3,4,7,8-PeCDF | 78 | 13 - 328 |
| 13C-1,2,3,4,7,8-HxCDD | 72 | 21 - 193 |
| 13C-1,2,3,6,7,8-HxCDD | 73 | 25 - 163 |
| 13C-1,2,3,4,7,8-HxCDF | 72 | 19 - 202 |
| 13C-1,2,3,6,7,8-HxCDF | 69 | 21 - 159 |
| 13C-1,2,3,7,8,9-HxCDF | 69 | 17 - 205 |
| 13C-2,3,4,6,7,8-HxCDF | 70 | 22 - 176 |
| 13C-1,2,3,4,6,7,8-HpCDD | 75 | 26 - 166 |
| 13C-1,2,3,4,6,7,8-HpCDF | 77 | 21 - 158 |
| 13C-1,2,3,4,7,8,9-HpCDF | 83 | 20 - 186 |
| 13C-OCDD | 70 | 13 - 199 |

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Job ID: 440-264370-1

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

Lab Sample ID: LCS 320-372221/2-A

Matrix: Water

Analysis Batch: 372808

LCS LCS

Surrogate Limits %Recovery Qualifier 37CI4-2.3.7.8-TCDD 92 31 - 191 **Client Sample ID: Lab Control Sample**

Prep Type: Total/NA

Prep Batch: 372221

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-604822/1-A

Matrix: Water

Analysis Batch: 605180

MR MR

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 604822

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Nickel ND 10 5.0 ug/L 04/14/20 09:09 04/15/20 12:37 Zinc ND 20 12 ug/L 04/14/20 09:09 04/15/20 12:37

Lab Sample ID: LCS 440-604822/2-A

Matrix: Water

Analysis Batch: 605180

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 604822 LCS LCS Spike %Rec. Added Result Qualifier Unit Limits

Analyte D %Rec Nickel 500 508 ug/L 102 85 - 115 Zinc 500 85 - 115 513 ug/L 103

Lab Sample ID: 440-264527-G-8-B MS

Matrix: Water

Analysis Batch: 605180

Client Sample ID: Matrix Spike Prep Type: Total Recoverable Prep Batch: 604822

%Rec.

Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Nickel ND 500 478 ug/L 96 70 - 130 Zinc ND 500 485 ug/L 97 70 - 130

Lab Sample ID: 440-264527-G-8-C MSD

Matrix: Water

Analysis Batch: 605180

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

Prep Batch: 604822

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|---------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Nickel | ND | | 500 | 475 | | ug/L | | 95 | 70 - 130 | 1 | 20 |
| Zinc | ND | | 500 | 492 | | ug/L | | 98 | 70 - 130 | 1 | 20 |

Lab Sample ID: MB 440-604462/1-B

Matrix: Water

Analysis Batch: 604586

Client Sample ID: Method Blank

85 - 115

101

Prep Type: Dissolved Prep Batch: 604463

| | IND IND | | | | | | | |
|---------|------------|------------|-----|------|---|----------------|----------------|---------|
| Analyte | Result Qua | alifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND | 10 | 5.0 | ug/L | | 04/09/20 18:25 | 04/10/20 09:39 | 1 |
| Zinc | ND | 20 | 12 | ug/L | | 04/09/20 18:25 | 04/10/20 09:39 | 1 |

500

MD MD

Lab Sample ID: LCS 440-604462/2-B

Matrix: Water

Analyte

Nickel

Analysis Batch: 604586

Client Sample ID: Lab Control Sample Prep Type: Dissolved Prep Batch: 604463 Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits

ug/L

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503

Page 15 of 34 4/22/2020 Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

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

| Lab Sample ID: LCS 440-604462/2-B | | | | Clie | nt Sai | mple ID | : Lab Control Sample |
|-----------------------------------|-------|--------|-----------|------|--------|---------|-----------------------------|
| Matrix: Water | | | | | | | Prep Type: Dissolved |
| Analysis Batch: 604586 | | | | | | | Prep Batch: 604463 |
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Zinc | 500 | 498 | | ug/L | | 100 | 85 - 115 |

| Lab Sample ID: 440-26437 | 0-2 MS | | | | Client | Sample | ID: O | | _ | 09_Comp_F e: Dissolved |
|--------------------------|--------|-----------|-------|--------|-----------|--------|-------|------|----------|---------------------------|
| Analysis Batch: 604586 | | | | | | | | | | atch: 604463 |
| • | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nickel | ND | | 500 | 486 | | ug/L | | 97 | 70 - 130 | |
| Zinc | 47 | | 500 | 534 | | ug/L | | 97 | 70 - 130 | |

| Lab Sample ID: 440-264370 Matrix: Water Analysis Batch: 604586 | | | | | | Sample | e ID: O | | 8_202004 Prep Typ Prep Ba | e: Diss | olved 04463 |
|--|--------|-----------|-------|--------|-----------|--------|---------|------|---------------------------------|---------|----------------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Nickel | ND | | 500 | 495 | | ug/L | | 99 | 70 - 130 | 2 | 20 |
| Zinc | 47 | | 500 | 540 | | ug/L | | 99 | 70 - 130 | 1 | 20 |

Method: 200.8 - Metals (ICP/MS)

| Lab Sample ID: MB 440-605761 Matrix: Water | /1-A | | | | | (| Prep Type | ole ID: Metho e: Total Reco | verable |
|---|--------|-----------|----|-----|------|---|-----------|--------------------------------|---------|
| Analysis Batch: 605922 | | | | | | | | Prep Batch: | 605761 |
| _ | MB | MB | | | | | | • | |
| Analyte | Pocult | Qualifier | DI | MDI | Unit | n | Dronarod | Analyzod | Dil Fac |

| | MB | MB | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/21/20 09:01 | 04/21/20 13:38 | 1 |

| Lab Sample ID: LCS 440-605761/2-A Matrix: Water | | | | Clie | • | : Lab Control Sample pe: Total Recoverable |
|--|-------|--------|-----------|------|--------|---|
| Analysis Batch: 605922 | Spike | LCS | LCS | | | Prep Batch: 605761 %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D %Rec | Limits |
| Silver | 80.0 | 77.0 | | ug/L | 96 | 85 - 115 |
| Cadmium | 80.0 | 77.9 | | ug/L | 97 | 85 ₋ 115 |
| Copper | 80.0 | 75.9 | | ug/L | 95 | 85 ₋ 115 |
| Lead | 80.0 | 77.9 | | ug/L | 97 | 85 - 115 |
| Antimony | 80.0 | 86.2 | | ug/L | 108 | 85 ₋ 115 |
| Selenium | 80.0 | 78.6 | | ug/L | 98 | 85 - 115 |
| Thallium | 80.0 | 77.3 | | ug/L | 97 | 85 ₋ 115 |

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3

5

7

8

10

12

14

Client: Haley & Aldrich, Inc.

Selenium

Thallium

Thallium

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

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

0.66

ND

ND

J,DX

Lab Sample ID: 440-264370-1 MS Client Sample ID: Outfall008_20200409_Comp **Matrix: Water Prep Type: Total Recoverable Analysis Batch: 605922 Prep Batch: 605761** Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Silver ND 80.0 95 70 - 130 75.7 ug/L Cadmium ND 80.0 75.8 ug/L 95 70 - 130 Copper 1.8 J,DX 80.0 78.1 ug/L 95 70 - 130 80.0 Lead ND 76.7 ug/L 96 70 - 13080.0 Antimony 0.51 J.DX 84.3 ug/L 105 70 - 130

72.7

63.8

67.1

ug/L

ug/L

90

84

70 - 130

70 - 130

70 - 130

80.0

80.0

80.0

ug/L Lab Sample ID: 440-264370-1 MSD Client Sample ID: Outfall008_20200409_Comp **Matrix: Water Prep Type: Total Recoverable Analysis Batch: 605922 Prep Batch: 605761** MSD MSD **RPD** Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Silver ND 80.0 74.4 ug/L 93 70 - 130 2 20 Cadmium ND 80.0 75.7 ug/L 95 70 - 1300 20 Copper 1.8 J,DX 80.0 78.4 ug/L 96 70 - 130 0 20 ND 80.0 75.4 94 2 20 Lead ug/L 70 - 130 80.0 83.3 Antimony 0.51 J,DX ug/L 104 70 - 130 20 80.0 74.5 2 20 Selenium 0.66 J,DX ug/L 92 70 - 130

Lab Sample ID: MB 440-604462/1-C **Client Sample ID: Method Blank Matrix: Water Prep Type: Dissolved** Analysis Batch: 604614 Prep Batch: 604464

| | MIB I | MB | | | | | | | |
|----------|----------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND ND | | 1.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/10/20 08:18 | 04/10/20 15:15 | 1 |

| Lab Sample ID: LCS 440-604462/2-C Matrix: Water Analysis Batch: 604614 | | | | Clie | ent Sai | • | : Lab Control Sample Prep Type: Dissolved Prep Batch: 604464 |
|--|-------|--------|-----------|------|---------|------|--|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Silver | 80.0 | 88.1 | | ug/L | | 110 | 85 ₋ 115 |
| Cadmium | 80.0 | 78.6 | | ug/L | | 98 | 85 ₋ 115 |
| Copper | 80.0 | 82.7 | | ug/L | | 103 | 85 - 115 |
| Lead | 80.0 | 80.4 | | ug/L | | 100 | 85 ₋ 115 |
| Antimony | 80.0 | 80.5 | | ug/L | | 101 | 85 ₋ 115 |
| Selenium | 80.0 | 76.8 | | ug/L | | 96 | 85 - 115 |
| Thallium | 80.0 | 77.8 | | ug/L | | 97 | 85 ₋ 115 |

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Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

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

NΩ

ND

Lab Sample ID: 440-264370-2 MS Client Sample ID: Outfall008_20200409_Comp_F **Matrix: Water Prep Type: Dissolved**

Analysis Batch: 604614 Prep Batch: 604464 Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier %Rec Unit Limits Silver ND 80.0 109 70 - 130 87.4 ug/L Cadmium ND 80.0 77.7 ug/L 97 70 - 130 Copper 1.5 J,DX 80.0 84.0 ug/L 103 70 - 130 Lead ND 80.0 80.0 ug/L 100 70 - 130Antimony ND 80.0 80.2 ug/L 100 70 - 130

Lab Sample ID: 440-264370-2 MSD Client Sample ID: Outfall008_20200409_Comp_F **Matrix: Water Prep Type: Dissolved**

74.1

76.9

ug/L

ug/L

93

96

70 - 130

70 - 130

80.0

80.0

Analysis Batch: 604614

Selenium

Thallium

Prep Batch: 604464 MSD MSD **RPD** Sample Sample Spike %Rec. %Rec Analyte Result Qualifier Added Result Qualifier Unit Limits RPD Limit Silver ND 80.0 88.8 ug/L 111 70 - 130 2 20 Cadmium ND 80.0 79.2 ug/L 99 70 - 1302 20 Copper 1.5 J.DX 80.0 85.9 ug/L 105 70 - 1302 20 ND 80.0 82.2 103 3 20 Lead ug/L 70 - 130 Antimony ND 80.0 81.4 ug/L 102 70 - 130 20 ND 80.0 77.6 97 5 20 Selenium ug/L 70 - 130 ND 80.0 79.3 99 20 Thallium ug/L 70 - 130

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-604477/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604948

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac

0.20 0.10 ug/L 04/10/20 10:42 04/10/20 16:21 Mercury Lab Sample ID: LCS 440-604477/2-A Client Sample ID: Lab Control Sample

Matrix: Water Analysis Batch: 604948

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Mercury 4.00 3.95 ug/L 85 - 115

Lab Sample ID: 440-264370-1 MS Client Sample ID: Outfall008_20200409_Comp

Matrix: Water Prep Type: Total/NA **Analysis Batch: 604948** Prep Batch: 604477 Spike MS MS %Rec. Sample Sample

Result Qualifier Added Analyte Result Qualifier Unit D %Rec Limits 75 ₋ 125 Mercury ND 4.00 4.17 ug/L 104

Lab Sample ID: 440-264370-1 MSD Client Sample ID: Outfall008 20200409 Comp **Matrix: Water**

Prep Type: Total/NA **Analysis Batch: 604948** Prep Batch: 604477 Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Unit Limits RPD I imit Analyte D %Rec ND 4.00 75 - 125 Mercury 4.04 ug/L 101

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Prep Batch: 604477

Prep Type: Total/NA

Prep Batch: 604477

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Job ID: 440-264370-1

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-604462/1-D

Matrix: Water

Mercury

Analyte

Mercury

Analysis Batch: 604649

MB MB

Analyte

Result Qualifier ND

RL **MDL** Unit 0.20

0.10 ug/L

Prepared 04/10/20 10:44 04/10/20 16:19

Client Sample ID: Method Blank

Analyzed Dil Fac

Prep Type: Dissolved

Prep Type: Dissolved

Prep Type: Dissolved

Prep Batch: 604470

Prep Type: Total/NA

Prep Type: Total/NA

RPD

Prep Batch: 604470

Prep Batch: 604470

Prep Type: Dissolved

Prep Batch: 604470

Lab Sample ID: LCS 440-604462/2-D

Matrix: Water

Analysis Batch: 604649

Spike Added 4.00

Sample Sample

 $\overline{\mathsf{ND}}$

Result Qualifier

MB MB

 $\overline{\mathsf{ND}}$

Result Qualifier

4.38

Spike

Added

4.00

Spike

Added

4.00

Spike

Added

1000

Result Qualifier Unit ug/L

Unit

ug/L

Unit

ug/L

LCS LCS

MS MS

MSD MSD

4.17

Result Qualifier

MDI Unit

LCS LCS

DU DU

1000

Result Qualifier

5.0 mg/L

4.21

Result Qualifier

D %Rec 109

Client Sample ID: Outfall008 20200409 Comp F

105

Client Sample ID: Outfall008_20200409_Comp_F

104

D %Rec

D %Rec

Prepared

%Rec

100

85 - 115

Client Sample ID: Lab Control Sample

%Rec. Limits

%Rec.

Limits

75 - 125

%Rec.

Limits

75 - 125

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

%Rec.

Limits

90 - 110

Analyzed

04/16/20 10:34

Lab Sample ID: 440-264370-2 MS

Matrix: Water

Analysis Batch: 604649

Analyte

Sample Sample Result Qualifier

ND Mercury

Lab Sample ID: 440-264370-2 MSD **Matrix: Water**

Analysis Batch: 604649

Analyte

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

Lab Sample ID: MB 440-605340/1

Matrix: Water

Mercury

Analysis Batch: 605340

Analyte Total Dissolved Solids

Lab Sample ID: LCS 440-605340/2

Analysis Batch: 605340

Analyte Total Dissolved Solids

Matrix: Water

Lab Sample ID: 440-264518-A-12 DU **Matrix: Water**

Analysis Batch: 605340

Total Dissolved Solids

2700

Result Qualifier

Sample Sample

RI

10

Result Qualifier 2690

Unit mg/L

Unit

mg/L

RPD

Client Sample ID: Duplicate

Prep Type: Total/NA

Limit

RPD

0.7

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RPD

Limit

Dil Fac

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

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

Lab Sample ID: MB 440-605365/1 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 605365

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared Total Suspended Solids 1.0 0.50 mg/L 04/16/20 12:37 ND

Lab Sample ID: LCS 440-605365/2 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605365

LCS LCS Spike %Rec. Added Result Qualifier Unit D %Rec Limits 1000 **Total Suspended Solids** 976 mg/L 98 85 - 115

Lab Sample ID: 440-264366-A-2 DU **Client Sample ID: Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605365

Sample Sample DU DU **RPD** Result Qualifier Result Qualifier Unit ח RPD Limit Analyte Total Suspended Solids 73 75.0 mg/L 10

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

Lab Sample ID: MB 440-604575/1-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 604615

MB MB

RL **Analyte** Result Qualifier **MDL** Unit Prepared Analyzed Dil Fac

5.0 04/10/20 11:07 04/10/20 15:39 Cyanide, Total ND 2.5 ug/L

Lab Sample ID: LCS 440-604575/2-A **Matrix: Water**

Analysis Batch: 604615

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier Unit %Rec 100 96.4 ug/L 96 80 - 120

Cyanide, Total

Lab Sample ID: LCSD 440-604575/3-A **Matrix: Water**

Analysis Batch: 604615

Prep Batch: 604575 Spike LCSD LCSD %Rec. **RPD** Added Analyte Result Qualifier Unit %Rec Limits **RPD** Limit

100 102 Cyanide, Total ug/L 102 80 - 120

Lab Sample ID: 440-264162-J-1-B MS

Matrix: Water

Analysis Batch: 604615 Prep Batch: 604575 MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Limits 75 - 125 Cyanide, Total ND 100 102 ug/L 102

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4/22/2020

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 604575

Prep Type: Total/NA

Prep Batch: 604575

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Matrix Spike

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

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

Lab Sample ID: 440-264162-J-1-C MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA **Matrix: Water Analysis Batch: 604615** Prep Batch: 604575 Sample Sample Spike MSD MSD **RPD** %Rec. Analyte Result Qualifier Added Result Qualifier %Rec Limits RPD Limit Unit Cyanide, Total ND 100 89 75 - 125 20 89.4 ug/L 13

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-605752/10 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605752

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.200 Ammonia (as N) $\overline{\mathsf{ND}}$ 0.100 mg/L 04/20/20 13:20

Lab Sample ID: LCS 440-605752/11 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605752** Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit %Rec Limits Ammonia (as N) 5.00 4.980 mg/L 100 90 - 110

Lab Sample ID: MRL 440-605752/9 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Spike MRL MRL %Rec. Added **Analyte** Result Qualifier Unit D %Rec Limits 0.200 Ammonia (as N) 0.1720 J,DX mg/L 86 50 - 150

Lab Sample ID: 440-264517-F-1 MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Ammonia (as N) ND 5.00 5.270 mg/L 105 90 - 110

Lab Sample ID: 440-264517-F-1 MSD

Matrix: Water

Analysis Batch: 605752

Sample Sample Spike MSD MSD %Rec. RPD Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit 5.00 5.450 Ammonia (as N) ND mg/L 109 90 - 110

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4/22/2020

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

HPLC/IC

Analysis Batch: 604365

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 300.0 | |
| MB 440-604365/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604365/5 | Lab Control Sample | Total/NA | Water | 300.0 | |

Analysis Batch: 604366

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|-----------------------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 300.0 | : : |
| MB 440-604366/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604366/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264037-A-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264037-A-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

Analysis Batch: 604580

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | NO3NO2 Calc | |

Analysis Batch: 604893

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 314.0 | |
| MB 440-604893/6 | Method Blank | Total/NA | Water | 314.0 | |
| LCS 440-604893/5 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604893/4 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604893/8 | Lab Control Sample | Total/NA | Water | 314.0 | |
| 440-264370-1 MS | Outfall008_20200409_Comp | Total/NA | Water | 314.0 | |
| 440-264370-1 MSD | Outfall008_20200409_Comp | Total/NA | Water | 314.0 | |

Specialty Organics

Prep Batch: 372221

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 1613B | <u> </u> |
| MB 320-372221/1-A | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-372221/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 372808

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 1613B | 372221 |
| MB 320-372221/1-A | Method Blank | Total/NA | Water | 1613B | 372221 |
| LCS 320-372221/2-A | Lab Control Sample | Total/NA | Water | 1613B | 372221 |

Metals

Filtration Batch: 604462

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604462/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-604462/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-604462/1-D | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604462/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-604462/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-604462/2-D | Lab Control Sample | Dissolved | Water | FILTRATION | |

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Job ID: 440-264370-1

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

Metals (Continued)

| Filtration | Batch: | 604462 | (Continued) |
|-------------------|---------|--------|-------------|
| i iiti atioii | Dateii. | | (Outlinea) |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|----------------------------|-----------|--------|------------|------------|
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | FILTRATION | |

Prep Batch: 604463

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | 200.2 | 604462 |
| MB 440-604462/1-B | Method Blank | Dissolved | Water | 200.2 | 604462 |
| LCS 440-604462/2-B | Lab Control Sample | Dissolved | Water | 200.2 | 604462 |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | 200.2 | 604462 |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | 200.2 | 604462 |

Prep Batch: 604464

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | 200.2 | 604462 |
| MB 440-604462/1-C | Method Blank | Dissolved | Water | 200.2 | 604462 |
| LCS 440-604462/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 604462 |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | 200.2 | 604462 |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | 200.2 | 604462 |

Prep Batch: 604470

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | 245.1 | 604462 |
| MB 440-604462/1-D | Method Blank | Dissolved | Water | 245.1 | 604462 |
| LCS 440-604462/2-D | Lab Control Sample | Dissolved | Water | 245.1 | 604462 |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | 245.1 | 604462 |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | 245.1 | 604462 |

Prep Batch: 604477

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|-------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 245.1 | |
| MB 440-604477/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-604477/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |
| 440-264370-1 MS | Outfall008_20200409_Comp | Total/NA | Water | 245.1 | |
| 440-264370-1 MSD | Outfall008_20200409_Comp | Total/NA | Water | 245.1 | |

Analysis Batch: 604586

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|---------------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604463 |
| MB 440-604462/1-B | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 604463 |
| LCS 440-604462/2-B | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 604463 |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604463 |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604463 |

Analysis Batch: 604614

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | 200.8 | 604464 |
| MB 440-604462/1-C | Method Blank | Dissolved | Water | 200.8 | 604464 |
| LCS 440-604462/2-C | Lab Control Sample | Dissolved | Water | 200.8 | 604464 |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | 200.8 | 604464 |

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Metals (Continued)

| Analysis | Batch: | 604614 | (Continued) |
|-----------------|---------|--------|-------------|
| Allalvala | Dateii. | 004014 | (Continueu) |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|----------------------------|-----------|--------|--------|------------|
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | 200.8 | 604464 |

Analysis Batch: 604649

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264370-2 | Outfall008_20200409_Comp_F | Dissolved | Water | 245.1 | 604470 |
| MB 440-604462/1-D | Method Blank | Dissolved | Water | 245.1 | 604470 |
| LCS 440-604462/2-D | Lab Control Sample | Dissolved | Water | 245.1 | 604470 |
| 440-264370-2 MS | Outfall008_20200409_Comp_F | Dissolved | Water | 245.1 | 604470 |
| 440-264370-2 MSD | Outfall008_20200409_Comp_F | Dissolved | Water | 245.1 | 604470 |

Prep Batch: 604822

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604822/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604822/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264527-G-8-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264527-G-8-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

Analysis Batch: 604948

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | 245.1 | 604477 |
| MB 440-604477/1-A | Method Blank | Total/NA | Water | 245.1 | 604477 |
| LCS 440-604477/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 604477 |
| 440-264370-1 MS | Outfall008_20200409_Comp | Total/NA | Water | 245.1 | 604477 |
| 440-264370-1 MSD | Outfall008_20200409_Comp | Total/NA | Water | 245.1 | 604477 |

Analysis Batch: 605180

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| MB 440-604822/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| LCS 440-604822/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| 440-264527-G-8-B MS | Matrix Spike | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| 440-264527-G-8-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |

Prep Batch: 605761

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605761/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605761/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264370-1 MS | Outfall008_20200409_Comp | Total Recoverable | Water | 200.2 | |
| 440-264370-1 MSD | Outfall008_20200409_Comp | Total Recoverable | Water | 200.2 | |

Analysis Batch: 605922

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total Recoverable | Water | 200.8 | 605761 |
| MB 440-605761/1-A | Method Blank | Total Recoverable | Water | 200.8 | 605761 |
| LCS 440-605761/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 605761 |
| 440-264370-1 MS | Outfall008_20200409_Comp | Total Recoverable | Water | 200.8 | 605761 |
| 440-264370-1 MSD | Outfall008_20200409_Comp | Total Recoverable | Water | 200.8 | 605761 |

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Job ID: 440-264370-1

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

General Chemistry

Prep Batch: 604575

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | Distill/CN | |
| MB 440-604575/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-604575/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| LCSD 440-604575/3-A | Lab Control Sample Dup | Total/NA | Water | Distill/CN | |
| 440-264162-J-1-B MS | Matrix Spike | Total/NA | Water | Distill/CN | |
| 440-264162-J-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | Distill/CN | |

Analysis Batch: 604615

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | SM 4500 CN E | 604575 |
| MB 440-604575/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 604575 |
| LCS 440-604575/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 604575 |
| LCSD 440-604575/3-A | Lab Control Sample Dup | Total/NA | Water | SM 4500 CN E | 604575 |
| 440-264162-J-1-B MS | Matrix Spike | Total/NA | Water | SM 4500 CN E | 604575 |
| 440-264162-J-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 CN E | 604575 |

Analysis Batch: 605340

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|----------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | SM 2540C | |
| MB 440-605340/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-605340/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 440-264518-A-12 DU | Duplicate | Total/NA | Water | SM 2540C | |

Analysis Batch: 605365

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Ba | itch |
|-------------------|--------------------------|-----------|--------|----------------|------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | SM 2540D | |
| MB 440-605365/1 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-605365/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 440-264366-A-2 DU | Duplicate | Total/NA | Water | SM 2540D | |

Analysis Batch: 605752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Pre | p Batch |
|--------------------|--------------------------|-----------|--------|---------------|---------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | SM 4500 NH3 G | |
| MB 440-605752/10 | Method Blank | Total/NA | Water | SM 4500 NH3 G | |
| LCS 440-605752/11 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| MRL 440-605752/9 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MS | Matrix Spike | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 NH3 G | |

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Job ID: 440-264370-1

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264370-1

Project/Site: Routine Outfall 008 Comp

Qualifiers

Qualifier **Qualifier Description**

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

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.

Metals

Qualifier **Qualifier Description**

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

General Chemistry

Qualifier **Qualifier Description**

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

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|---|
|--------------|---|

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid **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) Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin)

Not Calculated NC

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL **Practical Quantitation Limit**

Quality Control QC

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)

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | Pro Sta | ogram ate | Identification Number 2706 | Expiration Date 06-30-20 |
|---|-------------|------------------------------|---|--|
| The following analytes the agency does not do | • | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method | Prep Method | Matrix | Analyte | |
| NO3NO2 Calc | | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-21 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-22 |
| Michigan | State | 9947 | 01-29-20 * |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Hampshire | NELAP | 2997 | 04-18-20 |
| New Jersey | NELAP | CA005 | 06-30-20 |
| New York | NELAP | 11666 | 04-01-21 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-20 |
| Virginia | NELAP | 460278 | 03-14-21 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

Eurofins Calscience Irvine

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

왕

440-264370 Chain of Custody

2 (22/25/ 2019-2020 Rainy Season Oversion 2

CHAIN OF CUSTODY FORM

Ver: 01/16/2019

TOSEL

CSb

4/11/20

Method of Shipment

Time.

Date:

d

атрапу

ate/Time

0.430

poler Temperature(s) ^oC and Other Remarks

Received by

'cmpany

Date/Time

| 4 92614-5817 | Chain of Custody Record | Is Calscience Irvine | | Chain of Custody Record | Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 |
|--------------|-------------------------|--|--|-------------------------|---|
| | 92614-5817 | Chain of Custody Record Castody | | | hone: 949-261-1022 Fax: 949-260-3297 |

See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware T - TSP Dodecahydrate Special Instructions/Note: Z - other (specify) 0 - AsNBOZ P - NBZO4S Q - NBZSO3 R - NBZSO3 S - HZSO4 U - Acetone V - MCAA W - pH 4-5 Preservation Codes A - HCL B - NaOH C - Zn Acetate D - Nitro Acid E - NaHSOA F - MeOH G - Amchlor H - Ascorbic Acid 440-154936.1 440-264370-1 1 - Ice J - Di Water Page 1 of 1 K-EDTA L-EDA Total Number of containers Carrier Tracking No(s) State of Origin. California Analysis Requested christian.bondoc@testamericainc.com State Program - California Bondoc, Christian M 1613B/1613B Sox_Sep_P Standard List W/ Totals Perform MS/MSD (Yes or No) E-Mail: (Wewater, Sesolid, Oewastaloil, Water Matrix Preservation Code: G=grab) (C=comp, Sample Type Sample 07:25 Time Pacific (AT Requested (days) Due Date Requested: 4/21/2020 Sample Date 4/9/20 44009879 Project #. hone (Sub Contract Lab) Jutfall008 20200409 Comp (440-264370-1) Sample Identification - Client ID (Lab ID) 916-373-5600(Tel) 916-372-1059(Fax) FestAmerica Laboratories, Inc. Routine Outfall 008 Comp Client Information 880 Riverside Parkway Shipping/Receiving West Sacramento State, Zip. CA, 95605 ient Contact

Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation out subcontract laboratory accreditation in the State of Origin listed above for analysis/fests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience internation immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience. Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mon Special Instructions/QC Requirements: Primary Deliverable Rank: 2 eliverable Requested: I, II, III, IV, Other (specify) Possible Hazard Identification Empty Kit Relinquished by Inconfirmed

Custody Seal No.: Sect. Custody Seals Intact:

enme

Jind paysing ph.

d paysing

nguished by.

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264370-1

Login Number: 264370 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264370-1

List Source: Eurofins TestAmerica, Sacramento Login Number: 264370 List Number: 2

List Creation: 04/11/20 03:04 PM

Creator: Oropeza, Salvador

| Question | Answer | Comment |
|--|--------|------------------------------------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | Seal |
| Sample custody seals, if present, are intact. | False | |
| 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 | 0.4c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | 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 | |

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

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

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
|-------------------|--------------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (25-164) | (24-169) | (25-181) | (24-185) | (21-178) | (32-141) | (28-130) | (26-152) |
| 440-264370-1 | Outfall008_20200409_Comp | 64 | 59 | 56 | 56 | 62 | 60 | 60 | 59 |
| MB 320-372221/1-A | Method Blank | 82 | 78 | 69 | 69 | 77 | 72 | 71 | 72 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264370-1 | Outfall008_20200409_Comp | 56 | 57 | 58 | 64 | 65 | 69 | 59 | |
| MB 320-372221/1-A | Method Blank | 69 | 68 | 71 | 70 | 73 | 79 | 62 | |

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

110000 100 1,2,0,4,0,7,0 110001

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

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|--------------------|--------------------|----------|----------|-------------|-------------|-------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (20-175) | (22-152) | (21-227) | (21-192) | (13-328) | (21-193) | (25-163) | (19-202) |
| LCS 320-372221/2-A | Lab Control Sample | 80 | 77 | 71 | 71 | 78 | 72 | 73 | 72 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-372221/2-A | Lab Control Sample | 69 | 69 | 70 | 75 | 77 | 83 | 70 | - |

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

Eurofins Calscience Irvine

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Job ID: 440-264370-1

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Routine Outfall 008 Comp
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Job ID: 440-264370-1

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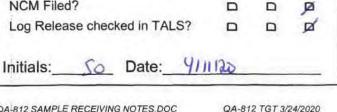
g

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77

Tracking #: 1540 WOT 77 80



| 1 | | 1 |
|---|------------------------|---|
| | 440-264370 Field Shore | |
| 1 | 440-264370 Field Sheet | |

TestAmerica

| 440-264370 Field Sheet | | | | D /PO/ FO / SAT / 2-Day / Ground / U SO / OnTrac / Goldstreak / USPS / Oth | | | |
|---|-------------|------------|-----------|---|-----------|---------|---|
| e this form to record Sample Custody Seal, (e in the job folder with the COC. | Cooler C | Custody | Seal, Tem | perature & corrected Temperature & other | r observa | itions. | |
| Therm. ID: MStom Corr. Factor: | (+/-) | 0 | _°C | Notes: | | | _ |
| Ice Wet Gel | _ Othe | er | | 1 | | | _ |
| Cooler Custody Seal: | | | | - | | | _ |
| Cooler ID: | | | | | | | |
| | ted: | 0.4 | _°C | | | | _ |
| Opening/Processing The Shipment | Yes | No | NA | | | | _ |
| Cooler compromised/tampered with? | | Ø | | | | | |
| Cooler Temperature is acceptable? | ø | | | | | | |
| Samples received within holding time? | ď | D | | | | | - |
| Initials: 5 Date: 41 | 1110 | | | | | | _ |
| Unpacking/Labeling The Samples | Yes | No | NA | 1 | | | - |
| CoC is complete w/o discrepancies? | Ø | | | \(\frac{1}{2} = \frac{1}{2} = | _ | - | _ |
| Samples compromised/tampered with? | | P | | 1 | | | _ |
| Sample containers have legible labels? | Ø | | | | | | |
| Sample custody seal? | | | Ø | | | | |
| Containers are not broken or leaking? | p | | | | | - | _ |
| Sample date/times are provided? | P | | D | | | - | _ |
| Appropriate containers are used? | Ø | | | | | | |
| Sample bottles are completely filled? | ď | | | | | | |
| Sample preservatives verified? | | | P | | | | |
| Samples w/o discrepancies? | Ø | | | - | | - | _ |
| ero headspace?* | | | ø | / | | | _ |
| Alkalinity has no headspace? | | | ø | | | | |
| Perchlorate has headspace? (Methods 314, 331, 6850) | | | ø | Login Completion Receipt Temperature on COC? | Yes | No D | N |
| Multiphasic samples are not present? | B | | | NCM Filed? | | | |
| Containers requiring zero headspace have no headspace | ce, or bubi | ble < 6 mi | n (1/4") | Log Release checked in TALS? | | 0 0 | 2 |
| c - 1/10 | | | | | | | , |

Date:

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264370-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

2 June 2020



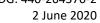




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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264370-2

2 June 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264370-2

Project Manager: Katherine Miller

Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|-------------------|--|
| OUTFALL008_20200409 _COMP | 440-264370-1 | N/A | WM | 4/9/20 7:25 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL008_20200409 _COMP | 440-264370-2 | N/A | WM | 4/9/20 7:25 AM | RADIUM |

DATA VALIDATION REPORT SDG: 440-264370-2

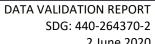
2 June 2020



SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264370-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- Field and laboratory personnel signed and dated the COCs.
- Some corrections to the original COCs were not dated. The cross-outs did not affect data quality.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-SL.



2 June 2020



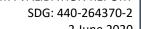
TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE REFERENCE | | | | | | | | | | |
|--------|--|--|--|--|--|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | | | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | | | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | | | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | | | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | | | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | | | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | | | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | | | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | | | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | | | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | | | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | | | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | | | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | | | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | | | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | | | | | | |





| Reason Code | Organic | Inorganic | | | |
|----------------|--|--|--|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. | | | |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. | | | |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | | | |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. | | | |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. | | | |
| ? | TIC identity or reported retention time has been changed. | Not applicable. | | | |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. | | | |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. | | | |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. | | | |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | | | |



II. VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 3, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and A-01-R* and the *National Functional Guidelines for Superfund Inorganic Method Data Review* (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved and holding time requirements were met.

III.2. CALIBRATION:

The detector efficiency for gross alpha was less than 20%; therefore, the result for gross alpha was qualified as an estimated nondetect (UJ). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits. Calibration checks were verified as acceptable for all methods.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 5% level of confidence for gross beta. The detected sample result for gross beta was qualified as estimated (J+).

III.3.2. LABORATORY CONTROL SAMPLES:

LCS/LCSD recoveries were within laboratory-established control limits and RPDs, as applicable, were ≤20%.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were not performed on the sample from this SDG.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

Matrix spike and matrix spike duplicate analyses were not performed on the sample from this SDG.

III.4. SAMPLE RESULT VERIFICATION:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC. The sample was prepared at a reduced aliquot due to matrix issues for Methods 903.0, 904.0 and 905. Detection goals were not met for gross alpha and gross beta due to a reduction of the sample size. Results were reported with the actual detection limit achieved.

III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the

DATA VALIDATION REPORT SDG: 440-264370-2

2 June 2020



associated site samples. The following are findings associated with field QC samples:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402643702

Analysis Method E900

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

CAS No Result Total RL**MDC** Result Analyte Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Gross Alpha Analytes GROSSALPHA 0.722 0.959 3.00 1.60 pCi/L U UJ *Ш Gross Beta Analytes GROSSBETA 1.96 0.794 4.00 1.09 pCi/L J+ В

Analysis Method E901.1

Sample Name OUTFALL008_20200409_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Cesium-137 10045-97-3 -1.59 11.5 20.0 14.6 pCi/L U U Potassium-40 U U 13966-00-2 6.65 126 175 175 pCi/L

Analysis Method E903.0

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRO

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

Result Total RL**MDC** Analyte CAS No Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes 0.0333 Radium-226 0.0663 1.00 0.120 pCi/L 13982-63-3

Analysis Method E904.0

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 -0.107 0.319 1.00 0.586 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.447 0.418 3.00 0.671 pCi/L

Analysis Method E906.0

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes -32.4 Tritium 10028-17-8 159 500 295 pCi/L

Analysis Method HASL-300 U Mod

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-1

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Total Uranium **URANIUM** 0.166 0.140 1.00 0.175 pCi/L

Analysis Method RADIUM

Sample Name OUTFALL008 20200409 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/9/2020 7:25:00 AM Validation Level: 9

Lab Sample Name: 440-264370-2

RLMDC Analyte CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 RADIUM226228 0.586 0.326 pCi/L U

Friday, June 12, 2020 Page 2 of 2

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264370-2

Client Project/Site: Routine Outfall 008 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/7/2020 9:05:13 AM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc Project Manager I 5/7/2020 9:05:13 AM

Laboratory Job ID: 440-264370-2

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264370-1 | Outfall008_20200409_Comp | Water | 04/09/20 07:25 | 04/09/20 15:45 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264370-2 Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264370-2

Receipt

The samples were received on 4/9/2020 3:45 PM; the samples arrived in good condition, properly preserved, and where required, on ice. The temperatures of the 3 coolers at receipt time were 0.3°C, 0.6°C and 1.2°C

Department Alpha Spectroscopy

Method A01R_U: Uranium Prep Batch 160-468046:

The following samples have matrix observations: Outfall008_20200409_Comp (440-264370-1). Samples 440-263721-1, 1 MS, and 1 MSD, 550-140782-1 and 3, 440-264162-1, 1 MS, and 1 MSD, and 440-264517-1, 1 MS, and 1 MSD are pale yellow. Samples 440-264182-1, 440-264370-1, and 440-264634-1 were medium yellow. Sample 440-264510-1 is yellow with sediment and was prepared at a reduced aliquot. Sample 160-37759-4 had thick brown sediment and was prepared at a reduced aliquot. Sample 160-37794-1 was pale brown in color with a small amount of sediment. Sample 160-37794-2 was thick brown with sediment and other plant-like particulates with a sewage smell and was prepared at a reduced aliquo

Method A01R U: Isotopic Uranium Prep Batch 160-468046

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_20200409_Comp (440-264370-1), (LCS 160-468046/2-A), (MB 160-468046/1-A), (440-263721-S-1-J), (440-263721-M-1-I MS) and (440-263721-M-1-J MSD

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

Department Gamma Spectroscopy

Method 901.1_Cs: Gamma Prep Batch 160-467695

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.

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

| | - 1 |
|---------|---------|
| 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 |
| | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Th-227 Ra-223 Th-227 Ac-227 Th-227 Bi-211 Th-227 Pb-211 Bi-214 Ra-226

Outfall008_20200409_Comp (440-264370-1), (LCS 160-467695/2-A), (MB 160-467695/1-A), (440-264162-K-1-J) and (440-264162-K-1-K DU

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

Department Gas Flow Proportional Counter

Method 900.0: Gross Alpha/Beta Prep Batch 160-468957

The gross alpha and gross beta detection goals were not met for the following samples due to a reduction of the sample size attributed to high residual mass: (440-264525-B-5-A), (440-264525-B-5-D DU), (440-264525-B-5-B MS) and (440-264525-B-5-C MSBT). Analytical results are reported with the detection limit achieve

Method 900.0: Gross Alpha/Beta Prep Batch 160-468957

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_20200409_Comp (440-264370-1), (LCS 160-468957/2-A), (LCSB 160-468957/3-A), (MB 160-468957/1-A), (440-264525-B-5-A), (440-264525-B-5-D DU), (440-264525-B-5-B MS) and (440-264525-B-5-C MSB

Method 903.0: Radium 226 Prep Batch 160-467819:

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall008_20200409_Comp (440-264370-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method 903.0: Radium 226 Prep Batch 160-467819:

The following sample was prepared at a reduced aliquot due to yellow discoloration and heavy sediment levels:

Outfall008_20200409_Comp (440-264370-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

Method 903.0: Ra-226 Prep Batch 160-467819

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_20200409_Comp (440-264370-1), (LCS 160-467819/1-A), (LCSD 160-467819/2-A) and (MB 160-467819/23-

Method 904.0: Radium 228 Prep Batch 160-467826:

The following sample was prepared at a reduced aliquot due to yellow discoloration and heavy sediment levels:

Outfall008_20200409_Comp (440-264370-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

Job ID: 440-264370-2

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Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Job ID: 440-264370-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Method 904.0: Radium 228 Prep Batch 160-467826:

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall008 20200409 Comp (440-264370-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method 904.0: Ra-228 Prep Batch 160-467826

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 20200409 Comp (440-264370-1), (LCS 160-467826/1-A), (LCSD 160-467826/2-A) and (MB 160-467826/23-

Method 905 Sr90: Strontium 90 Prep Batch 160-468677:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall008 20200409 Comp (440-264370-1). Samples 440-264370-1, 440-264510-1, 440-264517-1, 440-264517-1 MS, 440-264517-1 MSD, 440-264634-1, and 440-264783-1 all have a yellow discoloration. Sample 310-179946-1 has brown discoloration and heavy sediment

Method 905 Sr90: Sr-90 Prep Batch 160-468677

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 20200409 Comp (440-264370-1), (LCS 160-468677/1-A), (MB 160-468677/22-A), (440-264517-R-1-H), (440-264517-M-1-H) MS) and (440-264517-M-1-I MS

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

Department Liquid Scintillation Counter

Method 906.0: LSC Tritium Prep Batch 160-468476

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_20200409_Comp (440-264370-1), (LCS 160-468476/2-A), (MB 160-468476/1-A), (160-37864-A-1-A), (160-37864-A-1-B) DU), (440-264162-L-1-A), (440-264162-L-1-B MS) and (440-264162-K-1-T MSD

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

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp

Lab Sample ID: 440-264370-1 Date Collected: 04/09/20 07:25 **Matrix: Water**

Date Received: 04/09/20 15:45

| Method: 900.0 - | Count | Total | | | | | | | | |
|-----------------|--------|-----------|---------|---------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 0.722 | U | 0.956 | 0.959 | 3.00 | 1.60 | pCi/L | 04/27/20 11:17 | 05/03/20 13:56 | 1 |
| Gross Beta | 1.96 | | 0.770 | 0.794 | 4.00 | 1.09 | pCi/L | 04/27/20 11:17 | 05/03/20 13:56 | 1 |

| Method: 901.1 - 0 | Cesium 137 | & Other G | amma Emi | tters (GS) | | | | | | |
|-------------------|------------|-----------|----------|------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | -1.59 | U | 11.5 | 11.5 | 20.0 | 14.6 | pCi/L | 04/14/20 14:27 | 04/15/20 09:35 | 1 |
| Potassium-40 | 6.65 | U | 126 | 126 | | 175 | pCi/L | 04/14/20 14:27 | 04/15/20 09:35 | 1 |
| _ | | | | | | | | | | |

| Method: 903.0 - | lethod: 903.0 - Ra | dium-226 | (GFPC) | Count Uncert. | Total Uncert. | | | | | |
|-----------------|---------------------|------------------------|-------------|---------------------------|-------------------|------------|--------------|--------------------------------|-------------------------|---------|
| I _ | nalyte adium-226 | Result 0.0333 | Qualifier U | (2σ+/-) 0.0662 | (2σ+/-) 0.0663 | RL 1.00 | MDC 0.120 | Prepared 04/15/20 08:55 | Analyzed 05/07/20 06:13 | Dil Fac |
| _ | arrier a Carrier | % Yield 94.5 | Qualifier | Limits 40 - 110 | | | | Prepared 04/15/20 08:55 | Analyzed 05/07/20 06:13 | Dil Fac |

| Method: 904.0 - Ra | adium-228 | (GFPC) | | | | | | | | |
|--------------------|-----------|-----------|----------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | -0.107 | U | 0.319 | 0.319 | 1.00 | 0.586 | pCi/L | 04/15/20 09:44 | 04/28/20 18:49 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 94.5 | | 40 - 110 | | | | | 04/15/20 09:44 | 04/28/20 18:49 | 1 |
| Y Carrier | 89.0 | | 40 - 110 | | | | | 04/15/20 09:44 | 04/28/20 18:49 | 1 |

| Method: 905 - Str | ontium-90 (| GFPC) | | | | | | | | |
|-------------------|-------------|-----------|----------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.447 | U | 0.416 | 0.418 | 3.00 | 0.671 | pCi/L | 04/23/20 09:24 | 05/06/20 09:27 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 80.6 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:27 | 1 |
| Y Carrier | 90.5 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:27 | 1 |

| Method: 906.0 - Tritium, Total (LSC) | | | | | | | | | | | |
|--------------------------------------|---------|--------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|
| | | | | Count | Total | | | | | | |
| | | | | Uncert. | Uncert. | | | | | | |
| | Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| 1 | Tritium | -32.4 | U | 159 | 159 | 500 | 295 | pCi/L | 04/22/20 04:26 | 04/22/20 21:29 | 1 |

| _ Method: A-01-R - Is | sotopic Ur | anium (A | lpha Spectr | ometry) | | | | | | |
|--------------------------|------------|-----------|-------------|---------|------|-------|-------|----------------|----------------|---------|
| | - | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Total Uranium | 0.166 | U | 0.139 | 0.140 | 1.00 | 0.175 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 |

Eurofins Calscience Irvine

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp Lab Sample ID: 440-264370-1

Date Received: 04/09/20 15:45

Date Collected: 04/09/20 07:25 **Matrix: Water**

Dil Fac Tracer %Yield Qualifier Limits Prepared Analyzed Uranium-232 86.4 30 - 110

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method **Method Description** Protocol Laboratory TAL SL 900.0 Gross Alpha and Gross Beta Radioactivity EPA TAL SL 901.1 Cesium 137 & Other Gamma Emitters (GS) **EPA** Radium-226 (GFPC) TAL SL 903.0 **EPA** 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 Preparation, Evaporation TAL SL Evaporation None ExtChrom Preparation, Extraction Chromatography Resin Actinide Separation None TAL SL Fill_Geo-0 Fill Geometry, No In-Growth TAL SL None LSC_Dist_Susp Distillation and Suspension (LSC) None TAL SL PrecSep_0 Preparation, Precipitate Separation None TAL SL TAL SL PrecSep-21 Preparation, Precipitate Separation (21-Day In-Growth) None 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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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Job ID: 440-264370-2

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200409_Comp

Date Collected: 04/09/20 07:25

Date Received: 04/09/20 15:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|-----------|--------|--------|----------------|---------|--------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 200.08 mL | 1.0 g | 468957 | 04/27/20 11:17 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | 1.0 mL | 1.0 mL | 469454 | 05/03/20 13:56 | CJQ | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 467695 | 04/14/20 14:27 | MMO | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 467835 | 04/15/20 09:35 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 750.14 mL | 1.0 g | 467819 | 04/15/20 08:55 | RBR | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 469780 | 05/07/20 06:13 | CJQ | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 750.14 mL | 1.0 g | 467826 | 04/15/20 09:44 | RBR | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | | | 469049 | 04/28/20 18:49 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 500.68 mL | 1.0 g | 468677 | 04/23/20 09:24 | RBR | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 469750 | 05/06/20 09:27 | CJQ | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.9 mL | 1.0 g | 468476 | 04/22/20 04:26 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 468623 | 04/22/20 21:29 | JS | TAL SL |
| Total/NA | Prep | ExtChrom | | | 500.69 mL | 1.0 mL | 468046 | 04/17/20 17:03 | CMM | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 468771 | 04/24/20 09:34 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Matrix: Water

Lab Sample ID: 440-264370-1

Client: Haley & Aldrich, Inc. Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-468957/1-A **Matrix: Water**

Analysis Batch: 469471

Prep Batch: 468957 Count Total MB MB Uncert. Uncert. Analyte Result Qualifier **MDC** Unit Prepared Dil Fac $(2\sigma + / -)$ $(2\sigma + / -)$ RI Analyzed Gross Alpha 1.05 pCi/L 04/27/20 07:34 05/02/20 12:05 0.5247 U 0.637 0.640 3.00 Gross Beta 04/27/20 07:34 05/02/20 12:05 -0.08125 U 0.431 0.431 4.00 0.787 pCi/L

Lab Sample ID: LCS 160-468957/2-A

Matrix: Water

Analysis Batch: 469471

| | | | | Total | | | | |
|-------------|-------|--------|------|---------|------|------------|------|----------|
| | Spike | LCS | LCS | Uncert. | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits |
| Gross Alpha | 49.6 | 45.26 | | 6.98 | 3.00 | 2.65 pCi/L | 91 | 75 - 125 |

Lab Sample ID: LCSB 160-468957/3-A

Matrix: Water

Analysis Batch: 469471

| | | | | Total | | | | |
|------------|-------|--------|------|---------|------|-------------|------|----------|
| | Spike | LCSB | LCSB | Uncert. | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits |
| Gross Beta | 84.4 | 79.41 | | 8.47 | 4.00 | 0.810 pCi/L | 94 | 75 - 125 |

Lab Sample ID: 440-264525-B-5-B MS

Matrix: Water

| Analysis Bato | ch: 469454 | | | | | | | | Prep Batch: 46895 | 7 |
|---------------|--------------|---------|--------|------|---------|------|------------|------|-------------------|---|
| _ | | | | | Total | | | | | |
| | Sample Sampl | e Spike | MS | MS | Uncert. | | | | %Rec. | |
| Analyte | Result Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | |
| Gross Alpha | 12.6 U G | 487 | 317.9 | | 56.8 | 3.00 | 30.7 pCi/L | 63 | 60 - 140 | _ |

Lab Sample ID: 440-264525-B-5-C MSBT

Matrix: Water

Analysis Batch: 469454

| | | | | | | Total | | | | | | |
|------------|--------|--------|-------|--------|------|---------|------|------|-------|------|----------|--|
| | Sample | Sample | Spike | MSBT | MSBT | Uncert. | | | | | %Rec. | |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Gross Beta | 10.9 | G | 829 | 738.9 | G | 79.2 | 4.00 | 8.00 | pCi/L | 88 | 60 - 140 | |

Lab Sample ID: 440-264525-B-5-D DU

Matrix: Water

| Analysis Ba | tch: 46945 | 54 | | | | | | | Prep Bate | :h: 46 | 68957 |
|-------------|------------|--------|--------|------|---------|------|------|-------|-----------|--------|-------|
| _ | | | | | Total | | | | | | |
| | Sample | Sample | DU | DU | Uncert. | | | | | | RER |
| Analyte | Result | Qual | Result | Qual | (2σ+/-) | RL | MDC | Unit | | RER | Limit |
| Gross Alpha | 12.6 | UG | 9.097 | UG | 12.8 | 3.00 | 21.6 | pCi/L | | 0.14 | 1 |
| Gross Beta | 10.9 | G | 11.94 | G | 6.46 | 4.00 | 9.30 | pCi/L | | 0.08 | 1 |

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 468957

Prep Type: Total/NA

Prep Batch: 468957

Prep Type: Total/NA

Prep Type: Total/NA Prep Batch: 468957

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike

Client Sample ID: Duplicate

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-467695/1-A

Matrix: Water

Analysis Batch: 467836

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467695

| · | МВ | МВ | Count Uncert. | Total Uncert. | | | | | · | |
|--------------|--------|-----------|------------------|------------------|------|------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 1.446 | U | 12.2 | 12.2 | 20.0 | 15.4 | pCi/L | 04/14/20 14:27 | 04/15/20 08:35 | 1 |
| Potassium-40 | -22.63 | U | 154 | 154 | | 222 | pCi/L | 04/14/20 14:27 | 04/15/20 08:35 | 1 |

Lab Sample ID: LCS 160-467695/2-A

Matrix: Water

Analysis Batch: 467837

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467695

| | | | | Total | | | | | | |
|---------------|--------|--------|------|---------|------|------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Americium-241 | 136000 | 126100 | | 14600 | | 349 | pCi/L | 93 | 90 - 111 | |
| Cesium-137 | 43700 | 43790 | | 4390 | 20.0 | 102 | pCi/L | 100 | 90 - 111 | |
| Cobalt-60 | 26300 | 25540 | | 2530 | | 54.0 | pCi/L | 97 | 89 - 110 | |
| | | | | | | | | | | |

Lab Sample ID: 440-264162-K-1-K DU

Matrix: Water

Analysis Batch: 467837

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 467695

Total DU DU **RER** Sample Sample Uncert. Analyte Result Qual Result Qual $(2\sigma + / -)$ RL **MDC** Unit RER Limit Cesium-137 0.162 U 3.072 U 8.42 20.0 10.2 pCi/L 0.16 Potassium-40 9.19 U -143.8 U 141 220 pCi/L 0.70

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467819/23-A

Matrix: Water

Analysis Batch: 469780

| Client | Samn | ا ما | ו ים | Method | Blank |
|--------|--------|------|-------|---------|--------|
| CHEIL | Jailip | ı | ו . ע | MELLIOU | Dialik |

Prep Type: Total/NA

Prep Batch: 467819

| | МВ | МВ | Count Uncert. | Total Uncert. | | | | | • | |
|------------|---------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.03121 | U | 0.0621 | 0.0621 | 1.00 | 0.111 | pCi/L | 04/15/20 08:55 | 05/07/20 06:14 | 1 |
| | МВ | МВ | | | | | | | | |

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 99.4 40 - 110 04/15/20 08:55 05/07/20 06:14

Lab Sample ID: LCS 160-467819/1-A

Matrix: Water

Analysis Batch: 469780

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467819

Total LCS LCS **Spike** Uncert. %Rec. $(2\sigma + / -)$ Analyte Added Result Qual RL **MDC** Unit %Rec Limits Radium-226 0.105 pCi/L 75 - 125 11.3 9.899 1.04 1.00 87

LCS LCS

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 97.0

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-467819/2-A

Matrix: Water

Analysis Batch: 469780

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

Prep Batch: 467819

Total Spike LCSD LCSD

Uncert. %Rec. **RER** Added RL MDC Unit Limits Analyte Result Qual $(2\sigma + / -)$ %Rec RFR Limit Radium-226 75 - 125 11.3 9.803 1.03 1.00 0.116 pCi/L 86 0.05

LCSD LCSD

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 95.7

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-467826/23-A

Matrix: Water

Analysis Batch: 469049

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 467826**

Count Total MB MB Uncert. Uncert.

Analyte Result Qualifier RL **MDC** Unit Dil Fac $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed Radium-228 0.2776 Ū 0.268 0.270 1.00 0.436 pCi/L 04/15/20 09:44 04/28/20 18:49

MB MB

Carrier Qualifier Limits %Yield Prepared Ba Carrier 99.4 40 - 110 04/15/20 09:44 04/28/20 18:49 Y Carrier 91.2 40 - 110 04/15/20 09:44 04/28/20 18:49

7.927

8.89

40 - 110

Client Sample ID: Lab Control Sample

75 - 125

Analyzed

Lab Sample ID: LCS 160-467826/1-A **Matrix: Water**

Analysis Batch: 469050

Prep Type: Total/NA Prep Batch: 467826 Total

0.413 pCi/L

Spike LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Radium-228 0.958 1.00 89

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 97.0 40 - 110

Lab Sample ID: LCSD 160-467826/2-A

88.6

Matrix: Water

Y Carrier

Analysis Batch: 469050

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

Prep Batch: 467826

Total LCSD LCSD %Rec. **RER** Spike Uncert. Analyte Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit Radium-228 8.89 8.527 1.02 1.00 0.394 pCi/L 96 75 - 125 0.30

LCSD LCSD Carrier %Yield Qualifier Limits Ba Carrier 95.7 40 - 110 87.5 40 - 110 Y Carrier

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Dil Fac

Count

Job ID: 440-264370-2 Project/Site: Routine Outfall 008 Comp

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Analysis Batch: 469763

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468677

MB MB Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Strontium-90 04/23/20 09:24 05/06/20 09:25 0.2727 U 0.395 0.395 3.00 0.660 pCi/L

Total

MB MB

Carrier Qualifier Limits Prepared Dil Fac %Yield Analyzed 40 - 110 04/23/20 09:24 05/06/20 09:25 Sr Carrier 93.4 Y Carrier 92.0 40 - 110 04/23/20 09:24 05/06/20 09:25

Lab Sample ID: LCS 160-468677/1-A

Matrix: Water

Analysis Batch: 469750

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468677

Total LCS LCS %Rec. Spike Uncert. Analyte Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Result Qual Strontium-90 16.9 1.79 3.00 0.626 pCi/L 100 75 - 125 16.93

LCS LCS Carrier %Yield Qualifier Limits Sr Carrier 91.7 40 - 110 Y Carrier 85.6 40 - 110

Lab Sample ID: 440-264517-M-1-H MS

Matrix: Water

Analysis Batch: 469750

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 468677

Total Sample Sample Spike MS MS

Uncert. %Rec. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Strontium-90 0.284 U 16.9 3.00 0.633 pCi/L 16.73 1.77 98 19 - 150

MS MS Carrier %Yield Qualifier Limits Sr Carrier 88.8 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264517-M-1-I MSD

Matrix: Water

Analysis Batch: 469750

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468677

Spike MSD MSD %Rec. Sample Sample Uncert. **RER** Result Qual Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Limit **Analyte** RER Strontium-90 0.284 U 16.9 15.70 1.68 3.00 0.641 pCi/L 91 19 - 150 0.30

Total

MSD MSD Carrier %Yield Qualifier Limits Sr Carrier 40 - 110 87.6 Y Carrier 92.7 40 - 110

Client: Haley & Aldrich, Inc. Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-468476/1-A

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468476

Count Total мв мв Uncert. Uncert. (2σ+/-) (2σ+/-) RL MDC Unit Analyte Result Qualifier Prepared Analyzed Dil Fac 62.16 U 277 pCi/L 04/22/20 04:26 04/22/20 13:34 Tritium 161 161 500

Lab Sample ID: LCS 160-468476/2-A

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 468476**

Total Spike LCS LCS %Rec. Uncert. Added Result Qual Analyte $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 2470 2384 380 500 277 pCi/L 96 75 - 114

Lab Sample ID: 440-264162-K-1-T MSD

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468476

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Added Analyte Result Qual Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit Tritium 14.9 U 2460 2655 404 500 276 pCi/L 107 67 - 130 0.74

Lab Sample ID: 440-264162-L-1-B MS

Matrix: Water

Analysis Batch: 468623

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

Prep Batch: 468476

Total Sample Sample Spike MS MS Uncert. %Rec. Result Qual Added RL MDC Unit Analyte Result Qual $(2\sigma + / -)$ %Rec Limits Tritium 14.9 U 2470 2096 353 500 277 pCi/L 84 67 - 130

Result Qual

77.93 U

Lab Sample ID: 160-37864-A-1-B DU

Result Qual

66 7 U

Matrix: Water

Analyte

Tritium

Analysis Batch: 468623

Client Sample ID: Duplicate

Prep Type: Total/NA **Prep Batch: 468476**

Total DU DU Sample Sample

156

Uncert. $(2\sigma + / -)$ RL MDC Unit 500

261 pCi/L

RER RER Limit 0.04

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A

Matrix: Water

Analysis Batch: 468749

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

Prep Batch: 468046

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ **MDC** Unit Dil Fac RL Prepared Analyzed 0.03978 U Total Uranium 0.1101 0.1102 1.00 0.152 pCi/L 04/17/20 17:03 04/24/20 09:34

MB MB

Tracer **%Yield Qualifier** Limits Prepared Analyzed Dil Fac Uranium-232 92.6 30 - 110 04/17/20 17:03 04/24/20 09:34

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468046

Total Spike LCS LCS Uncert. %Rec. Analyte Added RL **MDC** Unit Limits Result Qual %Rec $(2\sigma + / -)$ Uranium-234 75 - 125 12.7 13.10 1.50 1.00 0.150 pCi/L 103 Uranium-238 13.0 13.96 1.58 1.00 0.0962 pCi/L 107 75 - 125

LCS LCS

Tracer %Yield Qualifier Limits Uranium-232 81.2 30 - 110

Lab Sample ID: 440-263721-M-1-I MS **Client Sample ID: Matrix Spike**

Matrix: Water

Analysis Batch: 468757

Prep Type: Total/NA

Prep Batch: 468046

Total MS MS %Rec. Sample Sample Spike Uncert. Analyte Result Qual Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Result Qual Uranium-234 0.0485 U 12.44 12.7 1.46 1.00 0.164 pCi/L 97 65 - 146 0.129 pCi/L Uranium-238 0.150 13.0 14.35 1.63 1.00 109 68 - 143

MS MS

%Yield Qualifier Tracer Limits Uranium-232 65.3 30 - 110

Lab Sample ID: 440-263721-M-1-J MSD

Matrix: Water

Analysis Batch: 468759

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468046

| | | | | | | ı otai | | | | | | | | |
|-------------|--------|--------|-------|--------|------|---------|------|-------|-------|------|----------|------|-------|--|
| | Sample | Sample | Spike | MSD | MSD | Uncert. | | | | | %Rec. | | RER | |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | RER | Limit | |
| Uranium-234 | 0.0485 | U | 12.8 | 13.87 | | 1.59 | 1.00 | 0.158 | pCi/L | 108 | 65 - 146 | 0.47 | 1 | |
| Uranium-238 | 0.150 | | 13.0 | 12.82 | | 1.50 | 1.00 | 0.141 | pCi/L | 97 | 68 - 143 | 0.49 | 1 | |

MSD MSD Tracer %Yield Qualifier Limits 30 - 110 Uranium-232 65.1

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

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| _ | | 40-00- |
|------|--------|--------|
| Prep | Batch: | 467695 |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | Fill_Geo-0 | |
| MB 160-467695/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 | |
| LCS 160-467695/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 | |
| 440-264162-K-1-K DU | Duplicate | Total/NA | Water | Fill_Geo-0 | |

Prep Batch: 467819

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467819/23-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467819/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| LCSD 160-467819/2-A | Lab Control Sample Dup | Total/NA | Water | PrecSep-21 | |

Prep Batch: 467826

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-467826/23-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-467826/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| LCSD 160-467826/2-A | Lab Control Sample Dup | Total/NA | Water | PrecSep_0 | |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|----------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | ExtChrom | |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-I MS | Matrix Spike | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | Total/NA | Water | ExtChrom | |

Prep Batch: 468476

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | LSC_Dist_Susp | |
| MB 160-468476/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp | |
| LCS 160-468476/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-K-1-T MSD | Matrix Spike Duplicate | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-L-1-B MS | Matrix Spike | Total/NA | Water | LSC_Dist_Susp | |
| 160-37864-A-1-B DU | Dunlicate | Total/NA | Water | LSC Dist Susp | |

Prep Batch: 468677

| Lab Sample ID 440-264370-1 | Client Sample ID Outfall008_20200409_Comp | Prep Type Total/NA | Matrix Water | Method Prep Ba | atch |
|-------------------------------|---|---------------------|-----------------|----------------|------|
| MB 160-468677/22-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-468677/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-H MS | Matrix Spike | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-7 | |

Prep Batch: 468957

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------|------------|
| 440-264370-1 | Outfall008_20200409_Comp | Total/NA | Water | Evaporation | |
| MB 160-468957/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-468957/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| LCSB 160-468957/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 440-264525-B-5-B MS | Matrix Spike | Total/NA | Water | Evaporation | |

Eurofins Calscience Irvine

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Job ID: 440-264370-2

QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Rad (Continued)

Prep Batch: 468957 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|------------------|-----------|--------|-------------|------------|
| 440-264525-B-5-C MSBT | Matrix Spike | Total/NA | Water | Evaporation | |
| 440-264525-B-5-D DU | Duplicate | Total/NA | Water | Evaporation | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 440-264370-2

Project/Site: Routine Outfall 008 Comp

Qualifiers

RER

RPD

TEF

TEQ

RL

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

| 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 |
| 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) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, St. Louis

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

| Authority | uthority Program | | Expiration Date |
|--------------------------|---|------------------|-----------------|
| 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| lowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

Eurofins Calscience Irvine

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Field Readings

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440-264370 Chain of Custody

2/2/20 02/2019-2020 Rainy Season Oversion 2

CHAIN OF CUSTODY FORM

01:10

Date I'me.

Aethod of Shipment:

Special Instructions/QC Requirements:

Primary Deliverable Rank; 2

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by:

elinquished by:

Cooler Temperature(s) °C and Other Remarks

| | Sampler: | | | Lab PM | PM | I | | | | | Carrie | Carrier Tracking No(s) | (s)oN bi | | 0 | COC No: | |
|--|---|--------------------------------|--|--|--|------------------|---|---------------------|-----------------|-----------------|------------------------|--------------------------------|----------|----------|----------------|--|--|
| Client Information (Sub Contract Lab) | | | | Bo | Bondoc, Christian M | hristia | N | 1 | | | | | | | 4 | 440-154918.1 | |
| Shipping/Receiving | Phone | | | E-Mail: christ | E-Mail: christian.bondoc@testamericainc.com | opuo | @testa | merica | ainc.co | Ĕ | State | State of Origin: California | 1.4 | | a u | Page: Page 1 of 1 | |
| Company: TestAmerica Laboratories, Inc. | | | | | Accred | Progr | Accreditations Required (See note): State Program - California | d (See r | (a) | | | | | | 3 4 | Job #: | |
| Address: 13715 Rider Trail North, | Due Date Requested: 5/7/2020 | ÷ | | | | | | A | nalvs | is R | Analysis Requested | ted | | | 10. | Preservation Codes: | |
| City: Earth City State, Zip: | TAT Requested (days): | /s): | | | | | | - | | | | | | | 4800 | A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S | o2 02 48 |
| MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) | PO#; | | | | (| 7£1-m | _ | | | | | | | | шшо | | Q - Na2SO3 R - Na2S2O3 S - H2SO4 |
| Email. | WO# | | | | | | - | p)ac. | | 06- | | | | | | I - Ice U - Acetone U - Acetone | Jodecanydrate |
| Project Name: Routine Outfall 008 Comp | Project #. 44009879 | | | | | | _ | | 822-w | | umar. | | | | _ | K - EDTA W - pH 4-5 L - EDA Z - other (specify) | -5 (specify) |
| Site: | #MOSS | | | | | _ | _ | | Radiu | | ı den | | | | | Other: | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=wasteroli, BT=Tissue, A=Air) | Fleid Filtered S Perform MS/MS | 901.1_Cs/Fill_Ge | A01R_U/ExtChro | S_qeSoe19\0.509 | 0_qa&banq\0.40e | 982919\0912_209 | 906.0/LSC_Dist_S | | | | o redmuM lstoT | Special Instructions Motor | N/ote. |
| | | \setminus | Preservation Code: | ion Code: | X | | | | | _ | | | | | × | | - Constant |
| Outfall008_20200409_Comp (440-264370-1) | 4/9/20 | 07:25 Pacific | | Water | | × | × | × | × | × | | | | | 2 B | Boeing SSFL; DO NOT FILTER; use prep | ER; use prep |
| | | | | | | | | | | | | | | | Š | ate non preservation | |
| | | | | | | | | | | + | | | T | + | | | |
| | | | | | | | | | | | | | | H | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out su maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience la attention immediately. If all requested accreditations are current to date, etum the signed Chain of Custody attesting to said complicance to Eurofins Calscience. | Iscience places the ownership of samatrix being analyzed, the sam return the signed Chain of Cust | f method, ana oples must be | lyte & accredital shipped back to said complical | tion complian to the Eurofina ance to Eurofi | calscier Calscier | out subc | contract ratory or | aborato other ir | nies. Th | is samp | le shipm se provide | ent is fon ed. Any c | warded u | nder cha | n-of-cust | method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently pies must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience. Objections. | t currently fins Calscience |
| Possible Hazard Identification | | | | | Sa | mple | Dispos | al (A | fee m | ay be | asses | sed if s. | amples | are re | tained | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | |
| Unconfirmed | | | | | - | Re | Return To Client | Clien | 1 |] | Disposal By Lab | al By L. | ab |] | Archive For | For Months | 36 |

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Chain of Custody Record

Eurofins Calscience Irvine

17461 Derian Ave Suite 100

Custody Seal No.:

Custody Seals Intact:

A Yes A No

T

inquished by elinquished by:

Date/Time:



| | Shipping #(s):* | Therm | ometer | #: | Packa | ge Temp:** | Document #: |
|---------------------------|--|-------------------|-------------|---------|-----------|---|--|
| 1. 154 | | 1924 | 884L | il | -0 |).4 | 440-154918.1 |
| | 10 41077666 | 1926 | 8844 | 1 | (| 0.3 | 440 154917.1 |
| 3. 15 | 40 4107 7455 | 1991 | 1884 | w | | 0.8 | 440-154913.1 |
| 4. | | | | | | A ST - E | |
| 5. | | | | | | | |
| 6. | | | | | | | * |
| 7. | | | | | | | |
| ndition (Circle | "Y" for yes, "N" for no and "N/A" for not ap | plicable): | | | | | |
| Y N | Are there custody seals present o | | 8. | Y / | N) | Are there custo | ody seals present on bottle |
| Y (N) N/ | A Do custody seals on cooler appear tampered with? | ar to be | 9. | Y | N (N) | Do custody sea tampered with | als on bottles appear to be |
| YN | Were contents of cooler frisked a opening, but before unpacking? | Serie Contractors | | Y | N N/A | (If not, make note | ceived with proper pH'? below) HC904495 |
| N | Sample received with Chain of C | Custody? | 11. | Y | N N/A | Containers for | Rn-222, C-14, Cl-36, H-3 ked with "Do Not Preserv |
| Y N N/ | A Does the Chain of Custody match ID's on the container(s)? | h sample | 12. (| (Y) | N | Sample received in proper containers? | |
| Y (N) | Was sample received broken? | | 13. | Y | N (N/A) | Headspace in \ samples? (>6n (If Yes, note samples) | |
| YN | Is sample volume sufficient for a | | 14. | 1000 | N (N/A) | Soil containers 129/131 marke | for C-14, H-3,Tc-99 & I d with "Do Not Dry" labe |
| r DOE-AL (Pantex otes: | , LANL, Sandia) sites, pH of ALL containers r | received must | be verifie | d, EXCI | PT VOA, C | il & Grease, Rn-222 | and soils. |
| ics. | | | 4 | | | | |
| | | | in the same | | | | |
| | | | | | | | |
| [Adjustmen | t (if needed) | | Date | /Tim | e of Pres | servation: | |
| | H strip lot#: | | | | ve and 1 | DES SERVICES | |
| al pH and pl | H strip lot#: | | Amo | unt o | f Preser | vative: | NOTE THE PARTY |

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264370-2

Login Number: 264370 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264370-2

Login Number: 264370

List Source: Eurofins TestAmerica, St. Louis

List Number: 3

List Creation: 04/13/20 06:21 PM

Creator: Korrinhizer, Micha L

| • 4 | _ | |
|--|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |

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Project/Site: Routine Outfall 008 Comp

Job ID: 440-264370-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| _ | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------------------------------|
| | | Ba Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | |
| 440-264370-1 | Outfall008_20200409_Comp | 94.5 | |
| LCS 160-467819/1-A | Lab Control Sample | 97.0 | |
| LCSD 160-467819/2-A | Lab Control Sample Dup | 95.7 | |
| MB 160-467819/23-A | Method Blank | 99.4 | |
| Tracer/Carrier Legenc | I | | |
| Ba Carrier = Ba Carrier | | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Ba Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264370-1 | Outfall008_20200409_Comp | 94.5 | 89.0 | |
| LCS 160-467826/1-A | Lab Control Sample | 97.0 | 88.6 | |
| LCSD 160-467826/2-A | Lab Control Sample Dup | 95.7 | 87.5 | |
| MB 160-467826/23-A | Method Blank | 99.4 | 91.2 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| Lab Sample ID | Client Sample ID | Sr Carrier (40-110) | Y Carrier (40-110) | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| 440-264370-1 | Outfall008_20200409_Comp | 80.6 | 90.5 | |
| 440-264517-M-1-H MS | Matrix Spike | 88.8 | 90.8 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | 87.6 | 92.7 | |
| LCS 160-468677/1-A | Lab Control Sample | 91.7 | 85.6 | |
| MB 160-468677/22-A | Method Blank | 93.4 | 92.0 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| • | | | Percent Yield (Acceptance Limits) |
|-----------------------|--------------------------|-----------|-----------------------------------|
| | | ranium-23 | |
| ab Sample ID | Client Sample ID | (30-110) | |
| 40-263721-M-1-I MS | Matrix Spike | 65.3 | |
| 140-263721-M-1-J MSD | Matrix Spike Duplicate | 65.1 | |
| 140-264370-1 | Outfall008_20200409_Comp | 86.4 | |
| _CS 160-468046/2-A | Lab Control Sample | 81.2 | |
| MB 160-468046/1-A | Method Blank | 92.6 | |
| Tracer/Carrier Legend | | | |
| Uranium-232 = Uranium | -232 | | |

Eurofins Calscience Irvine

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Sacramento Sample Receiving Notes





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Job:

| Tracking # :_ | 1540 | 4107 77 80 | |
|---------------|------|------------|--|
| | | | |

SO /(PO// FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.

| Therm, ID: IRI Stem Corr. Factor: | | | | | | | _ |
|---|------------|------------|----------|--|-----|---------|---------|
| Ice Wet Gel | | | | 1 | | | |
| Cooler Custody Seal: | | | | | | | |
| Cooler ID: | | | | | | | _ |
| Temp Observed: 6 · 4 °C Correct From: Temp Blank Sam | ted: | 0.4 | _°C | | | | _ |
| Opening/Processing The Shipment | Yes | No | NA | | | | _ |
| Cooler compromised/tampered with? | | Ø | | | | | |
| Cooler Temperature is acceptable? | ø | | | | | | |
| Samples received within holding time? | P | | | | | | |
| Initials: 5 Date: 41 | 1110 | | | 1 | | | _ |
| Unpacking/Labeling The Samples | Yes | No | NA | 1 | | _ | _ |
| CoC is complete w/o discrepancies? | Ø | D | | 1 | - | _ | _ |
| Samples compromised/tampered with? | | P | | 1, | | | _ |
| Sample containers have legible labels? | Ø | | | | | | |
| Sample custody seal? | | | Ø | | | | |
| Containers are not broken or leaking? | p | | | | - | | _ |
| Sample date/times are provided? | P | | D | - | | _ | _ |
| Appropriate containers are used? | Ø | | | | | | _ |
| Sample bottles are completely filled? | ď | | | | | | |
| Sample preservatives verified? | | D | P | | | | |
| Samples w/o discrepancies? | Ø | | | | | - | _ |
| Zero headspace?* | | | ø | (| | - | _ |
| Alkalinity has no headspace? | | | Ø | | | | |
| Perchlorate has headspace? (Methods 314, 331, 6850) | | | Ø | Login Completion Receipt Temperature on COC? | Yes | No D | NA D |
| Multiphasic samples are not present? | B | | | NCM Filed? | | | ø |
| *Containers requiring zero headspace have no headspace | e, or bubt | ole < 6 mi | n (1/4") | Log Release checked in TALS? | 0 | 0 | d |



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264782-1

Client Project/Site: Routine Outfall 008 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/22/2020 12:40:36 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Routine Outfall 008 Grab

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

4/22/2020 12:40:36 PM

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Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Grab Laboratory Job ID: 440-264782-1

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Grab

Job ID: 440-264782-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264782-1 | Outfall008_20200415_Grab | Water | 04/15/20 09:10 | 04/16/20 15:30 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264782-1 Project/Site: Routine Outfall 008 Grab

Job ID: 440-264782-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264782-1

Comments

No additional comments.

Receipt

The samples were received on 4/16/2020 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5° C.

Organic Prep

Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-605977 and analytical batch 440-606041. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664A.

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

Client: Haley & Aldrich, Inc.

Job ID: 440-264782-1

Project/Site: Routine Outfall 008 Grab

Client Sample ID: Outfall008_20200415_Grab Lab Sample ID: 440-264782-1

Date Collected: 04/15/20 09:10 Lab Sample 15: 440-2547 62-1

Date Received: 04/16/20 15:30

| General Chemistry | | | | | | | | | | |
|--------------------|--------|-----------|-----|-----|------|---|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D |) | Prepared | Analyzed | Dil Fac |
| HEM (Oil & Grease) | ND | | 5.3 | 1.5 | mg/L | | - | 04/22/20 05:09 | 04/22/20 09:04 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Grab

| Method | Method Description | Protocol | Laboratory |
|--------|-----------------------|----------|------------|
| 1664A | HEM and SGT-HEM | 1664A | TAL IRV |
| 1664A | HEM and SGT-HEM (SPE) | 1664A | TAL IRV |

Protocol References:

1664A = EPA-821-98-002

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264782-1

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Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 440-264782-1

Project/Site: Routine Outfall 008 Grab

Client Sample ID: Outfall008_20200415_Grab Lab Sample ID: 440-264782-1

Date Collected: 04/15/20 09:10 Matrix: Water

Date Received: 04/16/20 15:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|--------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 1664A | | | 950 mL | 1000 mL | 605977 | 04/22/20 05:09 | L1A | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 606041 | 04/22/20 09:04 | L1A | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264782-1

RL

5.0

Spike

Added

40.0

Project/Site: Routine Outfall 008 Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-605977/1-A

Analysis Batch: 606041

Matrix: Water

MB MB

Analyte Result Qualifier

HEM (Oil & Grease) ND Lab Sample ID: LCS 440-605977/2-A

Matrix: Water Analysis Batch: 606041

HEM (Oil & Grease)

Lab Sample ID: LCSD 440-605977/3-A

Analysis Batch: 606041

Analyte HEM (Oil & Grease)

Matrix: Water

Spike Added 40.0

LCSD LCSD

36.1

LCS LCS

36.5

Result Qualifier Unit

MDL Unit

Result Qualifier Unit

1.4 mg/L

mg/L

mg/L

D %Rec

Prepared

D %Rec

91

Limits 90 78 - 114

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Method Blank

04/22/20 05:09 04/22/20 09:04

Client Sample ID: Lab Control Sample

%Rec.

Limits

78 - 114

%Rec.

Prep Type: Total/NA

Prep Batch: 605977

Prep Type: Total/NA

Prep Batch: 605977

Prep Type: Total/NA

Prep Batch: 605977

Dil Fac

Analyzed

RPD Limit

RPD

QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264782-1

Project/Site: Routine Outfall 008 Grab

General Chemistry

Prep Batch: 605977

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264782-1 | Outfall008_20200415_Grab | Total/NA | Water | 1664A | |
| MB 440-605977/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-605977/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-605977/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |

Analysis Batch: 606041

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264782-1 | Outfall008_20200415_Grab | Total/NA | Water | 1664A | 605977 |
| MB 440-605977/1-A | Method Blank | Total/NA | Water | 1664A | 605977 |
| LCS 440-605977/2-A | Lab Control Sample | Total/NA | Water | 1664A | 605977 |
| LCSD 440-605977/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 605977 |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264782-1

Project/Site: Routine Outfall 008 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 |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DI | 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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264782-1

Project/Site: Routine Outfall 008 Grab

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

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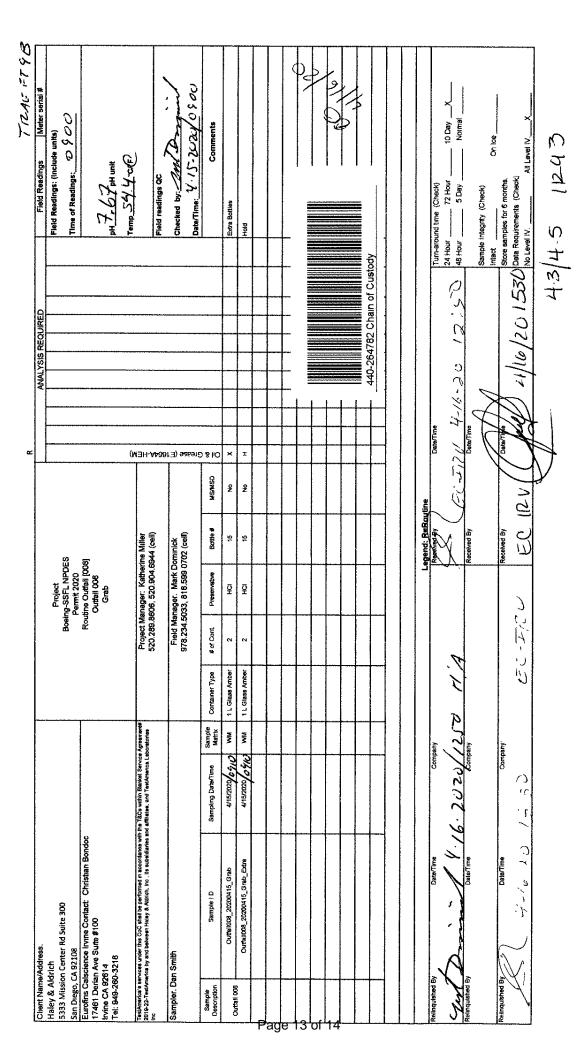
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Page 1 of 1

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264782-1

Login Number: 264782 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante. Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264783-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

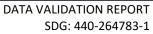
29 May 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264783-1

29 May 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-264783-1

Project Manager: Katherine Miller

Matrix: Water

QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|--------------------------------|--------------------|----------------------|--------|--------------------|---------------------------|---------------------|
| OUTFALL008_2020041 5_COMP | 440-264783-1 | N/A | WM | 4/15/20 9:10 AM | E1613B, E200.7, E200.8 | П |
| OUTFALL008_2020041 5_COMP_F | 440-264783-2 | N/A | WM | 4/15/20 9:10 AM | E200.7, E200.8 | II |

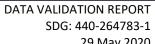
DATA VALIDATION REPORT SDG: 440-264783-1 29 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264783-1:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA- Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present (but with no number) upon receipt at TA-Sacramento.
- Strikethroughs on the original COC were initialed but not dated.



29 May 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| | TABLE 3 - REASON CODE REFERENCE | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|
| Reason Code | Organic | Inorganic | | | | | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



III. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 8, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, OCDD and OCDF, and for totals HpCDD, HpCDF, HxCDD and HxCDF. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. The total HxCDD result matched the sum of the qualified isomers, and was also qualified as a nondetect (U). The result for total HxCDF (containing both a qualified method blank isomer and a qualified EMPC isomers) was qualified as an estimated nondetect (UJ). The sample totals for HpCDD and HpCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.



III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. Second-column confirmation analysis for isomer 2,3,7,8-TCDF was not necessary, as 2,3,7,8-TCDF was not detected in the initial analysis of the sample.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects (UJ) at the level of the EMPC. The total PeCDF result matched the sum of the qualified isomers and was also qualified as an estimated nondetect (UJ). Total HxCDF in the sample (containing both a qualified method blank isomer and qualified EMPC isomers) was qualified as an estimated nondetect (UJ). Totals HpCDD and HpCDF flagged by the laboratory as including one or more EMPC peaks were qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^x reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL008_20200415_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.

IV.3. QUALITY CONTROL SAMPLES

IV.3.1. **METHOD BLANKS**

There were no target analyte detections in the method blanks or calibration blanks.



IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. Interferents in site samples were not summarized; therefore, interference was not evaluated.

IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on sample OUTFALL008 20200415 COMP F by Method 200.8. Recoveries were within the QAPP control limits of 70-130% and RPDs were ≤20%. MS/MSD analyses were not performed on the samples in this SDG for Method 200.8. MS/MSD analyses were not performed on a sample in this SDG by Method 200.7.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. INTERNAL STANDARDS PERFORMANCE

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402647831

Analysis Method E1613B

Sample Name OUTFALL008_20200415_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

| Analyte F | raction: | CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|--|----------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N 3 | 39001-02-0 | 0.0000037 | 0.00011 | 0.00000091 | ug/L | J,DXqMB | Ū | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-pdioxin (OCDD) | o- N | 3268-87-9 | 0.0000086 | 0.00011 | 0.00000034 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N (| 67562-39-4 | 0.0000017 | 0.000053 | 0.00000042 | ug/L | J,DXqMB | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p dioxin (HpCDD) | - N 3 | 35822-46-9 | 0.0000013 | 0.000053 | 0.00000037 | ug/L | J,DXqMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N : | 55673-89-7 | 0.0000017 | 0.000053 | 0.00000040 | ug/L | J,DX | J | DNQ |
| 1,2,3,4,7,8-Hexachlorodibenzofurar (HxCDF) | n N ′ | 70648-26-9 | 0.00000064 | 0.000053 | 0.00000032 | ug/L | J,DXq | UJ | *III |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N . | 39227-28-6 | 0.0000023 | 0.000053 | 0.00000039 | ug/L | J,DXMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofurar (HxCDF) | n N : | 57117-44-9 | 0.00000096 | 0.000053 | 0.00000034 | ug/L | J,DXq | UJ | *III |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 57653-85-7 | ND | 0.000053 | 0.00000042 | ug/L | U | U | |
| 1,2,3,7,8,9-Hexachlorodibenzofurar (HxCDF) | n N | 72918-21-9 | 0.0000022 | 0.000053 | 0.00000031 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N : | 19408-74-3 | 0.00000083 | 0.000053 | 0.00000037 | ug/L | J,DXqMB | U | В |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-41-6 | 0.00000092 | 0.000053 | 0.00000045 | ug/L | J,DXq | UJ | *Ш |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N 4 | 40321-76-4 | ND | 0.000053 | 0.00000073 | ug/L | U | U | |
| 2,3,4,6,7,8-Hexachlorodibenzofurar (HxCDF) | n N | 60851-34-5 | 0.00000073 | 0.000053 | 0.00000031 | ug/L | J,DXq | UJ | *Ш |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N : | 57117-31-4 | 0.00000082 | 0.000053 | 0.00000048 | ug/L | J,DXq | UJ | *Ш |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N : | 51207-31-9 | ND | 0.000011 | 0.00000040 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxii (TCDD) | n N | 1746-01-6 | ND | 0.000011 | 0.0000015 | ug/L | U | U | |
| Total Heptachlorodibenzofuran (HpCDF) | N 3 | 38998-75-3 | 0.0000033 | 0.000053 | 0.00000040 | ug/L | J,DXqMB | J | B, DNQ, *III |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | N 3 | 37871-00-4 | 0.0000022 | 0.000053 | 0.00000037 | ug/L | J,DXqMB | J | B, DNQ, *III |
| Total Hexachlorodibenzofuran (HxCDF) | N : | 55684-94-1 | 0.0000045 | 0.000053 | 0.00000031 | ug/L | J,DXqMB | UJ | В, *Ш |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N 3 | 34465-46-8 | 0.0000031 | 0.000053 | 0.00000037 | ug/L | J,DXqMB | U | В |
| Total Pentachlorodibenzofuran (PeCDF) | N 3 | 30402-15-4 | 0.0000017 | 0.000053 | 0.00000045 | ug/L | J,DXq | UJ | *Ш |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N 3 | 36088-22-9 | ND | 0.000053 | 0.00000073 | ug/L | U | U | |
| Total Tetrachlorodibenzofuran (TCDF) | N : | 55722-27-5 | ND | 0.000011 | 0.00000040 | ug/L | U | U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | N 4 | 41903-57-5 | ND | 0.000011 | 0.0000015 | ug/L | U | U | |

Analysis Method E200.7

Sample Name OUTFALL008 20200415 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---------|---------|------------|-----------------|----|-----|-----------------|------------------|-------------------------|---------------------|
| Nickel | T | 7440-02-0 | ND | 10 | 5.0 | ug/L | U | U | |
| Zinc | T | 7440-66-6 | ND | 20 | 12 | ug/L | U | U | |

Sample Name OUTFALL008 20200415 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-2

MDL Result Analyte Fraction: CAS No Result RLLab Validation Validation Value Units Qualifier Qualifier Notes Nickel 7440-02-0 8.9 10 J,DX DNQ 5.0 ug/L J Zinc 7440-66-6 ND 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL008_20200415_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

Fraction: CAS No Result RL**MDL Analyte** Result Lab Validation Validation Value Units **Qualifier** Qualifier Notes 7440-36-0 Antimony Τ ND 2.0 0.50 ug/L U U Cadmium Τ 7440-43-9 ND 0.25 U U 1.0 ug/L Copper T 7440-50-8 2.0 2.0 0.50 ug/L Lead 7439-92-1 ND 1.0 0.50 U U Τ ug/L 7782-49-2 0.57 2.0 0.50 J,DX J DNQ Selenium T ug/L 7440-22-4 0.50 U Silver Τ ND 1.0 ug/L U Thallium ND 0.20 U Τ 7440-28-0 1.0 ug/L U

Sample Name OUTFALL008 20200415 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-2

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|---------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Antimony | D | 7440-36-0 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 1.3 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | 0.79 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Silver | D | 7440-22-4 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Thallium | D | 7440-28-0 | ND | 1.0 | 0.20 | ug/L | U | U | |

Friday, June 12, 2020 Page 2 of 2



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264783-1

Client Project/Site: Routine Outfall 008 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 4/30/2020 12:40:15 PM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Laboratory Job ID: 440-264783-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

4/30/2020 12:40:15 PM

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Laboratory Job ID: 440-264783-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

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Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Asset ID

 440-264783-1
 Outfall008_20200415_Comp
 Water
 04/15/20 09:10
 04/16/20 15:30

 440-264783-2
 Outfall008_20200415_Comp_F
 Water
 04/15/20 09:10
 04/16/20 15:30

Job ID: 440-264783-1

3

4

5

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16

14

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264783-1

Comments

No additional comments.

Receipt

The samples were received on 4/16/2020 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9° C and 4.5° C.

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

Dioxin

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

Method FILTRATION: The following sample requested dissolved metals and was not filtered in the field: Outfall008 20200415 Comp F (440-264783-2). This sample was filtered and preserved upon receipt to the laboratory.

04/16/20 2.5mL of HNO3 HNO3 Lot # 0000234822

Method 200.8: Due to the high concentration of Silver the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 440-605490 and analytical batch 440-605555 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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.

Dioxin Prep

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

Job ID: 440-264783-1

Eurofins Calscience Irvine 4/30/2020

Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp

Date Collected: 04/15/20 09:10 Date Received: 04/16/20 15:30 Lab Sample ID: 440-264783-1

Matrix: Water

| Method: 300.0 - Anions, lo Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|------------------------------------|---------------|-----------|----------|---------------------|------|---|----------------|----------------|---------|
| Chloride | 5.0 | | 0.50 | | U | | | 04/16/20 18:12 | 1 |
| Nitrate as N | ND | | 0.11 | 0.055 | J | | | 04/16/20 18:12 | 1 |
| Nitrite as N | ND | | 0.15 | 0.025 | mg/L | | | 04/16/20 18:12 | 1 |
| Sulfate | 5.0 | | 0.50 | 0.25 | mg/L | | | 04/16/20 18:12 | 1 |
| Method: 314.0 - Perchlorat | • • | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
| Perchlorate | ND | | 4.0 | 0.95 | ug/L | | | 04/22/20 14:12 | 1 |
| Method: NO3NO2 Calc - Ni | | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
| Nitrate Nitrite as N | ND | | 0.15 | 0.055 | mg/L | | | 04/17/20 09:55 | 1 |
| Method: 1613B - Dioxins a | nd Furans (HR | GC/HRMS) | | | | | | | |
| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | | 0.000011 | 0.0000015 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 2,3,7,8-TCDF | ND | | 0.000011 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,7,8-PeCDD | ND | | 0.000053 | 0.0000007 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,7,8-PeCDF | 0.00000092 | J,DX q | 0.000053 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 2,3,4,7,8-PeCDF | 0.00000082 | J,DX q | 0.000053 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.0000023 | J,DX MB | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000053 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.0000083 | J,DX q MB | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,4,7,8-HxCDF | 0.00000064 | J,DX q | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,6,7,8-HxCDF | 0.00000096 | J,DX q | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.0000022 | J,DX MB | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 2,3,4,6,7,8-HxCDF | 0.00000073 | J,DX q | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.0000013 | J,DX q MB | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.0000017 | J,DX q MB | 0.000053 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| 1,2,3,4,7,8,9-HpCDF | 0.0000017 | J,DX | 0.000053 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| OCDD | 0.0000086 | J,DX MB | 0.00011 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| OCDF | 0.0000037 | J,DX q MB | 0.00011 | 0.0000009 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| Total TCDD | ND | | 0.000011 | 0.0000015 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| Total TCDF | ND | | 0.000011 | 0.0000004 | | | | 04/29/20 15:44 | 1 |
| Total PeCDD | ND | | 0.000053 | 0.0000007 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |
| Total PeCDF | 0.0000017 | J,DX q | 0.000053 | 3 0.0000004 5 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | 1 |

Eurofins Calscience Irvine

Page 6 of 34 4/30/2020

Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp Lab Sample ID: 440-264783-1

Date Collected: 04/15/20 09:10 Lab Sample 15: 440-2547 63-1

Date Collected: 04/15/20 09:10 Matrix: Wate Date Received: 04/16/20 15:30

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fa |
|---|--|---------------------------------------|--|---|--|----------|--|---|--------|
| Total HxCDD | 0.0000031 | J,DX q MB | 0.000053 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | |
| Total HxCDF | 0.0000045 | J,DX q MB | 0.000053 | 7 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | |
| Fotal HpCDD | 0.0000022 | J,DX q MB | 0.000053 | 1 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | |
| | | | | 7 | | | 04/07/00 00 00 | 0.4/00/00 45.44 | |
| Total HpCDF | 0.0000033 | J,DX q MB | 0.000053 | 0.0000004 0 | ug/L | | 04/27/20 08:23 | 04/29/20 15:44 | |
| sotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 13C-2,3,7,8-TCDD | 58 | · | 25 - 164 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-2,3,7,8-TCDF | 65 | | 24 - 169 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-1,2,3,7,8-PeCDD | 53 | | 25 - 181 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-1,2,3,7,8-PeCDF | 57 | | 24 - 185 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-2,3,4,7,8-PeCDF | 64 | | 21 - 178 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-1,2,3,4,7,8-HxCDD | 62 | | 32 - 141 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-1,2,3,6,7,8-HxCDD | 55 | | 28 - 130 | | | | | 04/29/20 15:44 | |
| 13C-1,2,3,4,7,8-HxCDF | 63 | | 26 - 152 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-1,2,3,6,7,8-HxCDF | 56 | | 26 - 123 | | | | 04/27/20 08:23 | 04/29/20 15:44 | |
| 13C-1,2,3,7,8,9-HxCDF | 64 | | 29 - 147 | | | | | 04/29/20 15:44 | |
| 13C-2,3,4,6,7,8-HxCDF | 61 | | 28 - 136 | | | | | 04/29/20 15:44 | |
| 13C-1,2,3,4,6,7,8-HpCDD | 65 | | 23 - 140 | | | | | 04/29/20 15:44 | |
| 13C-1,2,3,4,6,7,8-HpCDF | 62 | | 28 - 143 | | | | | 04/29/20 15:44 | |
| 13C-1,2,3,4,7,8,9-HpCDF | 74 | | 26 - 138 | | | | | 04/29/20 15:44 | |
| 13C-OCDD | 68 | | 17 ₋ 157 | | | | | 04/29/20 15:44 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| • | | | 05 407 | | | | 04/27/20 08:23 | - | |
| 37CI4-2,3,7,8-TCDD | 04 | | 35 - 197 | | | | 04/21/20 00.23 | 04/29/20 13.44 | |
| | | | | | | | 04/21/20 00.23 | 04/29/20 15.44 | |
| Method: 200.7 Rev 4.4 - M | letals (ICP) - Tot | | able | MDI | Unit | n | | | Dil Es |
| Method: 200.7 Rev 4.4 - M Analyte | letals (ICP) - Tot Result | tal Recover | able RL | | Unit | D_ | Prepared | Analyzed | Dil Fa |
| Method: 200.7 Rev 4.4 - M Analyte Nickel | letals (ICP) - Tot Result | | able RL | 5.0 | ug/L | <u>D</u> | Prepared 04/17/20 09:12 | Analyzed 04/20/20 13:15 | Dil Fa |
| Method: 200.7 Rev 4.4 - M Analyte Nickel | letals (ICP) - Tot Result | | able RL | 5.0 | | <u>D</u> | Prepared 04/17/20 09:12 | Analyzed | Dil Fa |
| Method: 200.7 Rev 4.4 - M Analyte Nickel Zinc Method: 200.8 - Metals (IC | letals (ICP) - Total Result | Qualifier ecoverable | able RL 10 20 | 5.0 12 | ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 | Analyzed 04/20/20 13:15 04/20/20 13:15 | |
| Method: 200.7 Rev 4.4 - M Analyte Nickel Zinc Method: 200.8 - Metals (IC Analyte | letals (ICP) - Total R Result ND ND CP/MS) - Total R Result | Qualifier | able RL 10 20 RL | 5.0 12 MDL | ug/L ug/L Unit | D | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed | |
| Method: 200.7 Rev 4.4 - M Analyte Nickel Zinc Method: 200.8 - Metals (IC Analyte Silver | letals (ICP) - Total R Result ND ND CP/MS) - Total R Result ND | Qualifier ecoverable | ### RL 1.0 | 5.0 12 MDL 0.50 | ug/L ug/L Unit ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium | letals (ICP) - Total R Result ND ND CP/MS) - Total R Result | Qualifier ecoverable | RL 10 20 RL 1.0 1.0 | 5.0 12 MDL 0.50 0.25 | ug/L ug/L Unit ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - M Analyte Nickel Zinc Method: 200.8 - Metals (IC Analyte Silver Cadmium Copper | letals (ICP) - Total R Result ND ND CP/MS) - Total R Result ND | Qualifier ecoverable | RL 10 20 RL 1.0 1.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 | ug/L ug/L Unit ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Method: (ICA) Method: 200.8 - Metals (ICA) Analyte Silver Cadmium Copper | CP/MS) - Total R Result ND ND CP/MS) - Total R Result ND ND ND ND ND | Qualifier ecoverable | RL 1.0 1.0 2.0 1.0 | 5.0 12 MDL 0.50 0.25 0.50 | ug/L ug/L Unit ug/L ug/L ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICA) Method: 200.8 - Metals (ICA) Analyte Silver Cadmium Copper Lead | CP/MS) - Total R Result ND ND Result ND ND ND ND ND ND ND 2.0 | Qualifier ecoverable | RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony | P/MS) - Total R Result ND ND SP/MS) - Total R Result ND ND ND ND ND ND ND ND ND | Qualifier ecoverable | RL 1.0 1.0 2.0 1.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium | P/MS) - Total R Result ND ND SP/MS) - Total R Result ND ND ND ND ND ND ND ND ND | Qualifier ecoverable Qualifier | RL 10 20 RL 1.0 1.0 2.0 1.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium | P/MS) - Total R Result ND ND P/MS) - Total R Result ND | Qualifier ecoverable Qualifier | RL 1.0 1.0 2.0 1.0 2.0 2.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (| Petals (ICP) - Total Result ND ND CP/MS) - Total R Result ND ND ND ND 0.57 ND CVAA) | Qualifier ecoverable Qualifier | RL 1.0 1.0 2.0 1.0 2.0 2.0 2.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 | Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | Dil Fa |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte | Petals (ICP) - Total Result ND ND CP/MS) - Total R Result ND ND ND ND 0.57 ND CVAA) | Qualifier ecoverable Qualifier J,DX | RL 1.0 1.0 2.0 1.0 2.0 1.0 2.0 1.0 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.20 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | Dil F |
| Method: 200.7 Rev 4.4 - Method: 200.7 Rev 4.4 - Method: Nickel Zinc Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte Mercury General Chemistry | Result ND ND CP/MS) - Total R Result ND ND ND ND ND ND ND 0.57 ND CVAA) Result | Qualifier ecoverable Qualifier J,DX | RL 1.0 1.0 2.0 1.0 2.0 1.0 RL | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.20 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | Dil Fa |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte Mercury General Chemistry | Result ND ND | ecoverable Qualifier J,DX Qualifier | RL 1.0 2.0 1.0 2.0 1.0 2.0 1.0 2.0 1.0 2.0 2.0 1.0 2.0 1.0 RL 0.20 | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.20 MDL 0.10 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | D | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 Prepared 04/17/20 12:17 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | Dil Fa |
| Method: 200.7 Rev 4.4 - Method: 200.8 - Metals (ICAnalyte Silver Cadmium Copper Lead Antimony Selenium Thallium Method: 245.1 - Mercury (Analyte | Result ND ND | Qualifier ecoverable Qualifier J,DX | RL 1.0 1.0 2.0 1.0 2.0 1.0 RL | 5.0 12 MDL 0.50 0.25 0.50 0.50 0.50 0.50 0.10 MDL 0.10 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L | <u>D</u> | Prepared 04/17/20 09:12 04/17/20 09:12 Prepared 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 04/17/20 10:39 | Analyzed 04/20/20 13:15 04/20/20 13:15 Analyzed 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 04/17/20 17:45 | Dil Fa |

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4/30/2020

Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp

Date Collected: 04/15/20 09:10 Date Received: 04/16/20 15:30

Lab Sample ID: 440-264783-1

Matrix: Water

| General Chemistry (Continued) | | | | | | | | | |
|-------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cyanide, Total | ND | | 5.0 | 2.5 | ug/L | | 04/20/20 13:00 | 04/20/20 15:25 | 1 |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | | | 04/20/20 16:12 | 1 |

Lab Sample ID: 440-264783-2 Client Sample ID: Outfall008_20200415_Comp_F **Matrix: Water**

Date Collected: 04/15/20 09:10 Date Received: 04/16/20 15:30

| Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved | | | | | | | | |
|--|------------------|----|-------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL U | Jnit | D | Prepared | Analyzed | Dil Fac |
| Nickel | 8.9 J,DX | 10 | 5.0 u | ıg/L | | 04/17/20 12:54 | 04/17/20 14:30 | 1 |
| Zinc | ND | 20 | 12 u | ıg/L | | 04/17/20 12:54 | 04/17/20 14:30 | 1 |

| Method: 200.8 - Metals | s (ICP/MS) - Dissolved | | | | | | |
|------------------------|------------------------|-----|---------|-------|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL U | nit D | Prepared | Analyzed | Dil Fac |
| Silver | ND | 1.0 | 0.50 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |
| Cadmium | ND | 1.0 | 0.25 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |
| Copper | 1.3 J,DX | 2.0 | 0.50 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |
| Lead | ND | 1.0 | 0.50 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |
| Antimony | ND | 2.0 | 0.50 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |
| Selenium | 0.79 J,DX | 2.0 | 0.50 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |
| Thallium | ND | 1.0 | 0.20 ug | g/L | 04/17/20 12:50 | 04/17/20 19:29 | 1 |

| Method: 245.1 - Mercury (CVAA) - Dissolved | | | | | | | | | |
|--|------------------|------|------|------|---|----|---------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | | Prepared | Analyzed | Dil Fac |
| Mercury | ND | 0.20 | 0.10 | ug/L | | 04 | 1/17/20 12:12 | 04/20/20 12:57 | 1 |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method **Method Description** Protocol Laboratory MCAWW 300.0 Anions, Ion Chromatography **TAL IRV** Perchlorate (IC) **EPA** TAL IRV 314.0 NO3NO2 Calc Nitrogen, Nitrate-Nitrite **EPA** TAL IRV 1613B Dioxins and Furans (HRGC/HRMS) EPA TAL SAC 200.7 Rev 4.4 Metals (ICP) **EPA** TAL IRV Metals (ICP/MS) 200.8 **EPA** TAL IRV 245.1 Mercury (CVAA) EPA TAL IRV Solids, Total Dissolved (TDS) SM 2540C SM TAL IRV SM 2540D Solids, Total Suspended (TSS) SM TAL IRV Cyanide, Total (Low Level) SM 4500 CN E SM TAL IRV SM 4500 NH3 G Ammonia SM TAL IRV 1613B Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans **EPA** TAL SAC 200.2 Preparation, Total Recoverable Metals EPA TAL IRV 245.1 Preparation, Mercury **EPA** TAL IRV Distill/CN Distillation, Cyanide TAL IRV None **FILTRATION** Sample Filtration TAL IRV None

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:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Job ID: 440-264783-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp

Lab Sample ID: 440-264783-1 Date Collected: 04/15/20 09:10 **Matrix: Water**

Date Received: 04/16/20 15:30

| 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 | | 1 | | | 605249 | 04/16/20 18:12 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | | | 605250 | 04/16/20 18:12 | NTN | TAL IRV |
| Total/NA | Analysis | 314.0 | | 1 | | | 606043 | 04/22/20 14:12 | PS | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 605480 | 04/17/20 09:55 | TLN | TAL IRV |
| Total/NA Total/NA | Prep Analysis | 1613B 1613B | | 1 | 935.1 mL | 20 uL | 374911 375533 | 04/27/20 08:23 04/29/20 15:44 | | TAL SAC TAL SAC |
| Total Recoverable Total Recoverable | Prep Analysis | 200.2 200.7 Rev 4.4 | | 1 | 25 mL | 25 mL | 605401 605713 | 04/17/20 09:12 04/20/20 13:15 | M1G TQN | TAL IRV TAL IRV |
| Total Recoverable Total Recoverable | Prep Analysis | 200.2 200.8 | | 1 | 25 mL | 25 mL | 605490 605555 | 04/17/20 10:39 04/17/20 17:45 | | TAL IRV TAL IRV |
| Total/NA Total/NA | Prep Analysis | 245.1 245.1 | | 1 | 20 mL | 20 mL | 605511 605746 | 04/17/20 12:17 04/20/20 15:36 | MEM EMS | TAL IRV TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 606054 | 04/22/20 09:37 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 605924 | 04/21/20 14:06 | HTL | TAL IRV |
| Total/NA Total/NA | Prep Analysis | Distill/CN SM 4500 CN E | | 1 | 50 mL | 50 mL | 605708 605732 | 04/20/20 13:00 04/20/20 15:25 | KMY KMY | TAL IRV TAL IRV |
| Total/NA | Analysis | SM 4500 NH3 G | | 1 | 0.8 mL | 8.0 mL | 605752 | 04/20/20 16:12 | KMY | TAL IRV |

Client Sample ID: Outfall008_20200415_Comp_F

Date Collected: 04/15/20 09:10

Date Received: 04/16/20 15:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 605412 | 04/16/20 18:36 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 605515 | 04/17/20 12:54 | M1G | TAL IRV |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 605530 | 04/17/20 14:30 | P1R | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 605412 | 04/16/20 18:36 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 605514 | 04/17/20 12:50 | M1G | TAL IRV |
| Dissolved | Analysis | 200.8 | | 1 | | | 605691 | 04/17/20 19:29 | MQP | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 605412 | 04/16/20 18:36 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 605507 | 04/17/20 12:12 | MEM | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 605723 | 04/20/20 12:57 | EMS | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Matrix: Water

Lab Sample ID: 440-264783-2

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-605249/6

Matrix: Water

Analysis Batch: 605249

Client Sample ID: Method Blank

Prep Type: Total/NA

| | INIB | MR | | | | | | | |
|--------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nitrate as N | ND | | 0.11 | 0.055 | mg/L | | | 04/16/20 06:06 | 1 |
| Nitrite as N | ND | | 0.15 | 0.025 | mg/L | | | 04/16/20 06:06 | 1 |

LCS LCS

1.18

1.56

Spike

Added

1.13

1.52

Lab Sample ID: LCS 440-605249/5

Matrix: Water

Analyte

Nitrate as N

Nitrite as N

Analysis Batch: 605249

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

%Rec.

Result Qualifier Unit D %Rec Limits 105 90 - 110 mg/L mg/L 103 90 - 110

Lab Sample ID: 440-264783-1 MS

Matrix: Water

Analysis Batch: 605249

Client Sample ID: Outfall008_20200415_Comp

Prep Type: Total/NA

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|--------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nitrate as N | ND | | 1.13 | 1.15 | | mg/L | | 102 | 80 - 120 | |
| Nitrite as N | ND | | 1.52 | 1.48 | | mg/L | | 97 | 80 - 120 | |

Lab Sample ID: 440-264783-1 MSD

Matrix: Water

Analysis Batch: 605249

Client Sample ID: Outfall008_20200415_Comp Prep Type: Total/NA

| | Sample | Sample | Spike | MSD | MSD | | | %Rec. | | RPD |
|--------------|--------|-----------|-------|--------|-----------|------|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | %Rec | Limits | RPD | Limit |
| Nitrate as N | ND | | 1.13 | 1.14 | | mg/L | 101 | 80 - 120 | 1 | 20 |
| Nitrite as N | ND | | 1.52 | 1.48 | | mg/L | 97 | 80 - 120 | 0 | 20 |

Lab Sample ID: MB 440-605250/6

Matrix: Water

Analysis Batch: 605250

Client Sample ID: Method Blank

Prep Type: Total/NA

MB MB **MDL** Unit Analyte Result Qualifier RL **Prepared** Dil Fac Analyzed Chloride ND 0.50 0.25 mg/L 04/16/20 06:06 Sulfate ND 0.50 0.25 mg/L 04/16/20 06:06

Lab Sample ID: LCS 440-605250/5

Matrix: Water

Analysis Ratch: 605250

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

Client Sample ID: Outfall008_20200415_Comp

| Alialysis Datcii. 003230 | | | | | | | | |
|--------------------------|-------|--------|-----------|------|---|------|----------|--|
| - | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 5.00 | 4.95 | | mg/L | | 99 | 90 - 110 | |
| Sulfate | 5.00 | 5.22 | | ma/L | | 104 | 90 - 110 | |

Lab Sample ID: 440-264783-1 MS

Matrix: Water

Analysis Batch: 605250

| 7 , 0.0 | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 5.0 | | 5.00 | 10.2 | | mg/L | | 104 | 80 - 120 | |
| Sulfate | 5.0 | | 5.00 | 10.2 | | mg/L | | 103 | 80 - 120 | |

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Prep Type: Total/NA

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Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 440-264783-1 MSD Client Sample ID: Outfall008_20200415_Comp Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605250

| Analysis Daten. 000200 | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloride | 5.0 | | 5.00 | 10.2 | | mg/L | | 104 | 80 - 120 | 0 | 20 |
| Sulfate | 5.0 | | 5.00 | 10.2 | | mg/L | | 104 | 80 - 120 | 0 | 20 |

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-606043/6 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 606043

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Perchlorate 4.0 04/22/20 10:08 ND 0.95 ug/L

Lab Sample ID: LCS 440-606043/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 606043

LCS LCS Spike %Rec. Analyte Added Result Qualifier Limits Unit D %Rec Perchlorate 25.0 25.1 ug/L 100 85 - 115

Lab Sample ID: MRL 440-606043/4 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 606043

| | Spike | MRL | MRL | | | | %Rec. | |
|-------------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Perchlorate | 1.00 | 1.05 | J,DX | ug/L | | 105 | 75 - 125 | |

Client Sample ID: Lab Control Sample Lab Sample ID: MRL 440-606043/8 **Matrix: Water Prep Type: Total/NA**

Analysis Batch: 606043

| | Бріке | WIKL | WIKL | | | | %Rec. | |
|-------------|--------------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Perchlorate | 4.00 | 3.77 | J,DX | ug/L | | 94 | 75 - 125 | |

Lab Sample ID: 440-264783-1 MS Client Sample ID: Outfall008_20200415_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 606043

| Allalysis Datell. 000040 | | | | | | | | | | |
|--------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Perchlorate | ND | | 25.0 | 27.2 | | ua/L | | 109 | 80 - 120 | |

Lab Sample ID: 440-264783-1 MSD Client Sample ID: Outfall008_20200415_Comp Prep Type: Total/NA

Matrix: Water

Analysis Ratch: 606043

| Alialysis Dalcil. 000043 | | | | | | | | | | | |
|--------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Perchlorate | ND | | 25.0 | 28.2 | | ug/L | | 113 | 80 - 120 | 3 | 15 |

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QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

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

| Lab | Samp | le ID: | MB | 320- | 3749 <i>°</i> | 11/1-A |
|-----|------|--------|----|------|---------------|--------|
|-----|------|--------|----|------|---------------|--------|

Matrix: Water

13C-2,3,7,8-TCDD

13C-2,3,7,8-TCDF

13C-1,2,3,7,8-PeCDD

13C-1,2,3,7,8-PeCDF

13C-2,3,4,7,8-PeCDF

Analysis Batch: 375533

| Client | Sample | ID: | Metho | d Blan | k |
|--------|--------|------|-------|----------|---|
| | Pro | en 1 | vne: | Total/NA | Δ |

Prep Type: Total/NA Prep Batch: 374911

| Alialysis Batch. 37 3333 | МВ | МВ | | | | | | Frep Batch. | 374311 |
|--------------------------|------------|-----------|----------|---------------------|------|---|----------------|----------------|---------|
| Analyte | | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | | 0.000010 | 0.0000014 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 2,3,7,8-TCDF | ND | | 0.000010 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,7,8-PeCDD | ND | | 0.000050 | 8 0.0000007 1 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,7,8-PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.00000179 | J,DX q | 0.000050 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.00000110 | J,DX q | 0.000050 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,4,7,8-HxCDF | ND | | 0.000050 | 0.0000002 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000050 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.00000195 | J,DX | 0.000050 | 0.0000002 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000002 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000302 | J,DX | 0.000050 | 0.0000002 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000230 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| OCDD | 0.0000345 | J,DX | 0.00010 | 0.0000005 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| OCDF | 0.00000755 | J,DX | 0.00010 | 0.0000011 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total TCDD | ND | | 0.000010 | 0.0000014 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total TCDF | ND | | 0.000010 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total PeCDD | ND | | 0.000050 | 0.0000007 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total HxCDD | 0.00000289 | J,DX q | 0.000050 | 0.0000003 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total HxCDF | 0.00000195 | J,DX | 0.000050 | 0.0000002 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total HpCDD | 0.00000579 | J,DX | 0.000050 | 0.0000002 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| Total HpCDF | 0.00000372 | J,DX q | 0.000050 | 7 0.0000004 1 | ug/L | | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| | | MB | | ı | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |

 04/27/20 08:23
 04/29/20 14:08
 1

 04/27/20 08:23
 04/29/20 14:08
 1

04/27/20 08:23 04/29/20 14:08

04/27/20 08:23 04/29/20 14:08

04/27/20 08:23 04/29/20 14:08

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QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-1

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

MB MB

Lab Sample ID: MB 320-374911/1-A

Matrix: Water

Analysis Batch: 375533

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

Prep Batch: 374911

| | MB | MB | | | | |
|-------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 13C-1,2,3,4,7,8-HxCDD | 70 | | 32 - 141 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 62 | | 28 - 130 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 70 | | 26 - 152 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 64 | | 26 - 123 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 71 | | 29 - 147 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-2,3,4,6,7,8-HxCDF | 69 | | 28 - 136 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 70 | | 23 - 140 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 68 | | 28 - 143 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 78 | | 26 - 138 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| 13C-OCDD | 69 | | 17 - 157 | 04/27/20 08:23 | 04/29/20 14:08 | 1 |
| | | | | | | |

Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 37CI4-2,3,7,8-TCDD 67 35 - 197 04/27/20 08:23 04/29/20 14:08

LCS LCS

Lab Sample ID: LCS 320-374911/2-A

Matrix: Water

Analysis Batch: 375533

13C-1,2,3,7,8,9-HxCDF

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

Prep Batch: 374911 %Rec.

| Analyte | Added | Result | Qualifier Unit | D | %Rec | Limits |
|-----------------|----------|----------|----------------|---|------|----------|
| 2,3,7,8-TCDD | 0.000200 | 0.000244 | ug/L | | 122 | 67 - 158 |
| 2,3,7,8-TCDF | 0.000200 | 0.000287 | ug/L | | 143 | 75 - 158 |
| 1,2,3,7,8-PeCDD | 0.00100 | 0.00124 | ug/L | | 124 | 70 - 142 |
| 1,2,3,7,8-PeCDF | 0.00100 | 0.00130 | ug/L | | 130 | 80 - 134 |
| 2.2.4.7.0 DoCDE | 0.00100 | 0.00400 | // | | 100 | 60 460 |

Spike

68 - 160 2,3,4,7,8-PeCDF 0.00100 0.00122 ug/L 122 0.00100 0.00111 MB 70 - 164 1,2,3,4,7,8-HxCDD ug/L 111 1,2,3,6,7,8-HxCDD 0.00100 0.00122 ug/L 122 76 - 134 1,2,3,7,8,9-HxCDD 0.00117 MB 0.00100 ug/L 117 64 - 1621,2,3,4,7,8-HxCDF 0.00100 0.00117 ug/L 117 72 - 134 1,2,3,6,7,8-HxCDF ug/L 0.00100 0.00126 126 84 - 130 1,2,3,7,8,9-HxCDF 0.00100 0.00125 MB ug/L 125 78 - 130 0.00122 2,3,4,6,7,8-HxCDF 0.00100 ug/L 122 70 - 156 70 - 140 1,2,3,4,6,7,8-HpCDD 0.00100 0.00113 MB ug/L 113

116 82 - 122 1,2,3,4,6,7,8-HpCDF 0.00100 0.00116 MB ug/L 1,2,3,4,7,8,9-HpCDF 0.00100 0.00109 ug/L 109 78 - 138 OCDD 0.00200 0.00222 MB 111 78 - 144 ug/L OCDF 0.00200 0.00247 MB ug/L 123 63 - 170

| | LCS | LCS | |
|-----------------------|-----------|-----------|----------|
| Isotope Dilution | %Recovery | 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 | 57 | | 21 - 227 |
| 13C-1,2,3,7,8-PeCDF | 59 | | 21 - 192 |
| 13C-2,3,4,7,8-PeCDF | 66 | | 13 - 328 |
| 13C-1,2,3,4,7,8-HxCDD | 63 | | 21 - 193 |
| 13C-1,2,3,6,7,8-HxCDD | 56 | | 25 - 163 |
| 13C-1,2,3,4,7,8-HxCDF | 63 | | 19 - 202 |
| 13C-1,2,3,6,7,8-HxCDF | 58 | | 21 - 159 |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-1

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

Lab Sample ID: LCS 320-374911/2-A

Matrix: Water

Analysis Batch: 375533

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

Prep Batch: 374911

100 100

| | LUS | LUS | |
|-------------------------|-----------|-----------|----------|
| Isotope Dilution | %Recovery | Qualifier | Limits |
| 13C-2,3,4,6,7,8-HxCDF | 61 | | 22 - 176 |
| 13C-1,2,3,4,6,7,8-HpCDD | 64 | | 26 - 166 |
| 13C-1,2,3,4,6,7,8-HpCDF | 64 | | 21 - 158 |
| 13C-1,2,3,4,7,8,9-HpCDF | 71 | | 20 - 186 |
| 13C-OCDD | 66 | | 13 - 199 |
| | | | |

LCS LCS

Surrogate %Recovery Qualifier Limits 37CI4-2,3,7,8-TCDD 31 - 191

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-605401/1-A

Matrix: Water

Analysis Batch: 605713

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 605401

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Nickel ND 10 5.0 ug/L 04/17/20 09:12 04/20/20 12:41 Zinc ND 20 12 ug/L 04/17/20 09:12 04/20/20 12:41

Lab Sample ID: LCS 440-605401/2-A

Matrix: Water

Analyte Nickel Zinc

Analysis Batch: 605713

| | Spike | LCS | LCS | | | | Prep Ba %Rec. | atch: 60540 |)1 |
|---|-------|--------|-----------|------|---|------|------------------|-------------|----|
| | Added | Result | Qualifier | Unit | D | %Rec | Limits | | |
| - | 500 | 499 | | ug/L | | 100 | 85 - 115 | | _ |
| | 500 | 408 | | ua/l | | 100 | 85 115 | | |

Lab Sample ID: 440-264787-I-7-B MS

Matrix: Water

| Analysis Batch: 605624 | | | | | | | | | Prep Ba | tch: 605401 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-------------|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nickel | 130 | | 500 | 601 | | ug/L | | 94 | 70 - 130 | |
| Zinc | 4900 | | 500 | 5180 | BB | ua/L | | 46 | 70 - 130 | |

Lab Sample ID: 440-264787-I-7-C MSD

| Matrix: Water | | | | | | | P | rep Ty | pe: Total I | Recove | erable | |
|------------------------|--------|-----------|-------|--------|-----------|------|---|--------|-------------|----------|--------|--|
| Analysis Batch: 605624 | | | | | | | | | Prep Ba | itch: 60 | 05401 | |
| _ | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | |
| Nickel | 130 | | 500 | 618 | | ug/L | | 97 | 70 - 130 | 3 | 20 | |
| Zinc | 4900 | | 500 | 5390 | BB | ua/L | | 89 | 70 - 130 | 4 | 20 | |

Lab Sample ID: MB 440-605412/1-D

Matrix: Water

Analysis Batch: 605530

Client Sample ID: Method Blank Prep Type: Dissolved Prep Batch: 605515

Client Sample ID: Matrix Spike Duplicate

| | IVID | IVID | | | | | | | |
|---------|--------|-----------|----|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND | | 10 | 5.0 | ug/L | | 04/17/20 12:54 | 04/17/20 14:18 | 1 |
| Zinc | ND | | 20 | 12 | ug/L | | 04/17/20 12:54 | 04/17/20 14:18 | 1 |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCS 440-605412/2-D

Matrix: Water

Analysis Batch: 605530

| Client Sample ID: Lab Control Sample |
|--------------------------------------|
| Prep Type: Dissolved |
| Prep Batch: 605515 |

| | Spike | LCS | LCS | | | | %Rec. | |
|---------|-------|--------|-----------|------|---|------|----------|---|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nickel | 500 | 500 | | ug/L | | 100 | 85 - 115 | _ |
| Zinc | 500 | 495 | | ug/L | | 99 | 85 - 115 | |

Lab Sample ID: 440-264701-D-1-C MS Client Sample ID: Matrix Spike **Matrix: Water Prep Type: Dissolved**

| Analysis Batch: 605530 | | | | | | | | | | itch: 605515 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--------------|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nickel | ND | | 500 | 479 | | ug/L | | 96 | 70 - 130 | |
| Zinc | 67 | | 500 | 557 | | ug/L | | 98 | 70 - 130 | |

Lab Sample ID: 440-264701-D-1-D MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water Prep Type: Dissolved**

| Analysis Batch: 605530 | | | | | | | | | Prep Ba | ıtch: 60 | <i>)</i> 5515 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|----------|---------------|
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Nickel | ND | | 500 | 481 | | ug/L | | 96 | 70 - 130 | 0 | 20 |
| Zinc | 67 | | 500 | 559 | | ug/L | | 98 | 70 - 130 | 0 | 20 |
| — | | | | | | | | | | | |

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-605490/1-A

Matrix: Water

Analysis Batch: 605555

| Client Sa | ample ID: Method Blank |
|-----------|------------------------|
| | ype: Total Recoverable |
| | Prep Batch: 605490 |

| | МВ | МВ | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/17/20 10:39 | 04/17/20 16:56 | 1 |

Lab Sample ID: LCS 440-605490/2-A

Matrix: Water

Analysis Batch: 605555

| Client Sample ID: Lab Control Sample |
|--------------------------------------|
| Prep Type: Total Recoverable |
| Prep Batch: 605490 |

| | | Spike | LCS | LCS | | | | %Rec. | |
|---|----------|-------|--------|-----------|------|---|------|----------|--|
| | Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| | Silver | 80.0 | 79.1 | | ug/L | | 99 | 85 - 115 | |
| | Cadmium | 80.0 | 78.4 | | ug/L | | 98 | 85 - 115 | |
| | Copper | 80.0 | 78.2 | | ug/L | | 98 | 85 - 115 | |
| ı | Lead | 80.0 | 78.0 | | ug/L | | 97 | 85 - 115 | |
| | Antimony | 80.0 | 85.7 | | ug/L | | 107 | 85 - 115 | |
| | Selenium | 80.0 | 78.4 | | ug/L | | 98 | 85 - 115 | |
| | Thallium | 80.0 | 77.0 | | ug/L | | 96 | 85 - 115 | |

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Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

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

Lab Sample ID: 440-264809-A-11-B MS

Matrix: Water

Analysis Batch: 605555

Client Sample ID: Matrix Spike Prep Type: Total Recoverable

Prep Batch: 605490

| | Sample | Sample | Spike | MS | MS | | | | %Rec. |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cadmium | ND | | 80.0 | 77.6 | | ug/L | | 97 | 70 - 130 |
| Copper | 1300 | | 80.0 | 1350 | BB | ug/L | | 55 | 70 - 130 |
| Lead | 0.89 | J,DX | 80.0 | 77.5 | | ug/L | | 96 | 70 - 130 |
| Antimony | 0.71 | J,DX | 80.0 | 88.2 | | ug/L | | 109 | 70 - 130 |
| Selenium | 0.87 | J,DX | 80.0 | 78.8 | | ug/L | | 97 | 70 - 130 |
| Thallium | ND | | 80.0 | 75.8 | | ug/L | | 95 | 70 - 130 |

Lab Sample ID: 440-264809-A-11-C MSD

Matrix: Water

Analysis Batch: 605555

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

Prep Batch: 605490

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Result Qualifier Limits RPD Limit Analyte Added Unit D %Rec 80.0 3 20 Cadmium ND 75.3 ug/L 94 70 - 130 ug/L Copper 1300 80.0 1310 BB 70 - 130 20 -3 3 Lead 0.89 J,DX 80.0 75.9 ug/L 94 70 - 130 2 20 Antimony 0.71 J.DX 80.0 85.8 ug/L 106 70 - 130 3 20 Selenium 0.87 J,DX 80.0 76.7 95 3 20 ug/L 70 - 130 Thallium 80.0 70 - 130 ND 73.4 ug/L 92 20

Lab Sample ID: MB 440-605412/1-C

Matrix: Water

Analysis Batch: 605691

Client Sample ID: Method Blank Prep Type: Dissolved Prep Batch: 605514

| | MB I | MB | | | | | | | |
|----------|----------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/17/20 12:50 | 04/17/20 19:25 | 1 |

Lab Sample ID: LCS 440-605412/2-C

Matrix: Water

Analysis Batch: 605691

Client Sample ID: Lab Control Sample Prep Type: Dissolved

Prep Batch: 605514

| | Spike | LCS | LCS | | | | %Rec. |
|----------|-------|--------|-----------|------|---|------|---------------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Silver | 80.0 | 79.9 | | ug/L | | 100 | 85 - 115 |
| Cadmium | 80.0 | 78.2 | | ug/L | | 98 | 85 - 115 |
| Copper | 80.0 | 76.6 | | ug/L | | 96 | 85 - 115 |
| Lead | 80.0 | 77.6 | | ug/L | | 97 | 85 - 115 |
| Antimony | 80.0 | 86.2 | | ug/L | | 108 | 85 - 115 |
| Selenium | 80.0 | 78.1 | | ug/L | | 98 | 85 - 115 |
| Thallium | 80.0 | 76.8 | | ug/L | | 96 | 85 ₋ 115 |

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Job ID: 440-264783-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

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

Lab Sample ID: 440-264783-2 MS Client Sample ID: Outfall008_20200415_Comp_F

Matrix: Water

Prep Type: Dissolved Analysis Batch: 605691 **Prep Batch: 605514**

| 7 maryono Zatom cocco : | Sample | Sample | Spike | MS | MS | | | | %Rec. |
|-------------------------|--------|-----------|-------|--------|-----------|------|---|------|---------------------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Silver | ND | | 80.0 | 78.9 | | ug/L | | 99 | 70 - 130 |
| Cadmium | ND | | 80.0 | 78.1 | | ug/L | | 98 | 70 - 130 |
| Copper | 1.3 | J,DX | 80.0 | 78.3 | | ug/L | | 96 | 70 - 130 |
| Lead | ND | | 80.0 | 77.4 | | ug/L | | 97 | 70 - 130 |
| Antimony | ND | | 80.0 | 86.7 | | ug/L | | 108 | 70 - 130 |
| Selenium | 0.79 | J,DX | 80.0 | 77.5 | | ug/L | | 96 | 70 - 130 |
| Thallium | ND | | 80.0 | 77.1 | | ug/L | | 96 | 70 ₋ 130 |

Lab Sample ID: 440-264783-2 MSD Client Sample ID: Outfall008_20200415_Comp_F

Matrix: Water

Prep Type: Dissolved

Prep Batch: 605514 **Analysis Batch: 605691** MSD MSD **RPD** Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit Limits RPD Limit %Rec Silver ND 80.0 78.2 ug/L 98 70 - 130 20 Cadmium ND 80.0 76.6 ug/L 96 70 - 1302 20 Copper 1.3 J.DX 80.0 77.5 ug/L 95 70 - 13020 ND 80.0 76.4 96 20 Lead ug/L 70 - 130 Antimony ND 80.0 85.5 ug/L 107 70 - 130 20 80.0 76.4 20 Selenium 0.79 J,DX ug/L 95 70 - 130 ND 80.0 76.5 96 20 Thallium ug/L 70 - 130

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-605511/1-A **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605746

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac

0.20 0.10 ug/L 04/17/20 12:17 04/20/20 14:46 Mercury

Lab Sample ID: LCS 440-605511/2-A **Matrix: Water**

Analysis Batch: 605746

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits

Mercury 4.00 3.60 ug/L 85 - 115

Lab Sample ID: 440-264786-U-1-D MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605746 **Prep Batch: 605511** Spike MS MS %Rec. Sample Sample

Result Qualifier Added Analyte Result Qualifier Unit D %Rec Limits ND 4.00 ug/L 75 - 125 Mercury 3.40 85

Lab Sample ID: 440-264786-U-1-E MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605746 Prep Batch: 605511 Sample Sample Spike MSD MSD %Rec. **RPD**

Analyte Result Qualifier Added Result Qualifier Unit Limits RPD Limit D %Rec ND 4.00 89 75 - 125 Mercury 3.56 ug/L

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Prep Batch: 605511

Prep Type: Total/NA **Prep Batch: 605511**

Client Sample ID: Lab Control Sample

Job ID: 440-264783-1

Client Sample ID: Method Blank

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-605412/1-B

Matrix: Water

Analyte

Mercury

Analyte

Mercury

Analyte

Mercury

Mercury

Analysis Batch: 605723

MB MB

Result Qualifier ND

RL 0.20

MDL Unit 0.10 ug/L

Prepared 04/17/20 12:12 04/20/20 12:53

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Type: Dissolved

Prep Type: Dissolved

Prep Batch: 605507

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 605507

Prep Batch: 605507

Analyzed Dil Fac

Prep Type: Dissolved

Prep Batch: 605507

Lab Sample ID: LCS 440-605412/2-B

Matrix: Water

Analysis Batch: 605723

Spike Added 4.00

Result Qualifier 3.96

LCS LCS

Unit D %Rec ug/L

Limits 99

Client Sample ID: Outfall008 20200415 Comp F

Client Sample ID: Outfall008_20200415_Comp_F

85 - 115

%Rec.

Lab Sample ID: 440-264783-2 MS

Matrix: Water

Analysis Batch: 605723

Sample Sample Result Qualifier ND

Spike Added 4.00

MS MS Result Qualifier 3.86

MSD MSD

Unit ug/L

D %Rec 96

%Rec. Limits 75 - 125

%Rec.

Lab Sample ID: 440-264783-2 MSD

Matrix: Water

Analysis Batch: 605723

Analyte

 $\overline{\mathsf{ND}}$

Added Result Qualifier

4.00

Spike

3.88

Result Qualifier ug/L

D %Rec Unit 97

Limits **RPD** 75 - 125

RPD

Limit

20

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

Lab Sample ID: MB 440-606054/1

Matrix: Water

Analysis Batch: 606054

MB MB

Sample Sample

Analyte **Total Dissolved Solids**

Result Qualifier $\overline{\mathsf{ND}}$

RI 10

Spike

Added

1000

MDI Unit 5.0 mg/L

LCS LCS

982

Result Qualifier

Unit

mg/L

mg/L

Prepared Analyzed 04/22/20 09:37

%Rec.

Limits

90 - 110

Client Sample ID: Duplicate

Client Sample ID: Lab Control Sample

%Rec

Client Sample ID: Method Blank

Dil Fac

Lab Sample ID: LCS 440-606054/2

Matrix: Water

Analysis Batch: 606054

Analyte Total Dissolved Solids

Lab Sample ID: 720-98193-F-10 DU

Matrix: Water

Analysis Batch: 606054

Sample Sample **Total Dissolved Solids** 1400

Result Qualifier

DU DU 1440

Result Qualifier Unit

RPD

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RPD

Limit

Job ID: 440-264783-1

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 605708

Prep Type: Total/NA

Prep Batch: 605708

102

85 - 115

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

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

Lab Sample ID: LCS 440-605924/2 Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 605924 Spike LCS LCS %Rec. Added Result Qualifier %Rec Limits Analyte Unit

1000

Lab Sample ID: 320-60254-B-2 DU **Client Sample ID: Duplicate**

1020

mg/L

Matrix: Water

Total Suspended Solids

Analysis Batch: 605924

RPD DU DU Sample Sample Result Qualifier Analyte Result Qualifier Unit D RPD Limit **Total Suspended Solids** 45 40.7 mg/L 9

Method: SM 2540D - Solids, Total Suspended (TSS) - DL6

Lab Sample ID: MB 440-605924/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605924

MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Total Suspended Solids - DL6 $\overline{\mathsf{ND}}$ 1.0 0.50 mg/L 04/21/20 14:06

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

Lab Sample ID: MB 440-605708/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 605732

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 5.0 04/20/20 13:00 04/20/20 15:25 Cyanide, Total $\overline{\mathsf{ND}}$ 2.5 ug/L

Lab Sample ID: LCS 440-605708/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 605732

Spike LCS LCS %Rec. Added Result Qualifier Analyte Unit %Rec Limits D

Cyanide, Total 100 80 - 120 98.8 ug/L 99

Lab Sample ID: LCSD 440-605708/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605732

Prep Batch: 605708 Spike LCSD LCSD %Rec. **RPD** Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit

Cyanide, Total 100 99.8 ug/L 100 80 - 120

Client Sample ID: Outfall008_20200415_Comp Lab Sample ID: 440-264783-1 MS

Matrix: Water Prep Type: Total/NA **Analysis Batch: 605732 Prep Batch: 605708**

Sample Sample Spike MS MS %Rec.

Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits ND 100 Cyanide, Total 95.8 ua/L 75 - 125

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

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

| Lab Sample ID: 440-26478 | Client Sample ID: Outfall008_20200415_Comp | | | | | | | | | | |
|--------------------------|--|-----------|-------|--------|-----------|------|---|------|---------|----------|--------------|
| Matrix: Water | | | | | | | | | Prep Ty | pe: Tot | al/NA |
| Analysis Batch: 605732 | | | | | | | | | Prep Ba | itch: 60 |)5708 |
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cyanide Total | ND | | 100 | 90.5 | | ua/l | | 100 | 75 125 | | 20 |

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MRL 440-605752/9

Lab Sample ID: 440-264517-F-1 MS

| Lab Sample ID: MB 440-605752/10 Matrix: Water Analysis Batch: 605752 | | | | | | | Client Sam | ple ID: Method Prep Type: To | |
|--|--------|-----------|-------|-------|------|---|------------|---------------------------------|---------|
| | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | | | 04/20/20 13:20 | 1 |

| Lab Sample ID: LCS 440-605752/11 Matrix: Water Analysis Batch: 605752 | | | | Clie | ent Sar | mple ID | : Lab Control Sample Prep Type: Total/NA |
|---|-------|--------|-----------|------|---------|---------|---|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Ammonia (as N) | 5.00 | 4.980 | | mg/L | | 100 | 90 - 110 |

| Matrix: water | | | | | | | | Prep Typ | e: Total/N | 1/ |
|------------------------|------|-------|--------|-----------|------|---|------|----------|------------|----|
| Analysis Batch: 605752 | | | | | | | | | | |
| | | Spike | MRL | MRL | | | | %Rec. | | |
| Analyte | | Added | Result | Qualifier | Unit | D | %Rec | Limits | | |
| Ammonia (as N) | | 0.200 | 0.1720 | J,DX | mg/L | | 86 | 50 - 150 | | _ |

| Matrix: Water Analysis Batch: 605752 | | | | | | | | | Prep Type: Total/ | /NA |
|---|--------|-----------|-------|--------|-----------|------|---|------|-------------------|-----|
| , | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Ammonia (as N) | ND | | 5.00 | 5.270 | | mg/L | | 105 | 90 - 110 | |

| Lab Sample ID: 440-26451 Matrix: Water Analysis Batch: 605752 | 7-F-1 MSD | | | | | Client | Samp | le ID: N | latrix Spil Prep Ty | • | |
|---|-----------|-----------|-------|--------|-----------|--------|------|----------|------------------------|-----|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Ammonia (as N) | ND | | 5.00 | 5.450 | | mg/L | | 109 | 90 - 110 | 3 | 15 |

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

HPLC/IC

Analysis Batch: 605249

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 300.0 | |
| MB 440-605249/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-605249/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264783-1 MS | Outfall008_20200415_Comp | Total/NA | Water | 300.0 | |
| 440-264783-1 MSD | Outfall008_20200415_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 605250

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 300.0 | |
| MB 440-605250/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-605250/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264783-1 MS | Outfall008_20200415_Comp | Total/NA | Water | 300.0 | |
| 440-264783-1 MSD | Outfall008_20200415_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 605480

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | NO3NO2 Calc | |

Analysis Batch: 606043

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 314.0 | |
| MB 440-606043/6 | Method Blank | Total/NA | Water | 314.0 | |
| LCS 440-606043/5 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-606043/4 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-606043/8 | Lab Control Sample | Total/NA | Water | 314.0 | |
| 440-264783-1 MS | Outfall008_20200415_Comp | Total/NA | Water | 314.0 | |
| 440-264783-1 MSD | Outfall008_20200415_Comp | Total/NA | Water | 314.0 | |

Specialty Organics

Prep Batch: 374911

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 1613B | |
| MB 320-374911/1-A | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-374911/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 375533

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 1613B | 374911 |
| MB 320-374911/1-A | Method Blank | Total/NA | Water | 1613B | 374911 |
| LCS 320-374911/2-A | Lab Control Sample | Total/NA | Water | 1613B | 374911 |

Metals

Prep Batch: 605401

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605401/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605401/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264787-I-7-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264787-I-7-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

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Job ID: 440-264783-1

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8

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14

1 E

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Metals

Filtration Batch: 605412

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|------------|------------|
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-605412/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-605412/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-605412/1-D | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-605412/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-605412/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-605412/2-D | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264701-D-1-C MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264701-D-1-D MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |
| 440-264783-2 MS | Outfall008_20200415_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264783-2 MS | Outfall008_20200415_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264783-2 MSD | Outfall008_20200415_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264783-2 MSD | Outfall008_20200415_Comp_F | Dissolved | Water | FILTRATION | |

Prep Batch: 605490

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605490/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605490/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264809-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264809-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

Prep Batch: 605507

| Γ | A.I A | | | | |
|--------------------|----------------------------|-----------|--------|--------|------------|
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | 245.1 | 605412 |
| MB 440-605412/1-B | Method Blank | Dissolved | Water | 245.1 | 605412 |
| LCS 440-605412/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 605412 |
| 440-264783-2 MS | Outfall008_20200415_Comp_F | Dissolved | Water | 245.1 | 605412 |
| 440-264783-2 MSD | Outfall008 20200415 Comp F | Dissolved | Water | 245.1 | 605412 |

Prep Batch: 605511

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 245.1 | <u> </u> |
| MB 440-605511/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-605511/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |
| 440-264786-U-1-D MS | Matrix Spike | Total/NA | Water | 245.1 | |
| 440-264786-U-1-E MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | |

Prep Batch: 605514

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | 200.2 | 605412 |
| MB 440-605412/1-C | Method Blank | Dissolved | Water | 200.2 | 605412 |
| LCS 440-605412/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 605412 |
| 440-264783-2 MS | Outfall008_20200415_Comp_F | Dissolved | Water | 200.2 | 605412 |
| 440-264783-2 MSD | Outfall008_20200415_Comp_F | Dissolved | Water | 200.2 | 605412 |

Prep Batch: 605515

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|----------------------------|-----------|--------|--------|------------|
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | 200.2 | 605412 |
| MB 440-605412/1-D | Method Blank | Dissolved | Water | 200.2 | 605412 |

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Job ID: 440-264783-1

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Metals (Continued)

Prep Batch: 605515 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|--------|------------|
| LCS 440-605412/2-D | Lab Control Sample | Dissolved | Water | 200.2 | 605412 |
| 440-264701-D-1-C MS | Matrix Spike | Dissolved | Water | 200.2 | 605412 |
| 440-264701-D-1-D MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 605412 |

Analysis Batch: 605530

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|---------------|------------|
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 605515 |
| MB 440-605412/1-D | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 605515 |
| LCS 440-605412/2-D | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 605515 |
| 440-264701-D-1-C MS | Matrix Spike | Dissolved | Water | 200.7 Rev 4.4 | 605515 |
| 440-264701-D-1-D MSD | Matrix Spike Duplicate | Dissolved | Water | 200.7 Rev 4.4 | 605515 |

Analysis Batch: 605555

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total Recoverable | Water | 200.8 | 605490 |
| MB 440-605490/1-A | Method Blank | Total Recoverable | Water | 200.8 | 605490 |
| LCS 440-605490/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 605490 |
| 440-264809-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.8 | 605490 |
| 440-264809-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.8 | 605490 |

Analysis Batch: 605624

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-------------------|--------|---------------|------------|
| 440-264787-I-7-B MS | Matrix Spike | Total Recoverable | Water | 200.7 Rev 4.4 | 605401 |
| 440-264787-I-7-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.7 Rev 4.4 | 605401 |

Analysis Batch: 605691

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | 200.8 | 605514 |
| MB 440-605412/1-C | Method Blank | Dissolved | Water | 200.8 | 605514 |
| LCS 440-605412/2-C | Lab Control Sample | Dissolved | Water | 200.8 | 605514 |
| 440-264783-2 MS | Outfall008_20200415_Comp_F | Dissolved | Water | 200.8 | 605514 |
| 440-264783-2 MSD | Outfall008_20200415_Comp_F | Dissolved | Water | 200.8 | 605514 |

Analysis Batch: 605713

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 605401 |
| MB 440-605401/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 605401 |
| LCS 440-605401/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 605401 |

Analysis Batch: 605723

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264783-2 | Outfall008_20200415_Comp_F | Dissolved | Water | 245.1 | 605507 |
| MB 440-605412/1-B | Method Blank | Dissolved | Water | 245.1 | 605507 |
| LCS 440-605412/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 605507 |
| 440-264783-2 MS | Outfall008_20200415_Comp_F | Dissolved | Water | 245.1 | 605507 |
| 440-264783-2 MSD | Outfall008_20200415_Comp_F | Dissolved | Water | 245.1 | 605507 |

Analysis Batch: 605746

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | 245.1 | 605511 |
| MB 440-605511/1-A | Method Blank | Total/NA | Water | 245.1 | 605511 |

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Job ID: 440-264783-1

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Metals (Continued)

Analysis Batch: 605746 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|--------|------------|
| LCS 440-605511/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 605511 |
| 440-264786-U-1-D MS | Matrix Spike | Total/NA | Water | 245.1 | 605511 |
| 440-264786-U-1-E MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | 605511 |

General Chemistry

Prep Batch: 605708

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|------------|--------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | Distill/CN | _ |
| MB 440-605708/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-605708/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| LCSD 440-605708/3-A | Lab Control Sample Dup | Total/NA | Water | Distill/CN | |
| 440-264783-1 MS | Outfall008_20200415_Comp | Total/NA | Water | Distill/CN | |
| 440-264783-1 MSD | Outfall008_20200415_Comp | Total/NA | Water | Distill/CN | |

Analysis Batch: 605732

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | SM 4500 CN E | 605708 |
| MB 440-605708/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 605708 |
| LCS 440-605708/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 605708 |
| LCSD 440-605708/3-A | Lab Control Sample Dup | Total/NA | Water | SM 4500 CN E | 605708 |
| 440-264783-1 MS | Outfall008_20200415_Comp | Total/NA | Water | SM 4500 CN E | 605708 |
| 440-264783-1 MSD | Outfall008_20200415_Comp | Total/NA | Water | SM 4500 CN E | 605708 |

Analysis Batch: 605752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | SM 4500 NH3 G | |
| MB 440-605752/10 | Method Blank | Total/NA | Water | SM 4500 NH3 G | |
| LCS 440-605752/11 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| MRL 440-605752/9 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MS | Matrix Spike | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-F-1 MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 NH3 G | |

Analysis Batch: 605924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-----------|--------|----------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | SM 2540D | · ——— |
| MB 440-605924/1 - DL6 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-605924/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 320-60254-B-2 DU | Duplicate | Total/NA | Water | SM 2540D | |

Analysis Batch: 606054

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | SM 2540C | |
| MB 440-606054/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-606054/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 720-98193-F-10 DU | Duplicate | Total/NA | Water | SM 2540C | |

Job ID: 440-264783-1

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264783-1

Project/Site: Routine Outfall 008 Comp

Qualifiers

Qualifier Qualifier Description

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

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.

Metals

BB Sample > 4X spike concentration

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

General Chemistry

Qualifier Qualifier Description

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

Glossary

| Abbreviation | These commonly used | abbreviations may or ma | y not be present in this report. |
|--------------|---------------------|-------------------------|----------------------------------|
|--------------|---------------------|-------------------------|----------------------------------|

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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4/30/2020

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | Pro Sta | ogram ate | Identification Number 2706 | Expiration Date 06-30-20 |
|--|-------------|------------------------------|---|--|
| The following analytes the agency does not o | • | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method | Prep Method | Matrix | Analyte | |
| NO3NO2 Calc | | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-21 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-22 |
| Michigan | State | 9947 | 01-29-20 * |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Jersey | NELAP | CA005 | 06-30-20 |
| New York | NELAP | 11666 | 04-01-21 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-21 |
| Virginia | NELAP | 460278 | 03-14-21 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

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

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Eurofins Calscience Irvine

Untitlered and unpreserved analysis. Separate RAD onto another workorder. Analyse clubicate, not MSAMSD. Only lest if first or second rain events of the year Sample receiving DO NOT OPEN BAG Bag to opened in Mercury Prepusing clean procedures Filter and preserve win 24hrs of receipt at lab 10 Day Field Readings 48 hours Holding Time NO, & NO, Comments All Level IV. X o s Store samples for 6 months. Data Requirements (Check) 72 Hour Turn-ground time (Check) 5 Day Sample integrity (Check) 물 24 Hour 48 Hour No Level (V ((Q01/92WS) Z*091) SS ntact × Mercury (E245 1) 1530 CASUIGE (PM4P00-CM-F \ F33P S) Chronic Toxicity - Selenastum (EPA-821-R-02-013) 2011 - Liberto - Communication 4/10/20 アイ ANALYSIS REOL 3:00e Mpha(E900 0), Grace Beak(E900 0), Grace Beak(E900 0), K-40 Geolarin X26 (E904 0 of E903 0), K-40 Geolarin X28 (E904 0), S-40 Geolarin X28 (E90 Total Dissolved Metals (E200 7) Ni, Zn (E200 8) Ag, Cd, Cu, Pb, Sb, Se, Ti DE-(SWS240C/E180 1) , 4-16. ., SO4, Witnate-N, erchlorate (300) ИФФФ-И, ИОЗ÷ИО2-И, CDD (snd all congeners) (E1613B) Tobai Recoverable Metals. (E200 3) Mı, Zn (E200 8) Ag, Cd, Cd, Pb, Sb, Se, Ti Legend: EPTExpert Panel, R=Routine MS/MSD 4.3/4.5 0.7/6.8 ₽ £ 2 운 욷 £ ĝ 2 £ £ 운 ₽ 운 1 KC Project Manager Katherine Miller 520 289 8606, 520 904 6944 (cell) Field Manager Mark Dominick 978 234 5033, 818 599 0702 (cell) 5 8 35 8 8 22 230 8 350 5 8 8 霰 8 Project
Boeing-SSFL NPDES
Permit 2020
Routine Ouffail [008]
Ouffail 008 Preservetive **E** Š Š NaOH 5 2 6 6 7 <u>8</u>8 9 8 945 52 e S 90 9 インイン # of Conf. Comainer Type 1 L Glass Amber borosilicate viats 1 L Glass Amber 500 mL Poty 500 mil. Poly 500 mL Poly 500 mL Poly 1 L Glass Amber 500 mil. Poly 500 ml. Poly 25 Gal Cube 1 L POLY 1L Poly 14 027 Sample MM WW WW Š 3 × TestAmerica's services under the CoC shall be performed in accordance with the TRCs; within Blanker Service Agreements 2019-22-TestAmerica by and between Halry & Alchth, fno. 8s euberdantes and affactes, and TestAmerica Laboratories ŧ Š Š 3 Š ž Š 5 .202¢ 1090 0130 2 Company Sempling Date/Time 4/15/2020 4/15/2020 4/15/2020 10 ر. ای Eurofins Calscience irvne Contact Christian Bondoc 17461 Denian Ave Suite #100 Irvne CA 92614 Tel 949-280-3218 Ouffal008_20200415_Comp_Extra Outlast008_20200415_Comp Outhalloo8_20200415_Comp_F Semple ID Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Sampler Dan Smith Inquished By Semple Description Ouffail DOS Page 28 of 34

440-264783 Chain of Custody

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05/02/9-2020 Ratiny Season

CTASK

Date/Tig/10 - 430

Company

Date/Time:

Cooler Temperature(s) C and Other Remarks:

Received by: sceived by:

JA!

1200

17/20

inquished by:

quished by:

Date/Time:

Company Сотрапу

Phone: 949-261-1022 Fax: 949-260-3297

Eurofins Calscience Irvine

17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Calscience

© eurofins

Custody Seal No.

Custody Seals Intact.

quished by:

A Yes A No

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264783-1

Login Number: 264783 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante. Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264783-1

List Number: 264783 List Source: Eurofins TestAmerica, Sacramento
List Number: 2 List Creation: 04/18/20 11:21 AM

Creator: Guzman, Juan

| Creator. Guzinan, Juan | | |
|--|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | Seal present with no number. |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 3.3 |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | False | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

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

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
|-------------------|--------------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (25-164) | (24-169) | (25-181) | (24-185) | (21-178) | (32-141) | (28-130) | (26-152) |
| 440-264783-1 | Outfall008_20200415_Comp | 58 | 65 | 53 | 57 | 64 | 62 | 55 | 63 |
| MB 320-374911/1-A | Method Blank | 62 | 66 | 61 | 61 | 69 | 70 | 62 | 70 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264783-1 | Outfall008_20200415_Comp | 56 | 64 | 61 | 65 | 62 | 74 | 68 | |
| MB 320-374911/1-A | Method Blank | 64 | 71 | 69 | 70 | 68 | 78 | 69 | |

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

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|--------------------|--------------------|----------|----------|-------------|-------------|-------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (20-175) | (22-152) | (21-227) | (21-192) | (13-328) | (21-193) | (25-163) | (19-202) |
| LCS 320-374911/2-A | Lab Control Sample | 59 | 63 | 57 | 59 | 66 | 63 | 56 | 63 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-374911/2-A | Lab Control Sample | | 64 | 61 | 64 | 64 | 71 | 66 | |

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

Eurofins Calscience Irvine

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Job ID: 440-264783-1

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Routine Outfall 008 Comp
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Job ID: 440-264783-1

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Tracking #: 1540 - 4107 -8890

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other

Job:

File in the job folder with the COC. Therm. ID: Ak-12 Corr. Factor: (+/-) 0 °C Notes: Wet ____ Gel ____ Other ____ Cooler Custody Seal: Seal Cooler ID: Temp Observed: 3.2 °C Corrected: 3.3 °C From: Temp Blank D Sample D-Opening/Processing The Shipment Cooler compromised/tampered with? Cooler Temperature is acceptable? Samples received within holding time? Initials: 54 Date: 4/18/ Unpacking/Labeling The Samples NA CoC is complete w/o discrepancies? Samples compromised/tampered with? Sample containers have legible labels? Sample custody seal? Containers are not broken or leaking? Sample date/times are provided? Appropriate containers are used? D Sample bottles are completely filled? Sample preservatives verified? 4 Samples w/o discrepancies? 0 Zero headspace?* Alkalinity has no headspace? Perchlorate has headspace? **Login Completion** B (Methods 314, 331, 6850) Receipt Temperature on COC? Multiphasic samples are not present? 0 NCM Filed? *Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4") Log Release checked in TALS? Date: Initials: J & Date 1/18/20

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264783-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

11 June 2020









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- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264783-2

11 June 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264783-2

Project Manager: Katherine Miller

Matrix: Water QC Level: ||

No. of Samples: 1

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|--------------------|---|
| OUTFALL008_20200415 _COMP | 440-264783-1 | N | WM | 4/15/20 9:10 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, HASL-300 U Mod |

DATA VALIDATION REPORT SDG: 440-264783-2

11 June 2020



II. SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264783-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C. The sample was preserved by the laboratory upon receipt.
- The laboratories received the sample containers intact.
- Field and laboratory personnel signed and dated the COCs.
- Some corrections to the original COCs were not dated. The cross-outs did not affect data quality.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.

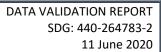




TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | Posson | | | | | | |
|--------|--|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



II. VARIOUS EPA METHODS — RADIONUCLIDES

E. Wessling of MEC^x reviewed the SDG on June 11, 2020

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and HASL-300 U Mod,* and the *National Functional Guidelines for Superfund Inorganic Method Data Review* (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved or preserved upon receipt at the laboratory and holding times were met.

III.2. CALIBRATION:

The detector efficiency for gross alpha and radium-226 was less than 20%; therefore, the results for gross alpha and radium-226 were qualified as estimated nondetects (UJ). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits. Calibration checks were verified as acceptable for all methods.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 5% level of confidence for gross beta. The detected sample result for gross beta was qualified as estimated (J+).

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries and RER were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were performed on the sample from this SDG for gross alpha, gross beta, cesium-137 and potassium-40. All RER duplicate criteria were met.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

Matrix spike (MS) analyses were performed on the sample from this SDG for gross alpha and gross beta. Recoveries were within the laboratory control limits.

III.4. SAMPLE RESULT VERIFICATION:

An EPA Level II review was performed on the sample in this data package. Calculations were not verified at this level of validation. Reported nondetects are valid to the MDC.

III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. The following are findings associated with field QC samples:

DATA VALIDATION REPORT SDG: 440-264783-2

11 June 2020



III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402647832

Analysis Method E900

Sample Name Outfall008 20200415 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

RLCAS No Result Total **MDC** Result Analyte Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes *Ш Gross Alpha Analytes GROSSALPHA 0.643 0.961 3.00 1.64 pCi/L U UJ Gross Beta Analytes GROSSBETA 1.49 0.643 4.00 0.865 pCi/L J+ В

Analysis Method E901.1

Sample Name Outfall008 20200415 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Cesium-137 10045-97-3 3.99 8.80 20.0 14.9 pCi/L U U Potassium-40 13966-00-2 U U -91.1 172 220 220 pCi/L

Analysis Method E903.0

Sample Name Outfall008_20200415_Comp Matrix Type: WM Result Type: TRO

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

Total RL**MDC** Analyte CAS No Result Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes 0.0472 0.0771 IJ *Ш Radium-226 13982-63-3 1.00 0.134 pCi/L

Analysis Method E904.0

Sample Name Outfall008 20200415 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 -0.00911 0.296 1.00 0.534 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name Outfall008 20200415 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.208 0.343 3.00 0.582 pCi/L

Analysis Method E906.0

Sample Name Outfall008 20200415 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes 140 Tritium 10028-17-8 176 500 290 pCi/L

Analysis Method HASL-300 U Mod

Sample Name Outfall008_20200415_Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-1

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes 0.0563 Total Uranium **URANIUM** 0.181 1.00 0.295 pCi/L

Analysis Method RADIUM

Sample Name Outfall008 20200415 Comp Matrix Type: WM Result Type: TRG

Sample Date: 4/15/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264783-2

RLMDC Analyte CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 UJ *Ш RADIUM226228 0.534 0.306 pCi/L

Friday, June 12, 2020 Page 2 of 2

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264783-2

Client Project/Site: Routine Outfall 008 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/14/2020 11:45:07 AM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

.....LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Project/Site: Routine Outfall 008 Comp

Laboratory Job ID: 440-264783-2

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and

are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

5/14/2020 11:45:07 AM

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Laboratory Job ID: 440-264783-2

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

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Sample Summary

Matrix

Water

Client: Haley & Aldrich, Inc.

Lab Sample ID

440-264783-1

Project/Site: Routine Outfall 008 Comp

Client Sample ID

Outfall008_20200415_Comp

Received

04/15/20 09:10 04/16/20 15:30

Asset ID

Collected

Job ID: 440-264783-2

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-2

Job ID: 440-264783-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264783-2

Comments

No additional comments.

Receipt

The samples were received on 4/16/2020 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9° C and 4.5° C.

RAD

Method 900.0: Gross Alpha/Beta Prep Batch 160-469497

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 20200415 Comp (440-264783-1), (LCS 160-469497/2-A), (LCSB 160-469497/3-A), (MB 160-469497/1-A), (440-264783-A-1-J DU), (440-264783-A-1-H MS) and (440-264783-A-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-468438

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

| Reported to Ana |
|-----------------|
| Pa-234 |
| U-238 |
| Po-210 |
| Bi-210 |
| Ba-137m |
| Po-216 |
| Xe-131 |
| Te-125m |
| Ag-108 |
| Ru-106 |
| Th-228 |
| Ra-224 |
| Th-231 |
| Th-232 |
| Ra-228 |
| Ra-223 |
| Ac-227 |
| Bi-211 |
| Pb-211 |
| 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.

Outfall008_20200415_Comp (440-264783-1), (LCS 160-468438/2-A), (MB 160-468438/1-A) and (440-264783-A-1-B DU)

Methods 903.0, 9315; Radium-226 Prep Batch 160-468574

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-2

Job ID: 440-264783-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall008_20200415_Comp (440-264783-1), (LCS 160-468574/1-A), (LCSD 160-468574/2-A) and (MB 160-468574/20-A)

Methods 904.0, 9320: Ra-228 Prep Batch 160-468579

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 20200415 Comp (440-264783-1), (LCS 160-468579/1-A), (LCSD 160-468579/2-A) and (MB 160-468579/20-A)

Method 905: Sr-90 Prep Batch 160-468677

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_20200415_Comp (440-264783-1), (LCS 160-468677/1-A), (MB 160-468677/22-A), (440-264517-R-1-H), (440-264517-M-1-H) MS) and (440-264517-M-1-I MSD)

Method 906.0: Tritium Prep Batch 160-469023

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 20200415 Comp (440-264783-1), (LCS 160-469023/2-A), (MB 160-469023/1-A), (160-37794-B-1-A), (160-37794-B-1-B DU), (440-264517-Q-1-A), (440-264517-L-1-B MS) and (440-264517-L-1-C MSD)

Methods A-01-R, U-02-RC: Isotopic Uranium Prep Batch 160-469207

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_20200415_Comp (440-264783-1), (LCS 160-469207/2-A), (MB 160-469207/1-A), (550-141005-A-1-D) and (550-141005-A-1-E)

Method Evaporation: Gross Alpha/Beta preparation batch 160-469497 and 160-469497

The following samples had additional volume added to reach target mass and efficiency Outfall008 20200415 Comp (440-264783-1), (440-264783-A-1 DU), (440-264783-A-1 MS) and (440-264783-A-1 MSBT). The total sample volume is reflected in the initial amount field.

Method ExtChrom: Uranium Prep Batch 160-469207:

The following sample was prepared at a reduced aliquot due to yellow discoloration: Outfall008 20200415 Comp (440-264783-1).

Method PrecSep_0: Radium 228 Prep Batch 160-468579:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall008 20200415 Comp. (440-264783-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision. Sample 310-179221-11 has a brown discoloration and heavy sediment levels. Samples 440-264783-1 and 550-140991-3 both have a yellow discoloration.

Method PrecSep_0: Radium 228 Prep Batch 160-468579:

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-2

Job ID: 440-264783-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall008_20200415_Comp (440-264783-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-468574:

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall008_20200415_Comp (440-264783-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-468574:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall008_20200415_Comp (440-264783-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision. Sample 310-179221-11 has a brown discoloration and heavy sediment levels. Samples 440-264783-1 and 550-140991-3 both have a yellow discoloration.

Method PrecSep-7: Strontium 90 Prep Batch 160-468677:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall008_20200415_Comp (440-264783-1). Samples 440-264370-1, 440-264510-1, 440-264517-1, 440-264517-1 MS, 440-264517-1 MSD, 440-264634-1, and 440-264783-1 all have a yellow discoloration. Sample 310-179946-1 has brown discoloration and heavy sediment.

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

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp

Lab Sample ID: 440-264783-1 Date Collected: 04/15/20 09:10 **Matrix: Water**

Date Received: 04/16/20 15:30

| Method: 900.0 - | Gross Alpha | and Gros | s Beta Rac | lioactivity | | | | | | |
|-----------------|-------------|-----------|------------|-------------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 0.643 | U | 0.958 | 0.961 | 3.00 | 1.64 | pCi/L | 05/04/20 09:16 | 05/11/20 05:43 | 1 |
| Gross Beta | 1.49 | | 0.625 | 0.643 | 4.00 | 0.865 | pCi/L | 05/04/20 09:16 | 05/11/20 05:43 | 1 |

| Method: 901.1 - Ce | sium 137 | & Other G | amma Emi | tters (GS) | | | | | | |
|--------------------|----------|-----------|----------|------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 3.99 | U | 8.79 | 8.80 | 20.0 | 14.9 | pCi/L | 04/21/20 11:24 | 04/21/20 12:07 | 1 |
| Potassium-40 | -91.1 | U | 172 | 172 | | 220 | pCi/L | 04/21/20 11:24 | 04/21/20 12:07 | 1 |
| Cesium-137 | 3.99 | U | 8.79 | 8.80 | | 14.9 | pCi/L | 04/21/20 11:24 | 04/21/20 12:07 | Dil F |

| Method: 903.0 - R | adium-226 | (GFPC) | | | | | | | | |
|-------------------|-----------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| | | | Count Uncert. | Total Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.0472 | U | 0.0770 | 0.0771 | 1.00 | 0.134 | pCi/L | 04/22/20 07:02 | 05/14/20 04:35 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 90.9 | | 40 - 110 | | | | | 04/22/20 07:02 | 05/14/20 04:35 | 1 |

| Method: 904.0 | - Radium-228 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|---------------|--------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | -0.00911 | U | 0.296 | 0.296 | 1.00 | 0.534 | pCi/L | 04/22/20 07:45 | 05/04/20 18:19 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 90.9 | - | 40 - 110 | | | | | 04/22/20 07:45 | 05/04/20 18:19 | 1 |
| Y Carrier | 88.2 | | 40 - 110 | | | | | 04/22/20 07:45 | 05/04/20 18:19 | 1 |

| Method: 905 - St | rontium-90 (| GFPC) | | | | | | | | |
|------------------|--------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| | | | Count Uncert. | Total Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.208 | U | 0.343 | 0.343 | 3.00 | 0.582 | pCi/L | 04/23/20 09:24 | 05/06/20 09:23 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 70.0 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:23 | 1 |
| Y Carrier | 97.6 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:23 | 1 |

| Method: 906.0 - Tritium, Total (LSC) | | | | | | | | | | | |
|--------------------------------------|--------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|--|
| | | | Count | Total | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac | |
| Tritium | 140 | U | 175 | 176 | 500 | 290 | pCi/L | 04/28/20 04:41 | 04/29/20 10:38 | 1 | |

| Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) | | | | | | | | | | | |
|--|--------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|--|
| | • | • | Count | Total | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac | |
| Total Uranium | 0.0563 | U | 0.181 | 0.181 | 1.00 | 0.295 | pCi/L | 04/30/20 07:29 | 05/07/20 08:44 | 1 | |

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp Lab Sample ID: 440-264783-1

Date Collected: 04/15/20 09:10

Matrix: Water Date Received: 04/16/20 15:30

| Tracer | %Yield Qualifier | Limits | Prepared Analyzed | Dil Fac |
|-------------|------------------|----------|-------------------------------|---------|
| Uranium-232 | 69.7 | 30 - 110 | 04/30/20 07:29 05/07/20 08:44 | 1 |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method **Method Description** Protocol Laboratory TAL SL 900.0 Gross Alpha and Gross Beta Radioactivity EPA TAL SL 901.1 Cesium 137 & Other Gamma Emitters (GS) **EPA** Radium-226 (GFPC) TAL SL 903.0 **EPA** 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 Preparation, Evaporation TAL SL Evaporation None 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 TAL SL PrecSep-21 Preparation, Precipitate Separation (21-Day In-Growth) None 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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 440-264783-2

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Client Sample ID: Outfall008_20200415_Comp

Lab Sample ID: 440-264783-1 Date Collected: 04/15/20 09:10 **Matrix: Water**

Date Received: 04/16/20 15:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|-----------|--------|--------|----------------|---------|--------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 202.55 mL | 1.0 g | 469497 | 05/04/20 09:16 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | | 469979 | 05/11/20 05:43 | CJQ | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 468438 | 04/21/20 11:24 | MLG | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 468185 | 04/21/20 12:07 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 750.36 mL | 1.0 g | 468574 | 04/22/20 07:02 | RBR | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 470394 | 05/14/20 04:35 | KLS | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 750.36 mL | 1.0 g | 468579 | 04/22/20 07:45 | RBR | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | | | 469502 | 05/04/20 18:19 | AJD | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 500.06 mL | 1.0 g | 468677 | 04/23/20 09:24 | RBR | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 469763 | 05/06/20 09:23 | CJQ | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.9 mL | 1.0 g | 469023 | 04/28/20 04:41 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 469168 | 04/29/20 10:38 | KRR | TAL SL |
| Total/NA | Prep | ExtChrom | | | 250.02 mL | 1.0 mL | 469207 | 04/30/20 07:29 | RJD | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 469826 | 05/07/20 08:44 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Analyte

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-469497/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Prep Batch: 469497** Analysis Batch: 469946

Count Total MB MB Uncert. Uncert. Result Qualifier RL **MDC** Unit Dil Fac Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed

Gross Alpha 1.12 pCi/L 05/04/20 09:16 05/10/20 22:31 0.7688 U 0.716 0.721 3.00 **Gross Beta** -0.4663 U 0.444 0.447 4.00 0.870 pCi/L 05/04/20 09:16 05/10/20 22:31 Lab Sample ID: LCS 160-469497/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA Analysis Batch: 469946 **Prep Batch: 469497** Total LCS LCS Uncert. %Rec. Spike

Gross Alpha 49.6 57.62 8.25 3.00 2.02 pCi/L 116 75 - 125 Lab Sample ID: LCSB 160-469497/3-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

 $(2\sigma + / -)$

RL

MDC Unit

Limits

%Rec

Prep Batch: 469497 Analysis Batch: 469946 Total Spike LCSB LCSB %Rec. Uncert.

Added Result Qual $(2\sigma + / -)$ RL MDC Unit Limits Analyte %Rec 4.00 **Gross Beta** 84.4 74.06 0.915 pCi/L 88 75 - 125 7.94

Result Qual

Lab Sample ID: 440-264783-1 MS Client Sample ID: Outfall008_20200415_Comp **Matrix: Water** Prep Type: Total/NA **Prep Batch: 469497**

Analysis Batch: 469979

Added

Total MS MS %Rec. Sample Sample **Spike** Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Gross Alpha 0.643 U 48.9 33.92 5.62 3.00 2.01 pCi/L 68 60 - 140

Lab Sample ID: 440-264783-1 MSBT Client Sample ID: Outfall008 20200415 Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 469979 Prep Batch: 469497 Total

MSBT MSBT %Rec. Sample Sample Spike Uncert. RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits Gross Beta 1.49 83.2 79.25 8.45 4.00 0.885 pCi/L 93 60 - 140

Lab Sample ID: 440-264783-1 DU Client Sample ID: Outfall008_20200415_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 469979 Prep Batch: 469497

Total DU DU Sample Sample **RER** Uncert. Result Qual **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RL RER Limit 0.643 U 1.050 U 1.74 pCi/L Gross Alpha 1.10 3.00 0.20 1 **Gross Beta** 1.49 0.9592 0.44 0.557 4.00 0.792 pCi/L

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-468438/1-A

Matrix: Water

Analysis Batch: 468183

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468438

| | | | Count | rotai | | | | | | |
|--------------|--------|----------------|---------|---------|------|------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | -6.329 | U G | 12.3 | 12.3 | 20.0 | 20.8 | pCi/L | 04/21/20 11:24 | 04/21/20 12:03 | 1 |
| Potassium-40 | -151.1 | U | 137 | 137 | | 236 | pCi/L | 04/21/20 11:24 | 04/21/20 12:03 | 1 |

Lab Sample ID: LCS 160-468438/2-A

Matrix: Water

Analysis Batch: 468184

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468438

| | | | | Total | | | | | | |
|---------------|--------|--------|------|---------|------|------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Americium-241 | 136000 | 132500 | | 15300 | | 527 | pCi/L | 98 | 90 - 111 | |
| Cesium-137 | 43700 | 42520 | | 4270 | 20.0 | 152 | pCi/L | 97 | 90 - 111 | |
| Cobalt-60 | 26200 | 25330 | | 2510 | | 99.0 | pCi/L | 97 | 89 - 110 | |

Lab Sample ID: 440-264783-1 DU

Matrix: Water

Analysis Batch: 468183

Client Sample ID: Outfall008_20200415_Comp

Prep Type: Total/NA

Prep Batch: 468438

Total DU DU **RER** Sample Sample Uncert. Analyte Result Qual Result Qual $(2\sigma + / -)$ RL **MDC** Unit RER Limit Cesium-137 3.99 U -3.956 U 13.8 20.0 16.9 pCi/L 0.35 Potassium-40 -91.1 U 17.83 U 73.3 133 pCi/L 0.44

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-468574/20-A

Matrix: Water

Analysis Batch: 470394

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468574

| | | | Count | Total | | | | | |
|------------|---------|-----------|---------|---------|------|--------------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.05071 | U | 0.0548 | 0.0550 | 1.00 | 0.0868 pCi/L | 04/22/20 07:02 | 05/14/20 06:21 | 1 |
| | | | | | | | | | |

MB MB Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 95.4 40 - 110 04/22/20 07:02 05/14/20 06:21

Lab Sample ID: LCS 160-468574/1-A

Matrix: Water

Analysis Batch: 470394

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

Prep Batch: 468574

Total LCS LCS **Spike** Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Radium-226 0.977 75 - 125 11.3 9.307 1.00 0.100 pCi/L 82

LCS LCS

Carrier %Yield Qualifier Limits Ba Carrier 98.5 40 - 110

Eurofins Calscience Irvine

Job ID: 440-264783-2

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 008 Comp

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-468574/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 470394

Prep Type: Total/NA

Prep Batch: 468574

| | | | | i Otai | | | | | | |
|------------|-------|--------|------|---------|------|-------------|------|----------|------|-------|
| | Spike | LCSD | LCSD | Uncert. | | | | %Rec. | | RER |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Radium-226 | 11.3 | 8.881 | | 0.939 | 1.00 | 0.101 pCi/L | 78 | 75 - 125 | 0.22 | 1 |

LCSD LCSD

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 99.7

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-468579/20-A

Matrix: Water

Analysis Batch: 469473

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

Analyzed

Prep Batch: 468579

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier RL **MDC** Unit Dil Fac $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed Radium-228 -0.02053 U 0.224 0.224 1.00 0.406 pCi/L 04/22/20 07:45 05/04/20 18:25

MB MB Carrier Qualifier Limits %Yield Ba Carrier 95.4 40 - 110

Y Carrier 84.9 40 - 110

Client Sample ID: Lab Control Sample

04/22/20 07:45 05/04/20 18:25

04/22/20 07:45 05/04/20 18:25

Prepared

Lab Sample ID: LCS 160-468579/1-A **Matrix: Water** Prep Type: Total/NA Analysis Batch: 469502

Prep Batch: 468579

Dil Fac

Total **Spike** LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Radium-228 0.899 1.00 8.87 7.401 0.363 pCi/L 83 75 - 125

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 98.5 40 - 110 Y Carrier 40 - 110 89.3

Lab Sample ID: LCSD 160-468579/2-A

Matrix: Water

Analysis Batch: 469502

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

Prep Batch: 468579

Total LCSD LCSD Uncert. %Rec. **RER** Spike Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit Radium-228 8.87 7.705 0.941 1.00 0.383 pCi/L 87 75 - 125 0.17

LCSD LCSD Carrier %Yield Qualifier Limits Ba Carrier 99.7 40 - 110 Y Carrier 83.7 40 - 110

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Analysis Batch: 469763

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468677

MB MB Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Strontium-90 04/23/20 09:24 05/06/20 09:25 0.2727 U 0.395 0.395 3.00 0.660 pCi/L

Total

Count

MB MB

Carrier Qualifier Limits %Yield 40 - 110 Sr Carrier 93.4 Y Carrier 92.0 40 - 110

Prepared Dil Fac Analyzed 04/23/20 09:24 05/06/20 09:25 04/23/20 09:24 05/06/20 09:25

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468677

Total LCS LCS %Rec. Spike Uncert. Analyte Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Result Qual Strontium-90 16.9 1.79 3.00 0.626 pCi/L 100 75 - 125 16.93

LCS LCS Carrier %Yield Qualifier Limits Sr Carrier 91.7 40 - 110 Y Carrier 85.6 40 - 110

Lab Sample ID: LCS 160-468677/1-A

Lab Sample ID: 440-264517-M-1-H MS

Matrix: Water

Matrix: Water

Analysis Batch: 469750

Analysis Batch: 469750

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 468677

Total Uncert. %Rec. Sample Sample Spike MS MS Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Strontium-90 0.284 U 16.9 3.00 0.633 pCi/L 16.73 1.77 98 19 - 150

MS MS Carrier %Yield Qualifier Limits Sr Carrier 88.8 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264517-M-1-I MSD

Matrix: Water

Analysis Batch: 469750

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 468677**

Total Spike MSD MSD

%Rec. Sample Sample Uncert. **RER** Result Qual Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Limit **Analyte** RER Strontium-90 0.284 U 16.9 15.70 1.68 3.00 0.641 pCi/L 91 19 - 150 0.30

MSD MSD Carrier %Yield Qualifier Limits Sr Carrier 40 - 110 87.6 Y Carrier 92.7 40 - 110

Eurofins Calscience Irvine

Job ID: 440-264783-2

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-469023/1-A

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 469023

Count Total мв мв Uncert. Uncert. Result Qualifier (2σ+/-) RL MDC Unit Analyte $(2\sigma + / -)$ Prepared Analyzed Dil Fac -32.88 U 285 pCi/L 04/28/20 04:41 04/29/20 02:20 Tritium 154 154 500

Lab Sample ID: LCS 160-469023/2-A

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 469023

Total Spike LCS LCS %Rec. Uncert. Added Analyte Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 2450 2379 391 500 283 pCi/L 97 75 - 114

Lab Sample ID: 440-264517-L-1-B MS

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 469023

Total Spike Sample Sample MS MS Uncert. %Rec. Added Analyte Result Qual Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 194 U 2460 2681 432 500 308 pCi/L 67 - 130 101

Lab Sample ID: 440-264517-L-1-C MSD

Matrix: Water

Analysis Batch: 469168

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

Prep Batch: 469023

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Added RL MDC Unit Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec Limits RFR Limit Tritium 194 U 2450 2654 424 500 297 pCi/L 100 67 - 130 0.03

Lab Sample ID: 160-37794-B-1-B DU

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 469023

Total DU DU Sample Sample Uncert. **RER** Result Qual Result Qual Analyte $(2\sigma + / -)$ RL MDC Unit **RER** Limit Tritium 10.8 U 77.48 U 166 500 0.21 284 pCi/L

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Count

Client Sample ID: Method Blank Lab Sample ID: MB 160-469207/1-A **Matrix: Water**

Analysis Batch: 469816

Prep Type: Total/NA Prep Batch: 469207

Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ **MDC** Unit Dil Fac RL Prepared Analyzed Ū **Total Uranium** -0.03160 0.1066 0.1066 1.00 0.184 pCi/L 04/30/20 07:29 05/07/20 08:44

MB MB

Tracer **%Yield Qualifier** Limits Prepared Analyzed Dil Fac Uranium-232 76.5 30 - 110 04/30/20 07:29 05/07/20 08:44

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Analysis Batch: 469819

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-469207/2-A **Matrix: Water**

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

Prep Batch: 469207

Total Spike LCS LCS Uncert. %Rec. Analyte Added RL **MDC** Unit Limits Result Qual (2σ+/-) %Rec Uranium-234 0.174 pCi/L 75 - 125 12.7 13.60 1.60 1.00 107 Uranium-238 13.79 13.0 1.62 1.00 0.112 pCi/L 106 75 - 125

LCS LCS Tracer **%Yield Qualifier** Limits Uranium-232 69.9 30 - 110

Lab Sample ID: 550-141005-A-1-E DU **Client Sample ID: Duplicate**

Matrix: Water Prep Type: Total/NA Analysis Batch: 469831 **Prep Batch: 469207**

Total Sample Sample DU DU Uncert. **RER** Analyte Result Qual Result Qual $(2\sigma + / -)$ RL **MDC** Unit RER Limit **Total Uranium** 0.831 0.147 pCi/L 0 0.8295 0.254 1.00

DU DU %Yield Qualifier Tracer Limits Uranium-232 87.6 30 - 110

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-2

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| | | | | |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|------------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | Fill_Geo-0 | |
| MB 160-468438/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 | |
| LCS 160-468438/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 | |
| 440-264783-1 DU | Outfall008_20200415_Comp | Total/NA | Water | Fill_Geo-0 | |

Prep Batch: 468574

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|------------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-468574/20-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-468574/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| LCSD 160-468574/2-A | Lab Control Sample Dup | Total/NA | Water | PrecSep-21 | |

Prep Batch: 468579

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-468579/20-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-468579/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| LCSD 160-468579/2-A | Lab Control Sample Dup | Total/NA | Water | PrecSep_0 | |

Prep Batch: 468677

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | PrecSep-7 | |
| MB 160-468677/22-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-468677/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-H MS | Matrix Spike | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-7 | |

Prep Batch: 469023

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Ba |
|----------------------|--------------------------|-----------|--------|----------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | LSC_Dist_Susp |
| MB 160-469023/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp |
| LCS 160-469023/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp |
| 440-264517-L-1-B MS | Matrix Spike | Total/NA | Water | LSC_Dist_Susp |
| 440-264517-L-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | LSC_Dist_Susp |
| 160-37794-B-1-B DU | Duplicate | Total/NA | Water | LSC_Dist_Susp |

Prep Batch: 469207

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|----------|------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | ExtChrom | |
| MB 160-469207/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-469207/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 550-141005-A-1-E DU | Duplicate | Total/NA | Water | ExtChrom | |

Prep Batch: 469497

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------|---------------------------------------|
| 440-264783-1 | Outfall008_20200415_Comp | Total/NA | Water | Evaporation | · · · · · · · · · · · · · · · · · · · |
| MB 160-469497/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-469497/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| LCSB 160-469497/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 440-264783-1 MS | Outfall008_20200415_Comp | Total/NA | Water | Evaporation | |
| 440-264783-1 MSBT | Outfall008_20200415_Comp | Total/NA | Water | Evaporation | |

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5/14/2020

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QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Rad (Continued)

Prep Batch: 469497 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------|--------------------------|-----------|--------|-------------|------------|
| 440-264783-1 DU | Outfall008_20200415_Comp | Total/NA | Water | Evaporation | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 440-264783-2

Project/Site: Routine Outfall 008 Comp

Qualifiers

RER

RPD

TEF

TEQ

RL

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

| 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 |
| 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) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| Iowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

Eurofins Calscience Irvine

Untitlered and unpreserved analysis. Separate RAD onto another workorder. Analyse clubicate, not MSAMSD. Only lest if first or second rain events of the year Sample receiving DO NOT OPEN BAG Bag to opened in Mercury Prepusing clean procedures Filter and preserve win 24hrs of receipt at lab 10 Day Field Readings 48 hours Holding Time NO, & NO, Comments All Level IV. X o s Store samples for 6 months. Data Requirements (Check) 72 Hour Turn-ground time (Check) 5 Day Sample integrity (Check) 물 24 Hour 48 Hour No Level (V ů ((Q01/92WS) Z*091) SS ntact × ble Metals Mercury (E245 1) 1530 œ CASUSGE (PM4POD-CM-F / F33P S) Chronic Toxicity - Selenastum (EPA-821-R-02-013) 2011 - Liberto - Communication 4/10/20 アイ ANALYSIS REOL 3:00e Mpha(E900 0), Grace Beak(E900 0), Grace Beak(E900 0), K-40 Geolarin X26 (E904 0 of E901 1) gadinin X28 (E904 0 of E902 0), I Vedical Vision X28 (E904 0), Liranium (E908 0), K-40 Geolarin X28 (E904 0 of E902 1) g Total Dissolved Metals (E200 7) Ni, Zn (E200 8) Ag, Cd, Cu, Pb, Sb, Se, Ti æ DE-(SWS240C/E180 1) , 4-16. 7., SO4, Mittatte-N, Mittate-N, NO3+NO2-N, Picchlorate (300) œ ~ CDD (snd all congeners) (E1613B) Tobai Recoverable Metals, (E200 3) Mı, Zn (E200 8) Ag, Cd, Cd, Pb, Sb, Se, Ti Legend: EPTExpert Panel, R=Routine œ MS/MSD ₽ £ 2 운 욷 £ ĝ 2 £ £ 운 ₽ 운 1 KC Project Manager Katherine Miller 520 289 8606, 520 904 6944 (cell) Field Manager Mark Dominick 978 234 5033, 818 599 0702 (cell) 5 8 35 8 8 22 230 8 350 5 8 8 霰 8 Project
Boeing-SSFL NPDES
Permit 2020
Routine Ouffail [008]
Ouffail 008 Preservetive **E** Š Š NaOH 5 2 6 6 7 <u>8</u>8 9 8 945 52 e S 90 9 インイン # of Conf. Comainer Type 1 L Glass Amber borosilicate viats 1 L Glass Amber 500 mL Poty 500 mil. Poly 500 mL Poly 500 mL Poly 1 L Glass Amber 500 mil. Poly 500 ml. Pay 25 Gal Cube 1 L POLY 1L Poly 14 027 Sample MM WW WW Š 3 × TestAmerica's services under the CoC shall be performed in accordance with the TRCs; within Blanker Service Agreements 2019-22-TestAmerica by and between Halry & Alchth, fno. 8s euberdantes and affactes, and TestAmerica Laboratories ŧ Š Š 3 Š ž Š 5 .202¢ 1090 0130 2 Company Sempling Date/Time 4/15/2020 4/15/2020 4/15/2020 10 ر. ای Eurofins Calscience irvne Contact Christian Bondoc 17461 Denian Ave Suite #100 Irvne CA 92614 Tel 949-280-3218 Ouffal008_20200415_Comp_Extra Outlast008_20200415_Comp Outhalloo8_20200415_Comp_F Semple ID Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Sampler Dan Smith Inquished By Semple Description Ouffail DOS Page 22 of 28

440-264783 Chain of Custody

4.3/4.5 0.7/6.8

2019-2020 Rainty Season

Chain of Custody Record

Phone: 949-261-1022 Fax: 949-260-3297

Eurofins Calscience Irvine

17461 Derian Ave Suite 100

Irvine, CA 92614-5817

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2SO3
S - H2SO4
T - TSP Dodecahydrate Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should 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. Boeing SSFL, DO NOT FILTER; use prep SIL U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Special Instructions/Note: Ver. 01/16/2019 M - Hexane Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Month date from preservation Preservation Codes: A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
F - MaOH
G - Amchlor
H - Ascorbic Acid Date Time: 2000 11:30 COC No: 440-155171.1 440-264783-1 Page: Page 1 of 1 I - Ice J - DI Water K - EDTA L - EDA Total Number of containers O Date/Time: Method of Shipment: Carrier Tracking No(s) Brinner State of Origin: California Analysis Requested Cooler Temperature(s) °C and Other Remarks: Special Instructions/QC Requirements: 906.0/LSC_Dist_Susp Trittum E-Mail: christian.bondoc@testamericainc.com × 305_Sr90/PrecSep_7 Strontium-90 904.0/PrecSep_0 Radium-228 × Accreditations Required (See note) State Program - California Return To Client × 03.0/PrecSep_21 Radium-226 Received by × efa@lendiA asona noiterogev3/0.009 Lab PM: Bondoc, Christian M × A11R_U/ExtChrom_Actin Total Uranium × 151-muiseO bns 04-A 0 209_1117\27_1.109 Perform MS/MSD (Yes or No) Time: Field Filtered Sample (Yes or No) BT=Tissue, A=Air (W=water, S=solid O=wastefoll, Preservation Code: Water Matrix Company (C=comb, G=grab) Sample Type 706 Primary Deliverable Rank: 2 Sample Time 09:10 Date: TAT Requested (days): Due Date Requested: Sample Date 4/15/20 Project #: 44009879 4/28/2020 Date/Time: Date/Time: Date/Time: SSOW#: WO#: Client Information (Sub Contract Lab) Deliverable Requested: I, II, III, IV, Other (specify) Jutfall008 20200415 Comp (440-264783-1) Custody Seal No. Sample Identification - Client ID (Lab ID) 314-298-8566(Tel) 314-298-8757(Fax) Possible Hazard Identification FestAmerica Laboratories, Inc. Boeing NPDES SSFL outfalls Empty Kit Relinquished by: Custody Seals Intact: 13715 Rider Trail North. Shipping/Receiving inquished by: nquished by: Inconfirmed State, Zip: MO, 63045 Earth City



| | Shipping #(s):* | Therm | ometer | #: | Packag | e Temp:** | Document #: | |
|-----------------|--|---------------|------------|---------|-----------|---|--|--|
| 1. 15 | AD 4107 8880 | 192 | W881 | Hel | | 2.6 | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |
| 5. | | | | | | | | |
| 6. 7. | | | | | | | | |
| 7. | | | | | | | | |
| ndition (Circle | "Y" for yes, "N" for no and "N/A" for not a | | _ | | | | | |
| (Y) N | Are there custody seals present cooler? | on the | 8. | Y (| N) | Are there custody seals present on bott | | |
| Y (N) N | A Do custody seals on cooler appertampered with? | ear to be | 9. | Y | N (N/A) | Do custody sea tampered with? | ls on bottles appear to be | |
| YN | Were contents of cooler frisked opening, but before unpacking? | | 10. | W. | N/A | Was sample red (If not, make note | eived with proper pH1? | |
| Y N | Sample received with Chain of | Custody? | 11. | Y | N N/A | Containers for | Rn-222, C-14, Cl-36, H-3 ed with "Do Not Preserv | |
| (Y) N N/ | A Does the Chain of Custody mate ID's on the container(s)? | ch sample | 12. | Y) 1 | N | Sample receive | d in proper containers? | |
| YN | Was sample received broken? | | 13. | Y | N (N/A) | Headspace in V samples? (>6m (If Yes, note samp | | |
| (Y)N | Is sample volume sufficient for | analysis? | 14. | Y | N (N/A) | Soil containers | for C-14, H-3,Tc-99 & I- l with "Do Not Dry" labe | |
| | (, LANL, Sandia) sites, pH of ALL containers | received must | be verifie | i, EXCE | PT VOA, O | il & Grease, Rn-222 | and soils. | |
| tes: | a hitainay Mas | rooid | in | T 40 | ، ، ام | 000000000000000000000000000000000000000 | _ | |
| - (| Subitainer Was | recus | umpi | ype | ry | Dresurve | ۹ | |
| | | | | | | | | |
| Adjustmer | it (if needed) | | Date | /Time | e of Pres | ervation: 4/2 | 00:01 esceptos | |
| ial pH and r | oH strip lot#: HC911928 | | | | | ot#: HW03 | 244827 | |
| * | | | | | | | | |

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264783-2

Login Number: 264783 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|---|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a surve meter.</td <td>y True</td> <td></td> | y 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264783-2

Login Number: 264783

List Number: 3 Creator: Korrinhizer, Micha L List Source: Eurofins TestAmerica, St. Louis

| | • | | , | | |
|------|---|-------|----------|----------|--|
| List | Creat | tion: | 04/20/20 | 12:12 PM | |

| Creator: Korrinhizer, Micha L | | |
|--|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |
| | | |

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 008 Comp

Job ID: 440-264783-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| _ | | | Percent Yield (|
|---|--------------------------|------------|-----------------|
| | | Ba Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | |
| 440-264783-1 | Outfall008_20200415_Comp | 90.9 | |
| LCS 160-468574/1-A | Lab Control Sample | 98.5 | |
| LCSD 160-468574/2-A | Lab Control Sample Dup | 99.7 | |
| MB 160-468574/20-A | Method Blank | 95.4 | |
| Tracer/Carrier Legend Ba Carrier = Ba Carrier | | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Ba Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264783-1 | Outfall008_20200415_Comp | 90.9 | 88.2 | |
| LCS 160-468579/1-A | Lab Control Sample | 98.5 | 89.3 | |
| LCSD 160-468579/2-A | Lab Control Sample Dup | 99.7 | 83.7 | |
| MB 160-468579/20-A | Method Blank | 95.4 | 84.9 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| - | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Sr Carrier (40-110) | Y Carrier (40-110) | |
| 440-264517-M-1-H MS | Matrix Spike | 88.88 | 90.8 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | 87.6 | 92.7 | |
| 440-264783-1 | Outfall008_20200415_Comp | 70.0 | 97.6 | |
| LCS 160-468677/1-A | Lab Control Sample | 91.7 | 85.6 | |
| MB 160-468677/22-A | Method Blank | 93.4 | 92.0 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|-----------------------|--------------------------|-----------|-----------------------------------|
| | | ranium-23 | |
| Lab Sample ID | Client Sample ID | (30-110) | |
| 440-264783-1 | Outfall008_20200415_Comp | 69.7 | |
| 550-141005-A-1-E DU | Duplicate | 87.6 | |
| LCS 160-469207/2-A | Lab Control Sample | 69.9 | |
| MB 160-469207/1-A | Method Blank | 76.5 | |
| Tracer/Carrier Legend | i | | |
| Uranium-232 = Uraniur | n-232 | | |

Page 27 of 28

Job:

GSO / OnTrac / Goldstreak / USPS / Other_



Tracking #: 1540 - 4107 - 8890 SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

| 11. | | | | | | | |
|---|----------|---------|----------|---|-----|----|-----|
| Therm. ID: Ak-12 Corr. Factor: (| +/-) | 0 | _°C | Notes: | | | _ |
| lceWet Gel | Othe | r | | | | | _ |
| Cooler Custody Seal: Seal | | | | - | | | _ |
| Cooler ID: | | | | | | | _ |
| Temp Observed: 3.3 °C Correcte | ad. | 8.3 | °C | | | | _ |
| | le 🕰 | | _ 0 | | | | _ |
| | Vac | Ne | NIA | | | | _ |
| Opening/Processing The Shipment Cooler compromised/tampered with? | Yes | No D | NA D | | | | _ |
| Cooler Temperature is acceptable? | The same | | - | | | | _ |
| | 0 | | | | | | _ |
| Samples received within holding time? | | | | | | | |
| Initials: JL Date: 4/ | 181 | 20 | | | | | _ |
| Unpacking/Labeling The Samples | Yes | No | NA | i | | | _ |
| CoC is complete w/o discrepancies? | 9- | | | | | | _ |
| Samples compromised/tampered with? | | - | | r | | | |
| Sample containers have legible labels? | 0 | | | | | | |
| Sample custody seal? | . 🗅 | - | | | - | | _ |
| Containers are not broken or leaking? | 0 | | | | | | _ |
| Sample date/times are provided? | 8 | | | | | | |
| Appropriate containers are used? | 0 | | | | | | |
| Sample bottles are completely filled? | 0 | | | | | | |
| Sample preservatives verified? | | | A | 1 | | | - |
| Samples w/o discrepancies? | 0 | | | - | | | _ |
| Zero headspace?* | | | 4 | , | | - | _ |
| Alkalinity has no headspace? | | | | | | | |
| Perchlorate has headspace? (Methods 314, 331, 6850) | | | | Login Completion | Yes | No | N |
| Multiphasic samples are not present? | | | | Receipt Temperature on COC? NCM Filed? | | | 240 |
| | | | 1 (1/4") | TOWN FIREM: | | | |

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264080-1

Client Project/Site: Routine Outfall 009 Grab

Revision: 1

For:

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

Attn: Katherine Miller

Authorized for release by: 8/4/2020 12:05:06 PM

Christian Bondoc, Project Manager I

(949)260-3218

Christian.Bondoc@Eurofinset.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Laboratory Job ID: 440-264080-1

7

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

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Christian Bondoc Project Manager I 8/4/2020 12:05:06 PM Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Grab Laboratory Job ID: 440-264080-1

Table of Contents

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| Method Summary | 7 |
| Lab Chronicle | 8 |
| QC Sample Results | 9 |
| QC Association Summary | 10 |
| Definitions/Glossary | 11 |
| Certification Summary | 12 |
| Chain of Custody | 13 |
| Receipt Checklists | 14 |

Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Grab

Job ID: 440-264080-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|-----------------------|--------|----------------|----------------|----------|
| 440-264080-1 | Outfall_20200406_Grab | Water | 04/06/20 07:50 | 04/06/20 14:40 | |

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Grab

Job ID: 440-264080-1

Job ID: 440-264080-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264080-1

Comments

No additional comments.

Receipt

The samples were received on 4/6/2020 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

Organic Prep

Method 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-604371 and analytical batch 440-604415. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664A.

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

Client Sample Results

Job ID: 440-264080-1 Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Grab

Lab Sample ID: 440-264080-1 Client Sample ID: Outfall_20200406_Grab

Date Collected: 04/06/20 07:50 Date Received: 04/06/20 14:40

Matrix: Water

General Chemistry

Analyte RL Result Qualifier MDL Unit D Prepared Analyzed Dil Fac HEM (Oil & Grease) ND 5.2 1.5 mg/L 04/09/20 09:52 04/09/20 13:03

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Grab

| Method | Method Description | Protocol | Laboratory |
|--------|-----------------------|----------|------------|
| 1664A | HEM and SGT-HEM | 1664A | TAL IRV |
| 1664A | HEM and SGT-HEM (SPE) | 1664A | TAL IRV |

Protocol References:

1664A = EPA-821-98-002

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264080-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264080-1

Project/Site: Routine Outfall 009 Grab

Client Sample ID: Outfall_20200406_Grab Lab Sample ID: 440-264080-1

Date Collected: 04/06/20 07:50 Matrix: Water Date Received: 04/06/20 14:40

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|---------------|-----------------|-----|---------------|-------------------|-----------------|-----------------|----------------------|---------|---------|
| Total/NA | Prep | 1664A | | | 955 mL | 1000 mL | 604371 | 04/09/20 09:52 | JC1 | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 604415 | 04/09/20 13:03 | JC1 | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264080-1

RL

5.0

Spike

Added

40.0

Spike

Added

40.0

MDL Unit

Result Qualifier Unit

mg/L

LCS LCS

LCSD LCSD

33.8

34.8

1.4 mg/L

Project/Site: Routine Outfall 009 Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-604371/1-A **Matrix: Water**

Analysis Batch: 604415

MB MB Analyte Result Qualifier

HEM (Oil & Grease) ND

Lab Sample ID: LCS 440-604371/2-A

Matrix: Water Analysis Batch: 604415

HEM (Oil & Grease)

Lab Sample ID: LCSD 440-604371/3-A **Matrix: Water**

Analysis Batch: 604415

Analyte

HEM (Oil & Grease)

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604371

Prepared Analyzed Dil Fac 04/09/20 09:52 04/09/20 13:03

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

Prep Batch: 604371

%Rec. D %Rec Limits

> 78 - 114 87

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 604371 %Rec. **RPD**

Limits RPD Limit

Result Qualifier Unit D %Rec 84 78 - 114 3 mg/L

QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264080-1

Project/Site: Routine Outfall 009 Grab

General Chemistry

Prep Batch: 604371

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-264080-1 | Outfall_20200406_Grab | Total/NA | Water | 1664A | |
| MB 440-604371/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-604371/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-604371/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |

Analysis Batch: 604415

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-264080-1 | Outfall_20200406_Grab | Total/NA | Water | 1664A | 604371 |
| MB 440-604371/1-A | Method Blank | Total/NA | Water | 1664A | 604371 |
| LCS 440-604371/2-A | Lab Control Sample | Total/NA | Water | 1664A | 604371 |
| LCSD 440-604371/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 604371 |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264080-1

Project/Site: Routine 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) Limit of Quantitation (DoD/DOE) LOQ

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

NEG Negative / Absent POS Positive / Present

PQL **Practical Quantitation Limit**

PRES Presumptive QC **Quality Control**

RER Relative Error Ratio (Radiochemistry)

RLReporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) **TEQ**

Too Numerous To Count TNTC

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264080-1

Project/Site: Routine Outfall 009 Grab

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

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TRACFYGB 1360, Field Readings | Meter serial # Checked by: 4kb 111 0750 10 Day Comments Field Readings: (Include units) 8.35 grunit Sample integrity (Check) intact
Store samples for 6 months
Data Requirements (Check) Time of Readings: 72 Hour Field readings QC furn-around time (Check) 440-264080 Chain of Custody 24 Hour 48 Hour No Level IV 용 1 melles 4/6/20 1440 Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual Company 5111 02/9/4 Cillian Fivera Oil & Grease (E1664A-HEM) 0 6/0.6, 1-0/4.0, 0.8/0.8 #89 MS/MSD 2 £ Project
Boeing-SSFL NPDES
Permit 2020
Routine Ourfail p003-007, 009, 010)
Grab Bottle ŧ ŧ Project Manager : Katherine Miller 520.289.9606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234 5033, 818.599 0702 (cell) Preservative 후. 호 # of Cont. 7 ECIPU 1 L Glass Amber 1 L Glass Amber Container Type 1 4-6202-1/1120) OuterTime Sample M ž feathments is envices under this DOC shall be performed in accordance with the TBCs within Blanket Sanvio government 2010-25 Catchineries by and tehnesin feasy 8 Aprills, Inc., Its subsidiaries and affiliates, and feathware Laboratories into 467020/6750 416/2020/. 757 Sampling Date/Time River 1/6/20 Outfall009_20200408_Grab_Extra Curta(1009_20200406_Grab Test America Contact Christian Bondoo 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3216 Sample (D 5333 Mission Center Rd Suite 300 San Diego, CA 92108 William Relinquished By Client Name/Address Sampler Dan Smith Haley & Aldrich Outtail 009 Sample Description Page 13 of 14

Page 1 of 1

CHAIN OF CUSTODY FORM

Test America

8/4/2020 (Reson 2 (Version 2

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264080-1

Login Number: 264080 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| orodior. Esodianto, mana i | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264182-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

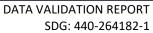
29 May 2020





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- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264182-1

29 May 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-264182-1

Project Manager: Katherine Miller

Matrix: Water

QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matri x | Collection | Method | Validation Level |
|-------------------------------|--------------------|----------------------|------------|-------------------|---------------------------|---------------------|
| OUTFALL009_20200407 _COMP | 440-264182-1 | N | WM | 4/7/20 9:10 AM | E1613B, E200.7, E200.8 | II |
| OUTFALL009_20200407 COMP_F | 440-264162-2 | N | WM | 4/7/20 9:10 AM | E200.7, E200.8 | П |

DATA VALIDATION REPORT SDG: 440-264182-1 29 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264182-1:

- The laboratories received the samples in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA-Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-Sacramento.
- Strikethroughs on the original COC were initialed but not dated.

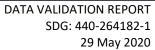






TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic | | |
|----------------|--|--|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. | | |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. | | |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | | |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. | | |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. | | |
| ? | TIC identity or reported retention time has been changed. | Not applicable. | | |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. | | |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. | | |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. | | |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | | |



III. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 3, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HxCDD, 1,2,3,4,7,8-HxCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDF, OCDD and OCDF, and for totals HpCDD, HpCDF, HxCDD and HxCDF. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. OCDD detected above the RL in the sample was also qualified as a nontdetect (U) at the level of contamination. Totals HpCDD, HpCDF, HxCDD and HxCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.



III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. Second-column confirmation analysis for isomer 2,3,7,8-TCDF was not required, as 2,3,7,8-TCDF was not detected in the initial analysis of the sample.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects (UJ) at the level of the EMPC. The concentration of total PeCDD in the sample matched the qualified isomer and was therefore also qualified as an estimated nondetect (UJ). Remaining totals flagged by the laboratory as including one or more EMPC peaks were qualified as estimated (J).

METHODS 200.7 AND 200.8 — METALS III.

M. Hilchey of MEC^X reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

III.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL009 20200407 COMP F was filtered and preserved within 24 hours of receipt, as required on the COC.

III.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.

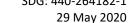
III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

There were no target analyte detections in the method blanks (total and dissolved) or calibration blanks.

III.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. No non-spiked target analytes were present in the ICP-MS ICSA at greater than MDL;





therefore, matrix interference was not suspected. Interferents in site samples were not summarized for ICP-AES analyses; therefore, interference was not evaluated for Method 200.7.

III.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

III.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

111.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the samples in this SDG (total and dissolved). Recoveries were within the QAPP control limits of 70-130% for all target analytes except total thallium (56%/57%). The result for total thallium was qualified as estimated (UJ). RPDs were ≤20%.

III.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

III.4. INTERNAL STANDARDS PERFORMANCE

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%

III.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

III.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MECX used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402641821

Analysis Method E1613B

Sample Name OUTFALL009_20200407_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

| Analyte 1 | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Oualifier | Validation Notes |
|--|--------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N | 39001-02-0 | 0.000025 | 0.00011 | 0.0000016 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo- dioxin (OCDD) | p- N | 3268-87-9 | 0.00016 | 0.00011 | 0.0000014 | ug/L | MB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N) | 67562-39-4 | 0.0000099 | 0.000053 | 0.00000093 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p dioxin (HpCDD) | o- N | 35822-46-9 | 0.000016 | 0.000053 | 0.00000060 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N) | 55673-89-7 | 0.0000037 | 0.000053 | 0.00000099 | ug/L | J,DXq | UJ | *III |
| 1,2,3,4,7,8-Hexachlorodibenzofura: (HxCDF) | n N | 70648-26-9 | 0.0000037 | 0.000053 | 0.00000058 | ug/L | J,DXMBq | U | В |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 39227-28-6 | 0.0000059 | 0.000053 | 0.00000095 | ug/L | J,DXMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofura: (HxCDF) | n N | 57117-44-9 | 0.0000038 | 0.000053 | 0.00000057 | ug/L | J,DXMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 57653-85-7 | 0.0000045 | 0.000053 | 0.0000011 | ug/L | J,DX | J | DNQ |
| 1,2,3,7,8,9-Hexachlorodibenzofura: (HxCDF) | n N | 72918-21-9 | 0.0000036 | 0.000053 | 0.00000051 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 19408-74-3 | 0.0000051 | 0.000053 | 0.00000092 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-41-6 | 0.0000036 | 0.000053 | 0.00000096 | ug/L | J,DX | J | DNQ |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N | 40321-76-4 | 0.0000030 | 0.000053 | 0.0000012 | ug/L | J,DXq | UJ | *Ш |
| 2,3,4,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 60851-34-5 | 0.0000035 | 0.000053 | 0.00000055 | ug/L | J,DX | J | DNQ |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-31-4 | 0.0000031 | 0.000053 | 0.00000095 | ug/L | J,DX | J | DNQ |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | ND | 0.000011 | 0.00000043 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxi | n N | 1746-01-6 | ND | 0.000011 | 0.0000014 | ug/L | U | U | |
| Total Heptachlorodibenzofuran (HpCDF) | N | 38998-75-3 | 0.000017 | 0.000053 | 0.00000093 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | N | 37871-00-4 | 0.000032 | 0.000053 | 0.00000060 | ug/L | J,DXMB | J | B, DNQ |
| Total Hexachlorodibenzofuran (HxCDF) | N | 55684-94-1 | 0.000015 | 0.000053 | 0.00000051 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N | 34465-46-8 | 0.000015 | 0.000053 | 0.00000092 | ug/L | J,DXMB | J | B, DNQ |
| Total Pentachlorodibenzofuran (PeCDF) | N | 30402-15-4 | 0.0000067 | 0.000053 | 0.00000095 | ug/L | J,DX | J | DNQ |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N | 36088-22-9 | 0.0000030 | 0.000053 | 0.0000012 | ug/L | J,DXq | UJ | *III |
| Total Tetrachlorodibenzofuran (TCDF) | N | 55722-27-5 | ND | 0.000011 | 0.00000043 | ug/L | U | U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | N | 41903-57-5 | ND | 0.000011 | 0.0000014 | ug/L | U | U | |

Analysis Method E200.7

Sample Name OUTFALL009_20200407_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

| Analyte | Fractio | n: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---------|---------|-----------|-----------------|----|-----|-----------------|------------------|-------------------------|---------------------|
| Nickel | T | 7440-02-0 | ND | 10 | 5.0 | ug/L | U | U | |
| Zinc | T | 7440-66-6 | ND | 20 | 12 | ug/L | U | U | |

Sample Name OUTFALL009 20200407 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-2

Analyte Fraction: CAS No Result RL**MDL** Result Lab Validation Validation Value Units Qualifier Qualifier Notes Nickel 7440-02-0 ND 10 5.0 ug/L U Zinc 7440-66-6 U 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL009_20200407_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

| Analyte | Fra | ctio | n: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|-----|------|-----------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Antimony | Т | Γ | 7440-36-0 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Cadmium | Т | Γ | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | Т | Γ | 7440-50-8 | 3.9 | 2.0 | 0.50 | ug/L | | | |
| Lead | Т | Γ | 7439-92-1 | 0.83 | 1.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Selenium | Т | Γ | 7782-49-2 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Silver | Т | Γ | 7440-22-4 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Thallium | 7 | | 7440-28-0 | ND | 1.0 | 0.20 | 119/[. | IJ | UJ | 0 |

Sample Name OUTFALL009 20200407 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-2

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|---------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Antimony | D | 7440-36-0 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 2.7 | 2.0 | 0.50 | ug/L | | | |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | 0.50 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Silver | D | 7440-22-4 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Thallium | D | 7440-28-0 | ND | 1.0 | 0.20 | ug/L | U | U | |

Friday, June 12, 2020 Page 2 of 2



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264182-1

Client Project/Site: Routine Outfall 009 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 4/16/2020 1:29:47 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Laboratory Job ID: 440-264182-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

4/16/2020 1:29:47 PM

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Laboratory Job ID: 440-264182-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|----------------------------|--------|----------------|----------------|----------|
| 440-264182-1 | Outfall009_20200407_Comp | Water | 04/07/20 09:10 | 04/07/20 14:30 | |
| 440-264182-2 | Outfall009_20200407_Comp_F | Water | 04/07/20 09:10 | 04/07/20 14:30 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264182-1 Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264182-1

Comments

No additional comments.

Receipt

The samples were received on 4/7/2020 2:30 PM: the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 1.6° C.

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

Dioxin

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

Method FILTRATION: The following sample requested dissolved metals and was not filtered in the field: Outfall009 20200407 Comp F (440-264182-2). This sample was filtered and preserved upon receipt to the laboratory.

04/07/20 2.5mL of HNO3 HNO3 Lot # 0000234822

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Thallium for preparation batch 440-604188 and analytical batch 440-604271 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected. 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.

General Chemistry

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

Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B Sox Sep P preparation/analysis: Samples Outfall009 20200407 Comp (440-264182-1) were provided in wide-mouth amber glass bottles.

preparation batch 320-371493 Method: 1613B Sox Sep P / 1613B

Matrix: Aqueous

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

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp

Date Collected: 04/07/20 09:10 Date Received: 04/07/20 14:30 Lab Sample ID: 440-264182-1

Matrix: Water

| Method: 300.0 - Anions | s, Ion Chromatography | | | | | | | |
|------------------------|-----------------------------|------|-------|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chloride | 3.2 | 0.50 | 0.25 | mg/L | | | 04/08/20 14:29 | 1 |
| Nitrate as N | 0.24 | 0.11 | 0.055 | mg/L | | | 04/08/20 14:29 | 1 |
| Nitrite as N | ND | 0.15 | 0.025 | mg/L | | | 04/08/20 14:29 | 1 |
| Sulfate | 4.3 | 0.50 | 0.25 | mg/L | | | 04/08/20 14:29 | 1 |
| Method: NO3NO2 Calc | - Nitrogen, Nitrate-Nitrite | | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |

| Allalyte | Result | Qualifier | NL. | | Ullit | U | riepaieu | Allalyzeu | DII Fac |
|-------------------------|----------------|-----------|----------|----------------|-------|---|----------------|----------------|---------|
| Nitrate Nitrite as N | 0.24 | | 0.15 | 0.055 | mg/L | | | 04/16/20 11:05 | 1 |
| Method: 1613B - Dioxins | and Furans (HR | GC/HRMS) | | | | | | | |
| Analyte | • | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | | 0.000011 | 0.0000014 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 2,3,7,8-TCDF | ND | | 0.000011 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,7,8-PeCDD | 0.0000030 | J,DX q | 0.000053 | 0.0000012 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,7,8-PeCDF | 0.0000036 | J,DX | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 2,3,4,7,8-PeCDF | 0.0000031 | J,DX | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.0000059 | J,DX MB | 0.000053 | 0.0000009 5 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,6,7,8-HxCDD | 0.0000045 | J,DX | 0.000053 | 0.0000011 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.0000051 | J,DX MB | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,4,7,8-HxCDF | 0.0000037 | J,DX MB q | 0.000053 | 0.0000005 8 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,6,7,8-HxCDF | 0.000038 | J,DX MB | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.0000036 | J,DX MB | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 2,3,4,6,7,8-HxCDF | 0.0000035 | J,DX | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.000016 | J,DX MB | 0.000053 | 0.0000006 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.0000099 | J,DX MB | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| 1,2,3,4,7,8,9-HpCDF | 0.0000037 | J,DX q | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| OCDD | 0.00016 | MB | 0.00011 | 0.0000014 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| OCDF | 0.000025 | J,DX MB | 0.00011 | 0.0000016 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total TCDD | ND | | 0.000011 | 0.0000014 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total TCDF | ND | | 0.000011 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total PeCDD | 0.0000030 | J,DX q | 0.000053 | 0.0000012 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total PeCDF | 0.0000067 | J,DX | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total HxCDD | 0.000015 | J,DX MB | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total HxCDF | 0.000015 | J,DX MB q | 0.000053 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total HpCDD | 0.000032 | J,DX MB | 0.000053 | 0.0000006 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |
| Total HpCDF | 0.000017 | J,DX MB q | 0.000053 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 21:56 | 1 |

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Job ID: 440-264182-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp

Date Collected: 04/07/20 09:10 Date Received: 04/07/20 14:30

Lab Sample ID: 440-264182-1

Matrix: Water

| Isotope Dilution | %Recovery Qualifier | Limits | Prepared Ai | nalyzed | Dil Fac |
|-------------------------|---------------------|----------|----------------------|------------|---------|
| 13C-2,3,7,8-TCDD | 67 | 25 - 164 | 04/10/20 07:33 04/10 | 0/20 21:56 | 1 |
| 13C-2,3,7,8-TCDF | 76 | 24 - 169 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,7,8-PeCDD | 64 | 25 - 181 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,7,8-PeCDF | 66 | 24 - 185 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-2,3,4,7,8-PeCDF | 74 | 21 - 178 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,4,7,8-HxCDD | 69 | 32 - 141 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 61 | 28 - 130 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 73 | 26 - 152 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 68 | 26 - 123 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 77 | 29 - 147 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-2,3,4,6,7,8-HxCDF | 71 | 28 - 136 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 63 | 23 - 140 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 66 | 28 - 143 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 70 | 26 - 138 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| 13C-OCDD | 59 | 17 - 157 | 04/10/20 07:33 04/10 |)/20 21:56 | 1 |
| Surrogate | %Recovery Qualifier | Limits | Prepared Ai | nalyzed | Dil Fac |
| 37CI4-2,3,7,8-TCDD | 77 | 35 - 197 | 04/10/20 07:33 04/10 | 0/20 21:56 | 1 |

| Method: 200.7 Rev 4.4 - Metals | (ICP) - Total Recovera | ble | | | | | | |
|--------------------------------|------------------------|-----|-----|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND — | 10 | 5.0 | ug/L | | 04/09/20 09:00 | 04/10/20 11:31 | 1 |
| Zinc | ND | 20 | 12 | ug/L | | 04/09/20 09:00 | 04/10/20 11:31 | 1 |

| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|------------------|-----|------|------|---|----------------|----------------|---------|
| Silver | ND ND | 1.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |
| Copper | 3.9 | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |
| Lead | 0.83 J,DX | 1.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |
| Antimony | ND | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |
| Selenium | ND | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |
| Thallium | ND | 1.0 | 0.20 | ug/L | | 04/08/20 09:14 | 04/08/20 16:14 | 1 |

| Method: 245.1 - Mercury (CVAA) Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Mercury | ND | | 0.20 | 0.10 | ug/L | | 04/09/20 11:48 | 04/09/20 18:07 | 1 |
| General Chemistry | | | | | | | | | |

| Analyte | Result Qualifier | RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|------------------------|------------------|-----|-----------|----------------|----------------|---------|
| Total Dissolved Solids | 74 | 10 | 5.0 mg/L | | 04/14/20 10:00 | 1 |
| Total Suspended Solids | 3.2 | 1.0 | 0.50 mg/L | | 04/11/20 15:41 | 1 |
| Cyanide, Total | ND | 5.0 | 2.5 ug/L | 04/10/20 11:07 | 04/10/20 15:39 | 1 |

Client Sample ID: Outfall009_20200407_Comp_F Lab Sample ID: 440-264182-2

Date Collected: 04/07/20 09:10 Date Received: 04/07/20 14:30

| Method: 200.7 Rev 4.4 - Met | als (ICP) - Dissolved | | | | | | | |
|-----------------------------|-----------------------|----|-----|------|---------------|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND — | 10 | 5.0 | ug/L | _ | 04/08/20 14:56 | 04/08/20 22:37 | 1 |
| Zinc | ND | 20 | 12 | ug/L | | 04/08/20 14:56 | 04/08/20 22:37 | 1 |

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Matrix: Water

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Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp_F

Date Collected: 04/07/20 09:10

Date Received: 04/07/20 14:30

Analyte

Mercury

Lab Sample ID: 440-264182-2

Prepared

Matrix: Water

Analyzed

04/07/20 19:51 04/07/20 22:46

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |
| Copper | 2.7 | | 2.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |
| Selenium | 0.50 | J,DX | 2.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/09/20 09:10 | 04/09/20 15:36 | 1 |

RL

0.20

MDL Unit

0.10 ug/L

Result Qualifier

ND

9

10

11

13

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method **Method Description** Protocol Laboratory MCAWW TAL IRV 300.0 Anions, Ion Chromatography NO3NO2 Calc Nitrogen, Nitrate-Nitrite **EPA** TAL IRV TAL SAC 1613B Dioxins and Furans (HRGC/HRMS) **EPA** 200.7 Rev 4.4 Metals (ICP) EPA TAL IRV 200.8 Metals (ICP/MS) **EPA** TAL IRV 245.1 Mercury (CVAA) **EPA** TAL IRV SM 2540C Solids, Total Dissolved (TDS) SM TAL IRV SM 2540D Solids, Total Suspended (TSS) TAL IRV SM SM 4500 CN E Cyanide, Total (Low Level) SM TAL IRV 1613B Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans EPA TAL SAC 200.2 Preparation, Total Recoverable Metals **EPA** TAL IRV 245.1 Preparation, Mercury EPA TAL IRV Distill/CN Distillation, Cyanide None TAL IRV **FILTRATION** Sample Filtration None TAL IRV

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:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Job ID: 440-264182-1

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Lab Chronicle

Job ID: 440-264182-1 Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp

Lab Sample ID: 440-264182-1 Date Collected: 04/07/20 09:10 **Matrix: Water**

Date Received: 04/07/20 14:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|---------------|-----|--------|----------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 300.0 | | 1 | 5 mL | 1.0 mL | 604172 | 04/08/20 14:29 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | 5 mL | 1.0 mL | 604173 | 04/08/20 14:29 | NTN | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 605353 | 04/16/20 11:05 | TLN | TAL IRV |
| Total/NA | Prep | 1613B | | | 940.2 mL | 20 uL | 371493 | 04/10/20 07:33 | RDR | TAL SAC |
| Total/NA | Analysis | 1613B | | 1 | | | 371730 | 04/10/20 21:56 | ALM | TAL SAC |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604209 | 04/09/20 09:00 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 604593 | 04/10/20 11:31 | P1R | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604188 | 04/08/20 09:14 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 604271 | 04/08/20 16:14 | P1R | TAL IRV |
| Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 604401 | 04/09/20 11:48 | EMS | TAL IRV |
| Total/NA | Analysis | 245.1 | | 1 | | | 604565 | 04/09/20 18:07 | MEM | TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 604929 | 04/14/20 10:00 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 604678 | 04/11/20 15:41 | KL | TAL IRV |
| Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 604575 | 04/10/20 11:07 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 CN E | | 1 | | | 604615 | 04/10/20 15:39 | KMY | TAL IRV |

Client Sample ID: Outfall009_20200407_Comp_F

Date Collected: 04/07/20 09:10

Date Received: 04/07/20 14:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604093 | 04/07/20 18:52 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604251 | 04/08/20 14:56 | M1G | TAL IRV |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 604342 | 04/08/20 22:37 | KE | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604093 | 04/07/20 18:52 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604254 | 04/09/20 09:10 | M1G | TAL IRV |
| Dissolved | Analysis | 200.8 | | 1 | | | 604443 | 04/09/20 15:36 | MQP | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 604089 | 04/07/20 18:34 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 604095 | 04/07/20 19:51 | DB | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 604111 | 04/07/20 22:46 | MEM | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Matrix: Water

Lab Sample ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604172/6

Matrix: Water

Analysis Batch: 604172

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 440-264182-1

| | IVID | IVID | | | | | | | |
|--------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nitrate as N | ND | | 0.11 | 0.055 | mg/L | | | 04/08/20 10:51 | 1 |
| Nitrite as N | ND | | 0.15 | 0.025 | mg/L | | | 04/08/20 10:51 | 1 |

Lab Sample ID: LCS 440-604172/5

Matrix: Water

Analysis Batch: 604172

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

%Rec.

Spike LCS LCS Added Result Qualifier D %Rec Limits Analyte Unit Nitrate as N 1.13 1.09 97 90 - 110 mg/L Nitrite as N 1 52 1.48 mg/L 97 90 - 110

Lab Sample ID: 440-264127-D-1 MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604172

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier D %Rec Limits Analyte Unit Nitrate as N ND 5.65 5.36 mg/L 95 80 - 120 Nitrite as N ND 7.61 6.85 90 mg/L 80 - 120

Lab Sample ID: 440-264127-D-1 MSD

Client Sample ID: Matrix Spike Duplicate Matrix: Water Prep Type: Total/NA **Analysis Batch: 604172**

Sample Sample MSD MSD **RPD** Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Nitrate as N ND 5.65 5.38 95 80 - 120 20 mg/L n Nitrite as N ND 7.61 6.92 mg/L 91 80 - 120 20

Lab Sample ID: MB 440-604173/6 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604173

MB MB

MDL Unit Analyte Result Qualifier RL Dil Fac D Prepared Analyzed Chloride $\overline{\mathsf{ND}}$ 0.50 0.25 mg/L 04/08/20 10:51 ND 0.50 0.25 mg/L 04/08/20 10:51 Sulfate

Lab Sample ID: LCS 440-604173/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604173 LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec D Limits Chloride 5.00 4.58 mg/L 92 90 - 110

Sulfate 5.00 4.89 98 mg/L 90 - 110

Lab Sample ID: 440-264127-D-1 MS **Matrix: Water**

Analysis Batch: 604173

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 1000 EY 25.0 1060 EY BB mg/L 103 80 - 120 610 EY 25.0 Sulfate 647 EY BB mg/L 136 80 - 120

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Prep Type: Total/NA

Client Sample ID: Matrix Spike

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 440-264127-D-1 MSD

Matrix: Water

Analysis Batch: 604173

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloride | 1000 | EY | 25.0 | 1060 | EY BB | mg/L | | 92 | 80 - 120 | 0 | 20 |
| Sulfate | 610 | EY | 25.0 | 644 | EY BB | mg/L | | 126 | 80 - 120 | 0 | 20 |

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

Lab Sample ID: MB 320-371493/1-A

Matrix: Water

| Client | Sample | ID: N | /letho | d Bl | lank |
|--------|--------|-------|--------|------|------|
| | Pre | p Ty | /pe: T | ota | I/NA |

| Analysis Batch: 371730 | MD | МВ | | | | | | Prep Batch: | 371493 |
|------------------------|------------|---------------------------------------|----------|-----------|------|---|----------------|----------------|---------|
| Analyte | | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | · · · · · · · · · · · · · · · · · · · | 0.000010 | 0.0000016 | ug/L | | | 04/10/20 19:32 | 1 |
| 2,3,7,8-TCDF | ND | | 0.000010 | 0.0000003 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8-PeCDD | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8-PeCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.00000284 | J,DX | 0.000050 | 0.0000008 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.00000216 | J,DX q | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,7,8-HxCDF | 0.00000110 | J,DX q | 0.000050 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,6,7,8-HxCDF | 0.00000131 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.00000159 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000303 | J,DX | 0.000050 | 0.0000003 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000362 | J,DX | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| OCDD | 0.0000240 | J,DX | 0.00010 | 0.0000013 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| OCDF | 0.00000970 | J,DX | 0.00010 | 0.0000013 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total TCDD | ND | | 0.000010 | 0.0000016 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total TCDF | ND | | 0.000010 | 0.0000003 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total PeCDD | ND | | 0.000050 | 0.0000009 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total PeCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HxCDD | 0.00000500 | J,DX q | 0.000050 | 0.0000007 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HxCDF | 0.00000399 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |
| Total HpCDD | 0.00000510 | J,DX | 0.000050 | 0.0000003 | ug/L | | 04/10/20 07:33 | 04/10/20 19:32 | 1 |

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4/16/2020

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-1

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

MB MB

Lab Sample ID: MB 320-371493/1-A

Matrix: Water

Analysis Batch: 371730

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

Prep Batch: 371493

Analyte Result Qualifier RL **EDL** Unit Prepared Analyzed Dil Fac Total HpCDF 0.00000362 J.DX 0.000050 ug/L 04/10/20 07:33 04/10/20 19:32 0.0000009

MB MB %Recovery Dil Fac Isotope Dilution Qualifier Prepared Limits Analyzed 13C-2,3,7,8-TCDD 71 25 - 164 04/10/20 07:33 04/10/20 19:32 83 04/10/20 07:33 04/10/20 19:32 13C-2,3,7,8-TCDF 24 - 169 13C-1,2,3,7,8-PeCDD 70 25 - 181 04/10/20 07:33 04/10/20 19:32 13C-1,2,3,7,8-PeCDF 73 24 - 185 04/10/20 07:33 04/10/20 19:32 77 13C-2,3,4,7,8-PeCDF 21 - 178 04/10/20 07:33 04/10/20 19:32 13C-1,2,3,4,7,8-HxCDD 76 32 - 141 04/10/20 07:33 04/10/20 19:32 1 68 13C-1,2,3,6,7,8-HxCDD 28 - 130 04/10/20 07:33 04/10/20 19:32 13C-1,2,3,4,7,8-HxCDF 81 26 - 152 04/10/20 07:33 04/10/20 19:32 13C-1,2,3,6,7,8-HxCDF 75 26 - 123 04/10/20 07:33 04/10/20 19:32 13C-1,2,3,7,8,9-HxCDF 80 29 - 147 04/10/20 07:33 04/10/20 19:32 13C-2,3,4,6,7,8-HxCDF 83 28 - 136 04/10/20 07:33 04/10/20 19:32 71 23 - 140 04/10/20 07:33 04/10/20 19:32 13C-1,2,3,4,6,7,8-HpCDD 71 04/10/20 07:33 04/10/20 19:32 28 - 143 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF 82 26 - 138 04/10/20 07:33 04/10/20 19:32 13C-OCDD 17 - 157 04/10/20 07:33 04/10/20 19:32 64

MB MB

%Recovery Qualifier Surrogate Limits Prepared Dil Fac Analyzed 37CI4-2,3,7,8-TCDD 78 35 - 197 04/10/20 07:33 04/10/20 19:32

Lab Sample ID: LCS 320-371493/2-A

Matrix: Water

Isotope Dilution

13C-2,3,7,8-TCDD

13C-2,3,7,8-TCDF

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

| Analysis Batch: 371730 | Spike | LCS | LCS | | | | Prep Batch: 371493 |
|------------------------|----------|----------|-----------|------|---|------|--------------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 2,3,7,8-TCDD | 0.000200 | 0.000232 | | ug/L | | 116 | 67 - 158 |
| 2,3,7,8-TCDF | 0.000200 | 0.000266 | | ug/L | | 133 | 75 - 158 |
| 1,2,3,7,8-PeCDD | 0.00100 | 0.00118 | | ug/L | | 118 | 70 - 142 |
| 1,2,3,7,8-PeCDF | 0.00100 | 0.00126 | | ug/L | | 126 | 80 - 134 |
| 2,3,4,7,8-PeCDF | 0.00100 | 0.00120 | | ug/L | | 120 | 68 - 160 |
| 1,2,3,4,7,8-HxCDD | 0.00100 | 0.00107 | MB | ug/L | | 107 | 70 - 164 |
| 1,2,3,6,7,8-HxCDD | 0.00100 | 0.00118 | | ug/L | | 118 | 76 - 134 |
| 1,2,3,7,8,9-HxCDD | 0.00100 | 0.00112 | MB | ug/L | | 112 | 64 - 162 |
| 1,2,3,4,7,8-HxCDF | 0.00100 | 0.00113 | MB | ug/L | | 113 | 72 - 134 |
| 1,2,3,6,7,8-HxCDF | 0.00100 | 0.00121 | MB | ug/L | | 121 | 84 - 130 |
| 1,2,3,7,8,9-HxCDF | 0.00100 | 0.00123 | MB | ug/L | | 123 | 78 - 130 |
| 2,3,4,6,7,8-HxCDF | 0.00100 | 0.00120 | | ug/L | | 120 | 70 - 156 |
| 1,2,3,4,6,7,8-HpCDD | 0.00100 | 0.00107 | MB | ug/L | | 107 | 70 - 140 |
| 1,2,3,4,6,7,8-HpCDF | 0.00100 | 0.00111 | MB | ug/L | | 111 | 82 - 122 |
| 1,2,3,4,7,8,9-HpCDF | 0.00100 | 0.00104 | | ug/L | | 104 | 78 - 138 |
| OCDD | 0.00200 | 0.00222 | MB | ug/L | | 111 | 78 - 144 |
| OCDF | 0.00200 | 0.00262 | MB | ug/L | | 131 | 63 - 170 |
| LC | CS LCS | | | | | | |

LCS LCS %Recovery Qualifier Limits 68 20 - 175

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Job ID: 440-264182-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

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

Lab Sample ID: LCS 320-371493/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA Analysis Batch: 371730 **Prep Batch: 371493**

| Alialysis Balcii. 37 1730 | | | | Frep Batch. |
|---------------------------|-----------|-----------|----------|-------------|
| | LCS | LCS | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | |
| 13C-1,2,3,7,8-PeCDD | 65 | | 21 - 227 | |
| 13C-1,2,3,7,8-PeCDF | 70 | | 21 - 192 | |
| 13C-2,3,4,7,8-PeCDF | 75 | | 13 - 328 | |
| 13C-1,2,3,4,7,8-HxCDD | 71 | | 21 - 193 | |
| 13C-1,2,3,6,7,8-HxCDD | 63 | | 25 - 163 | |
| 13C-1,2,3,4,7,8-HxCDF | 71 | | 19 - 202 | |
| 13C-1,2,3,6,7,8-HxCDF | 66 | | 21 - 159 | |
| 13C-1,2,3,7,8,9-HxCDF | 74 | | 17 - 205 | |
| 13C-2,3,4,6,7,8-HxCDF | 74 | | 22 - 176 | |
| 13C-1,2,3,4,6,7,8-HpCDD | 61 | | 26 - 166 | |
| 13C-1,2,3,4,6,7,8-HpCDF | 64 | | 21 - 158 | |
| 13C-1,2,3,4,7,8,9-HpCDF | 69 | | 20 - 186 | |
| 13C-OCDD | 59 | | 13 - 199 | |
| | LCS | LCS | | |
| Surrogate | %Recovery | Qualifier | Limits | |
| 37CI4-2,3,7,8-TCDD | 78 | | 31 - 191 | |

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-604209/1-A

Matrix: Water

Analysis Batch: 604593

MD MD

| | IVID | IVID | | | | | | | |
|---------|--------|-----------|----|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND | | 10 | 5.0 | ug/L | | 04/09/20 09:00 | 04/10/20 11:26 | 1 |
| Zinc | ND | | 20 | 12 | ug/L | | 04/09/20 09:00 | 04/10/20 11:26 | 1 |

Lab Sample ID: LCS 440-604209/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable Analysis Batch: 604593** Prep Batch: 604209 Spike LCS LCS %Rec. Result Qualifier Unit Added Limits Analyte D %Rec Nickel 500 512 102 85 115 ua/I

| Zinc Lab Sample ID: 440-264182-1 MS | 500 | 512 | ug/L Client Sample | | 85 - 115 009_20200407_Comp |
|--------------------------------------|-----|-----|--------------------|----------|---|
| Matrix: Water Analysis Batch: 604593 | | | | Prep Typ | pe: Total Recoverable Prep Batch: 604209 |

| Analysis Batch: 604593 | Sample | Sample | Spike | MS | MS | | | | %Rec. | tcn: 604209 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-------------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nickel | ND | | 500 | 492 | | ug/L | | 98 | 70 - 130 | |
| Zinc | ND | | 500 | 500 | | ug/L | | 100 | 70 - 130 | |

| Lab Sample ID: 440-264182-1 MSD Matrix: Water Analysis Batch: 604593 Sample Sample Spike Analyte Result Qualifier Added | | | | | Clie | nt Sam | ole ID: | Outfall | 009_2020 | 0407_0 | Comp |
|--|--------|-----------|-------|--------|-----------|--------|---------|---------|-------------|----------|--------------|
| Matrix: Water | | | | | | | P | rep Ty | pe: Total I | Recove | rable |
| Analysis Batch: 604593 | | | | | | | | | Prep Ba | itch: 60 |)4209 |
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Nickel | ND | | 500 | 501 | | ug/L | | 100 | 70 - 130 | 2 | 20 |

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Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 604209

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Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

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

ND

Client Sample ID: Outfall009_20200407_Comp Lab Sample ID: 440-264182-1 MSD **Matrix: Water Prep Type: Total Recoverable Analysis Batch: 604593 Prep Batch: 604209** Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits Limit Unit %Rec **RPD** Zinc ND 500 507 70 - 130 ua/L 101

Lab Sample ID: MB 440-604093/1-B

Matrix: Water

Analysis Batch: 604342

MB MB

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 604251

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Nickel $\overline{\mathsf{ND}}$ 10 5.0 ug/L 04/08/20 14:56 04/08/20 22:21 Zinc ND 20 04/08/20 14:56 04/08/20 22:21 12 ug/L

Lab Sample ID: LCS 440-604093/2-B **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Dissolved Analysis Batch: 604342 Prep Batch: 604251** Spike LCS LCS %Rec. Added Analyte Result Qualifier Limits Unit D %Rec Nickel 500 472 94 85 - 115 ug/L Zinc 500 475 95 85 - 115 ug/L

Lab Sample ID: 440-264162-A-3-E MS **Client Sample ID: Matrix Spike Matrix: Water Prep Type: Dissolved** Analysis Batch: 604342 **Prep Batch: 604251** MS MS Spike Sample Sample %Rec. Result Qualifier Added Result Qualifier Unit D %Rec Limits Analyte 500 Nickel ND 462 ug/L 92 70 - 130

471

ug/L

94

70 - 130

500

Lab Sample ID: 440-264162-A-3-F MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Water Prep Type: Dissolved** Analysis Batch: 604342 **Prep Batch: 604251** Spike MSD MSD %Rec. **RPD** Sample Sample Result Qualifier Analyte Result Qualifier Added Unit %Rec Limits **RPD** Limit Nickel ND 500 480 20 ug/L 96 70 - 130 4 Zinc ND 500 490 ug/L 98 70 - 130 20

Method: 200.8 - Metals (ICP/MS)

Zinc

Lab Sample ID: MB 440-604188/1-A

Matrix: Water

Analysis Batch: 604271

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604188

| | IVIB | MB | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/08/20 09:14 | 04/08/20 16:10 | 1 |
| | | | | | | | | | |

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Client: Haley & Aldrich, Inc.

Job ID: 440-264182-1 Project/Site: Routine Outfall 009 Comp

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

Lab Sample ID: LCS 440-604188/2-A

Matrix: Water

Analysis Ratch: 604271

| Client | Sample | D: La | ab Co | ntrol | Sample |
|--------|--------|-------|-------|-------|----------|
| | Prep | Type: | Total | Reco | overable |

| Analysis Batch: 604271 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|-------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Silver | 80.0 | 89.5 | | ug/L | | 112 | 85 - 115 |
| Cadmium | 80.0 | 81.5 | | ug/L | | 102 | 85 - 115 |
| Copper | 80.0 | 83.6 | | ug/L | | 104 | 85 - 115 |
| Lead | 80.0 | 82.0 | | ug/L | | 103 | 85 - 115 |
| Antimony | 80.0 | 83.6 | | ug/L | | 105 | 85 - 115 |
| Selenium | 80.0 | 79.7 | | ug/L | | 100 | 85 - 115 |
| Thallium | 80.0 | 76.8 | | ug/L | | 96 | 85 - 115 |
| | | | | | | | |

Lab Sample ID: 440-264182-1 MS Client Sample ID: Outfall009_20200407_Comp

Matrix: Water

Analysis Batch: 604271

Prep Type: Total Recoverable

Prep Batch: 604188

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Silver | ND | | 80.0 | 88.5 | | ug/L | | 111 | 70 - 130 | |
| Cadmium | ND | | 80.0 | 81.0 | | ug/L | | 101 | 70 - 130 | |
| Copper | 3.9 | | 80.0 | 85.8 | | ug/L | | 102 | 70 - 130 | |
| Lead | 0.83 | J,DX | 80.0 | 82.0 | | ug/L | | 101 | 70 - 130 | |
| Antimony | ND | | 80.0 | 82.9 | | ug/L | | 104 | 70 - 130 | |
| Selenium | ND | | 80.0 | 75.1 | | ug/L | | 94 | 70 - 130 | |
| Thallium | ND | | 80.0 | 44.6 | LN | ug/L | | 56 | 70 - 130 | |

Lab Sample ID: 440-264182-1 MSD Client Sample ID: Outfall009_20200407_Comp

Matrix: Water

Analysis Batch: 604271

Prep Type: Total Recoverable Prep Batch: 604188

Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Silver $\overline{\mathsf{ND}}$ 80.0 87.9 ug/L 110 70 - 130 20 Cadmium ND 80.0 80.3 ug/L 100 70 - 130 20 Copper 3.9 80.0 86.9 ug/L 104 70 - 130 20 80.0 101 70 - 130 20 Lead 0.83 J,DX 81.4 ug/L ND 80.0 81.5 ug/L 102 70 - 130 20 Antimony 80.0 Selenium ND 75.6 ug/L 94 70 - 130 20 Thallium ND 80.0 46.0 LN ug/L 57 70 - 130 20

Lab Sample ID: MB 440-604093/1-D **Client Sample ID: Method Blank Matrix: Water Prep Type: Dissolved**

Analysis Batch: 604443

| | MB | MR | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/09/20 09:10 | 04/09/20 15:24 | 1 |
| | | | | | | | | | |

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Prep Batch: 604254

Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

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

Lab Sample ID: LCS 440-604093/2-D Client Sample ID: Lab Control Sample **Matrix: Water Prep Type: Dissolved** Analysis Batch: 604443 Prep Batch: 604254 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit Silver 80.0 86.4 108 85 - 115 ug/L 78 7 85 - 115 Cadmium 80 O uα/l QΩ

| Lab Sample ID: 440-264190-E-4-E MS | | | | | mple ID: Mat | |
|------------------------------------|------|------|------|-----|--------------|--|
| Thallium | 80.0 | 76.7 | ug/L | 96 | 85 - 115 | |
| Selenium | 80.0 | 78.4 | ug/L | 98 | 85 - 115 | |
| Antimony | 80.0 | 80.7 | ug/L | 101 | 85 - 115 | |
| Lead | 80.0 | 79.8 | ug/L | 100 | 85 - 115 | |
| Copper | 80.0 | 80.0 | ug/L | 100 | 85 - 115 | |
| Gadillaili | 00.0 | 10.1 | ug/L | 50 | 00 - 110 | |

Prep Type: Dissolved Matrix: Water **Analysis Batch: 604443** Prep Batch: 604254 Sample Sample Spike

| | Sample | Sample | Spike | IVIO | MIS | | | | %Rec. | |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Silver | ND | | 80.0 | 90.5 | | ug/L | | 113 | 70 - 130 | |
| Cadmium | ND | | 80.0 | 82.8 | | ug/L | | 104 | 70 - 130 | |
| Copper | 1.5 | J,DX | 80.0 | 85.6 | | ug/L | | 105 | 70 - 130 | |
| Lead | 0.64 | J,DX | 80.0 | 83.4 | | ug/L | | 103 | 70 - 130 | |
| Antimony | ND | | 80.0 | 84.8 | | ug/L | | 106 | 70 - 130 | |
| Selenium | 0.54 | J,DX | 80.0 | 80.2 | | ug/L | | 100 | 70 - 130 | |
| Thallium | ND | | 80.0 | 80.5 | | ug/L | | 101 | 70 - 130 | |
| _ | | | | | | | | | | |

Lab Sample ID: 440-264190-E-4-F MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water Prep Type: Dissolved**

Analysis Batch: 604443 Prep Batch: 604254

| Alialysis Datcil. 007773 | | | | | | | | | i ieb De | ALCII. OL | JTLJT |
|--------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----------|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Silver | ND | | 80.0 | 91.0 | | ug/L | | 114 | 70 - 130 | 1 | 20 |
| Cadmium | ND | | 80.0 | 83.2 | | ug/L | | 104 | 70 - 130 | 0 | 20 |
| Copper | 1.5 | J,DX | 80.0 | 86.9 | | ug/L | | 107 | 70 - 130 | 1 | 20 |
| Lead | 0.64 | J,DX | 80.0 | 83.8 | | ug/L | | 104 | 70 - 130 | 0 | 20 |
| Antimony | ND | | 80.0 | 85.4 | | ug/L | | 107 | 70 - 130 | 1 | 20 |
| Selenium | 0.54 | J,DX | 80.0 | 81.4 | | ug/L | | 101 | 70 - 130 | 1 | 20 |
| Thallium | ND | | 80.0 | 81.2 | | ug/L | | 102 | 70 - 130 | 1 | 20 |
| | | | | | | | | | | | |

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-604401/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604565** Prep Batch: 604401

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Mercury $\overline{\mathsf{ND}}$ 0.20 0.10 ug/L 04/09/20 11:48 04/09/20 18:02

Lab Sample ID: LCS 440-604401/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604565** Prep Batch: 604401 LCS LCS Spike %Rec.

Analyte Added Result Qualifier Unit %Rec Limits 4.00 3.93 Mercury ug/L 98 85 - 115

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Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

Mercury

Mercury

Method: 245.1 - Mercury (CVAA) (Continued)

ND

ND

Lab Sample ID: 440-264182-1 MS

Client Sample ID: Outfall009_20200407_Comp

Matrix: Water

Analysis Batch: 604565

Sample Sample Spike MS MS

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

3.77

3.96

ug/L

ug/L

94

99

75 - 125

75 - 125

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 604095

5

4.00

4.00

Lab Sample ID: 440-264182-1 MSD Client Sample ID: Outfall009_20200407_Comp **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604565 Prep Batch: 604401** MSD MSD %Rec. Sample Sample Spike **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit

Lab Sample ID: MB 440-604089/1-B

Matrix: Water

Analysis Batch: 604111

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 604095

MB MB

 Analyte
 Result Mercury
 Qualifier
 RL ND
 MDL unit ug/L
 D 04/07/20 19:51
 Analyzed Analyzed 04/07/20 22:35
 Dil Fac 04/07/20 19:51

Lab Sample ID: LCS 440-604089/2-B

Matrix: Water

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analysis Batch: 604111 Prep Batch: 604095 Spike LCS LCS %Rec.

 Analyte
 Added Mercury
 Result 4.00
 Qualifier 3.99
 Unit uq/L
 D 100
 885 - 115

Mercury 4.00 3.99 ug/L 100 85 - 115

Lab Sample ID: 440-264162-B-3-E MS Matrix: Water

Analysis Batch: 604111

Sample Sample Spike MS MS %Rec.

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

Mercury ND 4.00 4.09 ug/L 102 75 - 125

Lab Sample ID: 440-264162-B-3-F MSD

Matrix: Water

Analysis Batch: 604111

Sample Sample Spike MSD MSD

Analyte Result Qualifier Added Result Qualifier Unit D %Rec. RPD Limits RPD Limits RPD Limits

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Mercury ND 4.00 4.10 ug/L 103 75 - 125 20

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

Lab Sample ID: MB 440-604929/1

Matrix: Water

Client Sample ID: Method Blank

Prep Type: Total/NA

Analysis Batch: 604929

MB MB

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac
Total Dissolved Solids ND 10 5.0 mg/L 04/14/20 10:00 1

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Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

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

Lab Sample ID: LCS 440-604929/2 Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 604929 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit Total Dissolved Solids 1000 1000 100 90 - 110

Lab Sample ID: 440-264182-1 DU Client Sample ID: Outfall009_20200407_Comp **Matrix: Water** Prep Type: Total/NA

mg/L

Analysis Batch: 604929

RPD DU DU Sample Sample Result Qualifier Analyte Result Qualifier Unit D RPD Limit Total Dissolved Solids 74 74.0 mg/L 0

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

Lab Sample ID: MB 440-604678/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604678

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac **Total Suspended Solids** $\overline{\mathsf{ND}}$ 1.0 0.50 mg/L 04/11/20 15:41

Lab Sample ID: LCS 440-604678/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604678

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits **Total Suspended Solids** 1000 1020 mg/L 102 85 - 115

Lab Sample ID: 440-264314-A-2 DU **Client Sample ID: Duplicate Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 604678

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit ח RPD Limit **Total Suspended Solids** 430 393 mg/L

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

Lab Sample ID: MB 440-604575/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 604615 Prep Batch: 604575**

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 5.0 04/10/20 11:07 04/10/20 15:39 Cyanide, Total $\overline{\mathsf{ND}}$ 2.5 ug/L

Lab Sample ID: LCS 440-604575/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604615

Prep Batch: 604575 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cyanide, Total 100 96.4 ua/L 80 - 120

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Prep Type: Total/NA

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

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

| Lab Sample ID: LCSD 440-604575/3-A Matrix: Water | | | | C | Client S | Sample | ID: Lat | Control Prep Ty | • | • |
|---|------------------------|-------|--------|-----------|----------|--------|---------|--------------------|---------|-------|
| | Analysis Batch: 604615 | | | | | | | Prep Ba | tch: 60 | |
| | | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| | Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| | Cyanide, Total | 100 | 102 | | ug/L | | 102 | 80 - 120 | 6 | 20 |

| Lab Sample ID: 440-264162-J-1-B MS Matrix: Water Analysis Batch: 604615 Sample Sample Spike MS MS | | | | | CI | lient Sa | mple ID: Matrix Spike Prep Type: Total/NA Prep Batch: 604575 %Rec. | | |
|---|--------|-----------|-------|--------|-----------|----------|---|------|----------|
| Amalusta | • | Qualifier | - 1 | | Qualifier | Unit | | %Rec | Limits |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | | %Rec | Limits |
| Cyanide, Total | ND | | 100 | 102 | | ug/L | | 102 | 75 - 125 |

| Lab Sample ID: 440-264162-J-1-C MSD Matrix: Water Analysis Batch: 604615 | | | Client Sample ID: Matrix Spike Duplic Prep Type: Tota Prep Batch: 604 | | | | al/NA | | | | |
|--|--------|-----------|---|--------|-----------|------|-------|------|----------|-----|-------|
| _ | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cyanide, Total | ND | | 100 | 89.4 | | ug/L | | 89 | 75 - 125 | 13 | 20 |

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

HPLC/IC

Analysis Batch: 604172

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | 300.0 | |
| MB 440-604172/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604172/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264127-D-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264127-D-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

Analysis Batch: 604173

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | 300.0 | _ |
| MB 440-604173/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604173/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264127-D-1 MS | Matrix Spike | Total/NA | Water | 300.0 | |
| 440-264127-D-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 300.0 | |

Analysis Batch: 605353

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | NO3NO2 Calc | |

Specialty Organics

Prep Batch: 371493

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | 1613B | |
| MB 320-371493/1-A | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-371493/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 371730

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | 1613B | 371493 |
| MB 320-371493/1-A | Method Blank | Total/NA | Water | 1613B | 371493 |
| LCS 320-371493/2-A | Lab Control Sample | Total/NA | Water | 1613B | 371493 |

Metals

Filtration Batch: 604089

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep B | 3atch |
|----------------------|----------------------------|-----------|--------|---------------|-------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604089/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604089/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264162-B-3-E MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264162-B-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Filtration Batch: 604093

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|------------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604093/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-604093/1-D | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604093/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-604093/2-D | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264162-A-3-E MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264162-A-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |
| 440-264190-E-4-E MS | Matrix Spike | Dissolved | Water | FILTRATION | |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Metals (Continued)

| Filtration | Batch: | 604093 | (Continued) |
|-------------------|---------|--------|----------------------------|
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| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|------------|------------|
| 440-264190-E-4-F MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Prep Batch: 604095

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | 245.1 | 604089 |
| MB 440-604089/1-B | Method Blank | Dissolved | Water | 245.1 | 604089 |
| LCS 440-604089/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604089 |
| 440-264162-B-3-E MS | Matrix Spike | Dissolved | Water | 245.1 | 604089 |
| 440-264162-B-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 245.1 | 604089 |

Analysis Batch: 604111

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | 245.1 | 604095 |
| MB 440-604089/1-B | Method Blank | Dissolved | Water | 245.1 | 604095 |
| LCS 440-604089/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604095 |
| 440-264162-B-3-E MS | Matrix Spike | Dissolved | Water | 245.1 | 604095 |
| 440-264162-B-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 245.1 | 604095 |

Prep Batch: 604188

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604188/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604188/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264182-1 MS | Outfall009_20200407_Comp | Total Recoverable | Water | 200.2 | |
| 440-264182-1 MSD | Outfall009_20200407_Comp | Total Recoverable | Water | 200.2 | |

Prep Batch: 604209

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604209/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604209/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264182-1 MS | Outfall009_20200407_Comp | Total Recoverable | Water | 200.2 | |
| 440-264182-1 MSD | Outfall009_20200407_Comp | Total Recoverable | Water | 200.2 | |

Prep Batch: 604251

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |
| MB 440-604093/1-B | Method Blank | Dissolved | Water | 200.2 | 604093 |
| LCS 440-604093/2-B | Lab Control Sample | Dissolved | Water | 200.2 | 604093 |
| 440-264162-A-3-E MS | Matrix Spike | Dissolved | Water | 200.2 | 604093 |
| 440-264162-A-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 604093 |

Prep Batch: 604254

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | 200.2 | 604093 |
| MB 440-604093/1-D | Method Blank | Dissolved | Water | 200.2 | 604093 |
| LCS 440-604093/2-D | Lab Control Sample | Dissolved | Water | 200.2 | 604093 |
| 440-264190-E-4-E MS | Matrix Spike | Dissolved | Water | 200.2 | 604093 |
| 440-264190-E-4-F MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 604093 |

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Page 22 of 33

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Metals

Analysis Batch: 604271

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total Recoverable | Water | 200.8 | 604188 |
| MB 440-604188/1-A | Method Blank | Total Recoverable | Water | 200.8 | 604188 |
| LCS 440-604188/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 604188 |
| 440-264182-1 MS | Outfall009_20200407_Comp | Total Recoverable | Water | 200.8 | 604188 |
| 440-264182-1 MSD | Outfall009_20200407_Comp | Total Recoverable | Water | 200.8 | 604188 |

Analysis Batch: 604342

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|---------------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| MB 440-604093/1-B | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| LCS 440-604093/2-B | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| 440-264162-A-3-E MS | Matrix Spike | Dissolved | Water | 200.7 Rev 4.4 | 604251 |
| 440-264162-A-3-F MSD | Matrix Spike Duplicate | Dissolved | Water | 200.7 Rev 4.4 | 604251 |

Prep Batch: 604401

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | 245.1 | |
| MB 440-604401/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-604401/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |
| 440-264182-1 MS | Outfall009_20200407_Comp | Total/NA | Water | 245.1 | |
| 440-264182-1 MSD | Outfall009_20200407_Comp | Total/NA | Water | 245.1 | |

Analysis Batch: 604443

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264182-2 | Outfall009_20200407_Comp_F | Dissolved | Water | 200.8 | 604254 |
| MB 440-604093/1-D | Method Blank | Dissolved | Water | 200.8 | 604254 |
| LCS 440-604093/2-D | Lab Control Sample | Dissolved | Water | 200.8 | 604254 |
| 440-264190-E-4-E MS | Matrix Spike | Dissolved | Water | 200.8 | 604254 |
| 440-264190-E-4-F MSD | Matrix Spike Duplicate | Dissolved | Water | 200.8 | 604254 |

Analysis Batch: 604565

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | 245.1 | 604401 |
| MB 440-604401/1-A | Method Blank | Total/NA | Water | 245.1 | 604401 |
| LCS 440-604401/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 604401 |
| 440-264182-1 MS | Outfall009_20200407_Comp | Total/NA | Water | 245.1 | 604401 |
| 440-264182-1 MSD | Outfall009_20200407_Comp | Total/NA | Water | 245.1 | 604401 |

Analysis Batch: 604593

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| MB 440-604209/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| LCS 440-604209/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| 440-264182-1 MS | Outfall009_20200407_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |
| 440-264182-1 MSD | Outfall009_20200407_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604209 |

General Chemistry

Prep Batch: 604575

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | Distill/CN | |

Eurofins Calscience Irvine

Page 23 of 33 4/16/2020

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-1

General Chemistry (Continued)

Prep Batch: 604575 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|------------|------------|
| MB 440-604575/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-604575/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| LCSD 440-604575/3-A | Lab Control Sample Dup | Total/NA | Water | Distill/CN | |
| 440-264162-J-1-B MS | Matrix Spike | Total/NA | Water | Distill/CN | |
| 440-264162-J-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | Distill/CN | |

Analysis Batch: 604615

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | SM 4500 CN E | 604575 |
| MB 440-604575/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 604575 |
| LCS 440-604575/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 604575 |
| LCSD 440-604575/3-A | Lab Control Sample Dup | Total/NA | Water | SM 4500 CN E | 604575 |
| 440-264162-J-1-B MS | Matrix Spike | Total/NA | Water | SM 4500 CN E | 604575 |
| 440-264162-J-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 CN E | 604575 |

Analysis Batch: 604678

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | SM 2540D | |
| MB 440-604678/1 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-604678/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 440-264314-A-2 DU | Duplicate | Total/NA | Water | SM 2540D | |

Analysis Batch: 604929

| Lab Sample II | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|-----------------------------|-----------|--------|----------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | SM 2540C | |
| MB 440-60492 | 9/1 Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-6049 | 29/2 Lab Control Sample | Total/NA | Water | SM 2540C | |
| 440-264182-1 | OU Outfall009_20200407_Comp | Total/NA | Water | SM 2540C | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264182-1

Project/Site: Routine Outfall 009 Comp

Qualifiers

| | | | /1 | _ |
|---|---|--|----|---|
| н | М | | " | L |

Qualifier Description

BB Sample > 4X spike concentration

EY Result exceeds normal dynamic range; reported as a min. est.

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.

Metals

Qualifier Qualifier Description

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

LN MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | | rogram ate | Identification Number 2706 | Expiration Date 06-30-20 |
|--|-------------|------------------------------|---|--|
| The following analytes the agency does not o | • | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method NO3NO2 Calc | Prep Method | Matrix Water | Analyte Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, Sacramento

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

| Authority Program Alacka (UST) State | | Identification Number | mber Expiration Date | |
|---------------------------------------|-----------------------|-----------------------|----------------------|--|
| Alaska (UST) | a (UST) State | | 01-20-21 | |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 | |
| ANAB | .B Dept. of Energy | | 01-20-21 | |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 | |
| Arizona | State | AZ0708 | 08-11-20 | |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 | |
| California | State | 2897 | 01-31-22 | |
| Colorado | State | CA0004 | 08-31-20 | |
| Connecticut | State | PH-0691 | 06-30-21 | |
| Florida | NELAP | E87570 | 06-30-20 | |
| Georgia | State | 4040 | 01-30-21 | |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 | |
| Kansas | NELAP | E-10375 | 10-31-20 | |
| Louisiana | NELAP | 01944 | 06-30-20 | |
| Maine | State | 2018009 | 04-14-20 | |
| Michigan | State | 9947 | 01-29-20 * | |
| Nevada | State | CA000442020-1 | 07-31-20 | |
| New Hampshire | NELAP | 2997 | 04-18-20 | |
| New Jersey | NELAP | CA005 | 06-30-20 | |
| New York | NELAP | 11666 | 04-01-21 | |
| Oregon | NELAP | 4040 | 01-29-21 | |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 | |
| Texas | NELAP | T104704399-19-13 | 05-31-20 | |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 | |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 | |
| Utah | NELAP | CA000442019-01 | 02-28-21 | |
| Vermont | State | VT-4040 | 04-16-20 | |
| Virginia | NELAP | 460278 | 03-14-21 | |
| Washington | State | C581 | 05-05-20 | |
| West Virginia (DW) | State | 9930C | 12-31-20 | |
| Wyoming | State Program | 8TMS-L | 01-28-19 * | |

Eurofins Calscience Irvine

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

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440-264182 Chain of Custody

Test America

Chain of Custody Record

| Bondoc, Christian M Evaluation and Company Type Sample Carcomp Type Characteristic of matrix Sample Carcomp Type Characteristic of matrix Date Characteristic of matrix Sample Carcomp Type Characteristic of matrix Sample Carcomp Type Characteristic of matrix Sample Carcomp Type Type Carcomp Type Type Carcomp Type Type Type Type Type Type Type Typ | Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297 | | alian or castody record | Stock | | | | | 7 |
|--|--|--------------------------------------|-------------------------|-------------------|----------------------------------|--|--------------------------------|---|---|
| Contract Distriction | 100 | Sampler: | | Lab | PM: ndoc, Christian | M | Carrier Tracking No(s) | | 4829 |
| State Liberatories No. | | Phone: | | E-M | all: istian.bondoc@ | 2 testamericainc.com | State of Origin. California | Page | 1011 |
| Notice Partners Par | ompany: estAmerica Laboratories, Inc. | | | | Accreditations F State Progra | Required (See note): | | Job # | 264182-1 |
| Secondarion 10 Secondarion | kddress: | Due Date Requested: 4/17/2020 | | | | Analysis F | Requested | Prese | Code |
| 10 10 10 10 10 10 10 10 | Alest Sacramento | TAT Requested (days): | | | sji | | | 1 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | |
| 173-5600(Teb) 516-572-1059(Fabr) 170-58 170-5800(Teb) 516-572-1059(Fabr) 170-58 170-5800(Teb) 516-572-1059(Fabr) 170-58 170-5800(Teb) 516-572-1059(Fabr) 170-580-58 170-580-580-580-580-580-580-580-580-580-58 | state, z.p.: CA, 95605 | | | | stoT /v | | | A A | |
| Nove SEST Counties Controlled Source Controlled Control | | PO# | | | | | | G-A | |
| Signature (1995 SSFE cutfalls) Sample (Parts) Sample (Parts) | smails | WO# | | | (0) | | | | |
| Sample Identification - Client ID (Lab ID) Sample Consistent and a second of the consistency of the consiste | Project Name Soeing NPDES SSFL outfalls | Project #, 44009879 | | | 10 50, | | | | |
| Sample Identification - Client D (Lab ID) Sample Date Time Graph Ordering Containing accessistion in the state of Organic International Containing Sample Identification - Client D (Lab ID) Sample Identification - Client D (Lab ID) Sample Date Time Graph Ordering Orderin | Site: | SSOW#. | | | SD (Y | | | _ | |
| Outfailloge 20200407_Comp (440-264182-1) Af720 Pacific Outfailloge 20200407_Comp (440-264182-1) Outfailloge | And the first property of the first | | | | ield Filtered S | | | stadmuM leto | Constitution of the second of |
| Outbill009_20200407_Comp (440-264182-1) AT720 Pacific Bedfic Water X Water Discussion of the Solution of Comp (440-264182-1) Bedfic Water Discussion of Company are statical to camp, Earlieft Calcinotes place the company of interface and subject to camp of the subject t | Sample Dentinication - Orient ID (Lab ID) | 1 | 1 | - 0 | X | | | | Special mendenons/note. |
| Outsitudos guadante an adject to campe, Eurofin Chalcares places the severentria of membra and processistem an adject to campe, Eurofin Chalcares places the severentria of membra and processistem complexes are controlled and the severentrial of membra and processistem complexes are controlled and the severentrial of membra and controlled and the severentrial of the severent | The contract Court and Court Court Court and Court Cou | 1 | 1 | Market | , | | | <i>x</i> | DAS, Boeing w/u to zero, ug/L: Use |
| Note: Since liberatory accessibilities are subject to claring. Eurofine Calcience places the ownership of method, analyte & accreditation compliance upon out subcorrised. The samples therefore the control of the cont | Outfall009_20200407_Comp (440-264182-1) | | cific | Water | × | | | | g glassware. |
| Vote: Since laboratory acceditations are subject to drawpe, Eurofins Calcioneree places the ownership of method, analyte & acceditation compliance upon out subcortract laboratory or other instructions will be provided. Any changes to acceditation state about to cause, return the State of Organization in the State of Organization state about the samples are setting to said compliance upon out subcortract laboratory or other instructions will be provided. Any changes to acceditations said as below the samples are retained by the s | | | | | | | | | |
| Note: Since laboratory accretitations are subject to change, Eurofins Calscence places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditations are subject to change. Eurofins Calscence places the ownership of method, analyte & accreditations are subject to change. Eurofins Calscence places the Eurofins Calscence absorbed for the Eurofins Calscence and internations will be provided. Any changes to accreditation status should be throught to Eurofins Calscence. Possible Hazard Identification Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Betum 70 Client Deliverable Requested I. III. III. IV. Other (specify) Financy Deliverable Rank. 2 Special Instructions/OC Requirements Return 70 Client Date: Method of Singmant Date: Da | | | | | | | | | |
| Note: Since laboratory accreditations are subject to change. Eurofins Calscence places the ownership of method, analyzed, the samples discense laboratory accreditations in the State of Original Island above for analysisatisestumative being analyzed, the samples discense laboratory accreditation in the State of Original Island above for analysisatisestumative being analyzed, the samples of the family sample of the control of the samples are subject to change. Eurofins Calscence laboratory or other instructions will be provided. Any changes in sample above for analysisatisestumative being analyzed, the samples of cardinal changes are creditation of Custody attesting to said complicance to Eurofins Calscence laboratory or other instructions will be provided. Any changes are retained to Eurofins Calscence laboratory or other instructions will be provided. Any changes are retained to Eurofins Calscence laboratory or other instructions will be provided. Any changes are retained for Eurofins Calscence laboratory or other instructions will be provided any changes are retained for Eurofins Calscence. Sample Disposal By Lab Archive For Months Special Instructions for Retinquished by. Retinquished by | | | | | | | | | |
| attention immediately. If all requested accreditations are current to date, return the signed Chain of Oustody attesting to said complicance to Eurofins Calscience. Possible Hazard Identification Primary Deliverable Rank 2 Special Instructions/QC Requirements Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank 2 Special Instructions/QC Requirements Primary Deliverable Rank 2 Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank 2 Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank 2 Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank 2 Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank 2 Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other (specify) Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank 2 Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other (specify) Primary Deliverable Requested 1, III, III, IV, Other Remarks 2 Primary Deliverable Requested 1, III, III, IV, Other Remarks 2 Primary Deliverable Requested 1, III, III, IV, Other Remarks 2 Primary Deliverable Requested 1, III, III, IV, Other Remarks 2 Primary Deliverable Remarks 2 Primary Deliverable Remarks 2 Primary Deliverable Remarks 2 Primary D | Vote: Since laboratory accreditations are subject to change, Eurofins Cals maintain accreditation in the State of Origin listed above for analysis/fosts. | science places the ownership of met | hod, analyte & accrr | editation complia | nce upon out subc | contract laboratories. This sa | mple shipment is forwarded | under chain-of-custody | If the laboratory does not currently should be brought to Eurofins. Calscien |
| Primary Deliverable Rank 2 Primary Deliverable Rank 2 Special Instructions/QC Requirements Method of Shipment | attention immediately. If all requested accreditations are current to date, r. Possible Hazard Identification | refurn the signed Chain of Custody a | itlesting to said com | plicance to Euro | fins Calscience | Disposal (A fee may b | e assessed if sample | es are retained lor | iger than 1 month) |
| Primary Deliverable Rank 2 Date: Time: Time: Method of Shipment | Unconfirmed | | | | Re | sturn To Client | ☐ Disposal By Lab | Archive Fo | Months |
| Hinquished by: August Date Time Dat | Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable F | Rank: 2 | | Special Ir | nstructions/QC Require | ments | | |
| A Light Costody Seal No. | Empty Kit Relinquished by: | Date | 1 | | Time: | < | Method of Shipm | lent | |
| Sals Intact Custody Seal No.: | A. Kern | Date/Time Date/Time | 100 | Company | Received Received | The state of the s | Date | - A 9 | 5.5 |
| Custody Seal No.: | Relinquished by | Date/Time | | Company | Receiv | ed by | Date | Time | Company |
| | Custody Seal No.: | | | | Cooler | · Temperature(s) °C and Othe | 1 | | |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264182-1

Login Number: 264182 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |
| | | |

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Client: Haley & Aldrich, Inc.

Job Number: 440-264182-1

Login Number: 264182

List Number: 2

Creator: Her, David A

List Source: Eurofins TestAmerica, Sacramento

List Creation: 04/09/20 03:34 PM

| oreator. Her, Buvia A | | |
|--|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | 3.0c |
| 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? | 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 | |
| | | |

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method: 1613B - Dioxins and Furans (HRGC/HRMS) **Matrix: Water** Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|-------------------|--------------------------|------------------|------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|
| 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) |
| 440-264182-1 | Outfall009_20200407_Comp | 67 | 76 | 64 | 66 | 74 | 69 | 61 | 73 |
| MB 320-371493/1-A | Method Blank | 71 | 83 | 70 | 73 | 77 | 76 | 68 | 81 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264182-1 | Outfall009_20200407_Comp | 68 | 77 | 71 | 63 | 66 | 70 | 59 | - |

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Surrogate Legend

MB 320-371493/1-A

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)

Method Blank

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|---------------------|--------------------|----------|----------|-------------|-------------|-------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (20-175) | (22-152) | (21-227) | (21-192) | (13-328) | (21-193) | (25-163) | (19-202) |
| LCS 320-371493/2-A | Lab Control Sample | 68 | 77 | 65 | 70 | 75 | 71 | 63 | 71 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| I CS 320-371493/2-A | Lab Control Sample | 66 | 74 | 74 | 61 | 64 | 69 | 59 | |

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

Eurofins Calscience Irvine

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Routine Outfall 009 Comp
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Job ID: 440-264182-1

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GSO / OnTrac / Goldstreak / USPS / Other___



Job:

| Use this form to record Sample Custody Seal, | Cooler Custody Seal | Temperature & corrected | Temperature & other observations. |
|--|---------------------|-------------------------|-----------------------------------|
| File in the job folder with the COC. | | | |

| Notes: | Therm. ID: AC-5 Corr. Factor: 6 | 31-12 | 2.4 | °C |
|---------|--|-------------|--------|--------|
| 7,55,55 | Ice Wet Gel | Other | | |
| | Cooler Custody Seal: | | | |
| | | | | |
| | Cooler ID: | | | _ |
| | Temp Observed: Z.L °C Correcte | ed: 3. | 0 | °C |
| | From: Temp Blank D Sample | le 🗅 | | |
| | Opening/Processing The Shipment | Yes | No | NA |
| | Cooler compromised/tampered with? | | - | D |
| | Cooler Temperature is acceptable? | D | D | |
| | Samples received within holding time? | - | | D |
| | Initials: Date: 9A | or: / 2 | 0 | |
| | Unpacking/Labeling The Samples | Yes | No | NA |
| | CoC is complete w/o discrepancies? | B | | |
| | Samples compromised/tampered with? | D . | A | |
| | Sample containers have legible labels? | B | | |
| | Sample custody seal? | D | | D |
| | Containers are not broken or leaking? | 0 | | D |
| | Sample date/times are provided? | A | D | D |
| | Appropriate containers are used? | T | | |
| | Sample bottles are completely filled? | 6 | | D |
| | Sample preservatives verified? | D | | D |
| | Samples w/o discrepancies? | D | | D |
| | Zero headspace?* | D | | D |
| | Alkalinity has no headspace? | | | B |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | ם | D | D |
| | Multiphasic samples are not present? | 0 | | D |
| | Non-conformance | Yes | No | NA |
| | NCM Filed? | | | D |
| | Initials: DH Date: 419 | 20 | | |
| | "Containers requinno zero headspace have no headspace. | or bubble < | . 5 mm | (1/47) |

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264182-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

2 June 2020





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DATA VALIDATION REPORT SDG: 440-264182-2

2 June 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264182-2

Project Manager: Katherine Miller

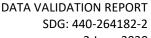
Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|-------------------|--|
| OUTFALL009_20200407 _COMP | 440-264182-1 | N/A | WM | 4/7/20 9:10 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL009_20200407 _COMP | 440-264182-2 | N/A | WM | 4/7/20 9:10 AM | RADIUM |



2 June 2020



I. SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264182-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- The sample containers were received improperly preserved at TA-SL. The appropriate containers were preserved to pH≤2 upon receipt.
- Field and laboratory personnel signed and dated the COCs.
- Some corrections to the original COCs were not dated. The cross-outs did not affect data quality.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-SL.

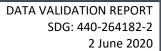




TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | Reason | | | | | |
|--------|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 3, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and A-01-R and the National Functional Guidelines for Superfund Inorganic Method Data Review (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved (except as noted in the Sample Management section above) and holding time requirements were met.

III.2. CALIBRATION:

The detector efficiency for gross alpha was less than 20%; therefore, the result for gross alpha was qualified as an estimated nondetect (UJ). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits for all target isotopes except strontium-90 (strontium carrier 26%; limits 40-110%). The sample result for strontium-90 was qualified as estimated (UJ).

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 1% level of confidence for gross beta. The detected sample result for gross beta was qualified as nondetect (U). The comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 5% level of confidence for tritium. The detected sample result for tritium was qualified as estimated (J+).

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were performed on the sample in this SDG for Method 900.0 (gross alpha and gross beta). RERs met laboratory control limits. Laboratory duplicates were not performed on the sample from this SDG for the remaining methods.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

Matrix spike and matrix spike duplicate analyses were not performed on the sample from this SDG.

III.4. Sample Result Verification:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC.

DATA VALIDATION REPORT SDG: 440-264182-2

2 June 2020



III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. The following are findings associated with field QC samples:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402641822

Analysis Method E900

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

RLCAS No Result Total **MDC** Result Analyte Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes 0.730 *Ш Gross Alpha Analytes GROSSALPHA -0.0913 3.00 1.46 pCi/L U UJ Gross Beta Analytes GROSSBETA 1.72 0.674 4.00 0.902 pCi/L U В

Analysis Method E901.1

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Units Value Uncert. Qualifier **Qualifier** Notes Cesium-137 10045-97-3 -4.92 14.5 20.0 18.0 pCi/L U U Potassium-40 13966-00-2 U U -110 164 262 262 pCi/L

Analysis Method E903.0

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRO

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

Result Total RL**MDC** Analyte CAS No Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes 0.0516 Radium-226 13982-63-3 0.0855 1.00 0.150 pCi/L

Analysis Method E904.0

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 0.446 0.318 1.00 0.490 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.0975 0.774 3.00 1.35 pCi/L

Analysis Method E906.0

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes 623 Tritium 10028-17-8 220 500 284 pCi/L В

Analysis Method HASL-300 U Mod

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-1

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes URANIUM Total Uranium 0.0541 0.1137 1.00 0.154 pCi/L

Analysis Method RADIUM

Sample Name OUTFALL009 20200407 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/7/2020 9:10:00 AM Validation Level: 9

Lab Sample Name: 440-264182-2

RLMDC Analyte CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 0.327 RADIUM226228 0.49 pCi/L U

Friday, June 12, 2020 Page 2 of 2



Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264182-2

Client Project/Site: Routine Outfall 009 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/4/2020 10:26:44 AM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

2 H- N-

0

Christian Bondoc Project Manager I 5/4/2020 10:26:44 AM

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Laboratory Job ID: 440-264182-2

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|----------------------------|---------|----------------|----------------|----------|
| zas campio is | enone eample is | - mutin | | 110001100 | 71000115 |
| 440-264182-1 | Outfall009 20200407 Comp | Water | 04/07/20 09:10 | 04/07/20 14:30 | |
| 770-207 102-1 | Odtiaii003_20200407_00111p | vvalci | 04/01/20 05.10 | 04/01/20 14.50 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-2

Job ID: 440-264182-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264182-2

Comments

No additional comments.

Receipt

The samples were received on 4/7/2020 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 1.6° C.

RAD

Method 900.0: Gross Alpha Beta Prep Batch 160-468140

The gross alpha-beta detection goals were not met for the following samples due to a reduction of the sample size attributed to high residual mass: (440-264451-B-4-A), (440-264451-B-4-D DU), (440-264451-B-4-B MS) and (440-264451-B-4-C MSBT). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta Prep Batch 160-468140

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 20200407 Comp (440-264182-1), (LCS 160-468140/2-A), (LCSB 160-468140/3-A), (MB 160-468140/1-A), (440-264451-B-4-A), (440-264451-B-4-D DU), (440-264451-B-4-B MS) and (440-264451-B-4-C MSBT)

Method 901.1: Gamma Prep Batch 160-467695

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.

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 |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-2

Job ID: 440-264182-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Th-227 Pb-211 Bi-214 Ra-226

Outfall009_20200407_Comp (440-264182-1), (LCS 160-467695/2-A), (MB 160-467695/1-A), (440-264162-K-1-J) and (440-264162-K-1-K

DU)

Method 903.0: Ra-226 Prep Batch 160-467450

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 20200407 Comp (440-264182-1), (LCS 160-467450/1-A), (MB 160-467450/22-A), (440-264162-K-1-A), (440-264162-K-1-B) MS) and (440-264162-K-1-C MSD)

Method 904.0: Radium-228 Prep Batch 160-467451

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 20200407 Comp (440-264182-1), (LCS 160-467451/1-A), (MB 160-467451/22-A), (440-264162-K-1-D), (440-264162-K-1-E) MS) and (440-264162-K-1-F MSD)

Method 905: Strontium-90 Prep Batch 160-467509

The barium carrier recovery (26%) is outside the lower control limit (40%) for the following sample: Outfall009 20200407 Comp (440-264182-1). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference. See prep NCM 160-194709.

Method 905: Sr-90 Prep Batch 160-467509

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_20200407_Comp (440-264182-1), (LCS 160-467509/1-A), (MB 160-467509/10-A), (440-264162-K-1-G), (440-264162-K-1-H) MS) and (440-264162-K-1-I MSD)

Method 906.0: LSC Tritium Prep Batch 160-468476

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 20200407 Comp (440-264182-1), (LCS 160-468476/2-A), (MB 160-468476/1-A), (160-37864-A-1-A), (160-37864-A-1-B DU), (440-264162-L-1-A), (440-264162-L-1-B MS) and (440-264162-K-1-T MSD)

Methods A-01-R, U-02-RC: Isotopic Uranium Prep Batch 160-468046

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 20200407 Comp (440-264182-1), (LCS 160-468046/2-A), (MB 160-468046/1-A), (440-263721-S-1-J), (440-263721-M-1-I MS) and (440-263721-M-1-J MSD)

Method ExtChrom: Uranium Prep Batch 160-468046:

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-2

Job ID: 440-264182-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

The following samples have matrix observations: Outfall009_20200407_Comp (440-264182-1). Samples 440-263721-1, 1 MS, and 1 MSD, 550-140782-1 and 3, 440-264162-1, 1 MS, and 1 MSD, and 440-264517-1, 1 MS, and 1 MSD are pale yellow. Samples 440-264182-1, 440-264370-1, and 440-264634-1 were medium yellow. Sample 440-264510-1 is yellow with sediment and was prepared at a reduced aliquot. Sample 160-37759-4 had thick brown sediment and was prepared at a reduced aliquot. Sample 160-37794-1 was pale brown in color with a small amount of sediment. Sample 160-37794-2 was thick brown with sediment and other plant-like particulates with a sewage smell and was prepared at a reduced aliquot.

Method PrecSep 0: Radium 228 Prep Batch 160-467451:

Samples 440-264162-1, 1 MS, & 1 MSD and 440-264182-1 were reduced due to yellow discoloration. Samples 440-264345-1 & 3 were reduced due to yellow discoloration and a cloudy appearance. Samples 440-264345-2 & 4, and samples 440-264346-1 through 10 were reduced due to limited volume: Outfall009_20200407_Comp (440-264182-1)

Method PrecSep-21: Radium 226 Prep Batch 160-467450:

Samples 440-264162-1, 1 MS, & 1 MSD and 440-264182-1 were reduced due to yellow discoloration. Samples 440-264345-1 & 3 were reduced due to yellow discoloration and a cloudy appearance. Samples 440-264345-2 & 4, and samples 440-264346-1 through 10 were reduced due to limited volume: Outfall009_20200407_Comp (440-264182-1)

Method PrecSep-7: Strontium 90 Prep Batch 160-467509:

The following sample has a slight yellow discoloration: Outfall009_20200407_Comp (440-264182-1).

Method PrecSep-7: Strontium 90 Prep Batch 160-467509:

The strontium carrier recovery is outside the lower control limit (40%) for the following sample: Outfall009_20200407_Comp (440-264182-1). There was physical evidence of matrix interference apparent during the initial preparation of the sample (see NCM #160-194704). The QC samples associated with the batch have acceptable carrier recovery indicating the possibility of matrix interference.

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

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Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp Lab Sample ID: 440-264182-1

Date Collected: 04/07/20 09:10

Matrix: Water

Date Received: 04/07/20 14:30

| | - | | Count | Total | | | | | | |
|-------------------|---------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | -0.0913 | U | 0.730 | 0.730 | 3.00 | 1.46 | pCi/L | 04/20/20 09:40 | 04/24/20 07:54 | 1 |
| Gross Beta | 1.72 | | 0.652 | 0.674 | 4.00 | 0.902 | pCi/L | 04/20/20 09:40 | 04/24/20 07:54 | 1 |

| Method: 901.1 - 0 | Cesium 137 | & Other G | amma Emi | | | | | | | |
|-------------------|------------|-----------|----------|---------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | -4.92 | U | 14.5 | 14.5 | 20.0 | 18.0 | pCi/L | 04/14/20 14:27 | 04/15/20 08:36 | 1 |
| Potassium-40 | -110 | U | 164 | 164 | | 262 | pCi/L | 04/14/20 14:27 | 04/15/20 08:36 | 1 |
| | | | | | | | | | | |

| Wethod: 903.0 - K | aululli-220 | (GFFC) | Count Uncert. | Total Uncert. | | | | | | |
|--------------------|------------------------|-----------|------------------|------------------|------|-------|-------|--------------------------------|-------------------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.0516 | Ū | 0.0853 | 0.0855 | 1.00 | 0.150 | pCi/L | 04/12/20 15:55 | 05/04/20 04:28 | 1 |
| Carrier Ba Carrier | % Yield 85.3 | Qualifier | Limits 40 - 110 | | | | | Prepared 04/12/20 15:55 | Analyzed 05/04/20 04:28 | Dil Fac |

| Method: 904.0 - | Radium-228 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.446 | U | 0.316 | 0.318 | 1.00 | 0.490 | pCi/L | 04/12/20 16:21 | 04/28/20 07:12 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 85.3 | | 40 - 110 | | | | | 04/12/20 16:21 | 04/28/20 07:12 | 1 |
| Y Carrier | 86.0 | | 40 - 110 | | | | | 04/12/20 16:21 | 04/28/20 07:12 | 1 |

| Method: 905 - St | trontium-90 (| GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|------------------|---------------|-----------|------------------|------------------|------|------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.0975 | Ū | 0.774 | 0.774 | 3.00 | 1.35 | pCi/L | 04/13/20 07:49 | 04/24/20 13:13 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 26.0 | X | 40 - 110 | | | | | 04/13/20 07:49 | 04/24/20 13:13 | 1 |
| Y Carrier | 87.5 | | 40 - 110 | | | | | 04/13/20 07:49 | 04/24/20 13:13 | 1 |

| Method: 906.0 - | Tritium, Tota | ıl (LSC) | | | | | | | | |
|-----------------|---------------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Tritium | 623 | | 213 | 220 | 500 | 284 | pCi/L | 04/22/20 04:26 | 04/22/20 22:15 | 1 |

| Ī | Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) | | | | | | | | | | | | | |
|---|--|--------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|--|--|--|
| | | - | | Count | Total | | | | | | | | | |
| | | | | Uncert. | Uncert. | | | | | | | | | |
| 1 | Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac | | | |
| = | Total Uranium | 0.0541 | U | 0.1137 | 0.1137 | 1.00 | 0.154 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 | | | |

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp Lab Sample ID: 440-264182-1

Date Collected: 04/07/20 09:10

Matrix: Water Date Received: 04/07/20 14:30

| Tracer | %Yield Qualifier | Limits | Prepared Analyzed | Dil Fac |
|-------------|------------------|----------|-------------------|---------|
| Uranium-232 | 88.9 | 30 - 110 | 04/17/20 17:03 | 1 |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine 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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 440-264182-2

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Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200407_Comp Lab Sample ID: 440-264182-1

Date Collected: 04/07/20 09:10

Date Received: 04/07/20 14:30

Matrix: Water

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|------------|--------|--------|----------------|---------|--------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 200.04 mL | 1.0 g | 468140 | 04/20/20 09:40 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | | 468726 | 04/24/20 07:54 | KLS | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 467695 | 04/14/20 14:27 | MMO | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 467839 | 04/15/20 08:36 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 749.93 mL | 1.0 g | 467450 | 04/12/20 15:55 | MNH | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 469493 | 05/04/20 04:28 | CJQ | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 749.93 mL | 1.0 g | 467451 | 04/12/20 16:21 | MNH | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | 1.0 mL | 1.0 mL | 469050 | 04/28/20 07:12 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 1000.89 mL | 1.0 g | 467509 | 04/13/20 07:49 | EJQ | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 468938 | 04/24/20 13:13 | KLS | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.6 mL | 1.0 g | 468476 | 04/22/20 04:26 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 468623 | 04/22/20 22:15 | JS | TAL SL |
| Total/NA | Prep | ExtChrom | | | 499.05 mL | 1.0 mL | 468046 | 04/17/20 17:03 | CMM | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 468767 | 04/24/20 09:34 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-468140/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Prep Batch: 468140** Analysis Batch: 468726

Count Total MB MB Uncert. Uncert. Result Qualifier RL **MDC** Unit $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed

Dil Fac Analyte Gross Alpha 1.12 pCi/L -0.01284 U 0.563 0.563 3.00 04/20/20 09:40 04/24/20 07:53 Gross Beta 0.2624 U 0.495 0.496 4.00 0.845 pCi/L 04/20/20 09:40 04/24/20 07:53

Lab Sample ID: LCS 160-468140/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 468726 Prep Batch: 468140**

Total LCS LCS %Rec. Spike Uncert.

RL Analyte Added Result Qual $(2\sigma + / -)$ **MDC** Unit %Rec Limits Gross Alpha 49.6 46.44 6.96 3.00 1.59 pCi/L 94 75 - 125

Lab Sample ID: LCSB 160-468140/3-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 468140 Analysis Batch: 468726**

Total Spike LCSB LCSB %Rec. Uncert. Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Analyte 4.00 **Gross Beta** 84.4 98 75 - 125 82.53 8.78 0.879 pCi/L

Lab Sample ID: 440-264451-B-4-B MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA

Prep Batch: 468140 Analysis Batch: 468726

Total Spike MS MS %Rec. Sample Sample Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Gross Alpha -12.2 U G 861 558.7 103 3.00 50.9 pCi/L 65 60 - 140

Lab Sample ID: 440-264451-B-4-C MSBT **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468726 Prep Batch: 468140

Total Sample Sample Spike MSBT MSBT %Rec. Uncert. RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits **Gross Beta** 8.25 U G 1470 1234 G 133 4.00 16.7 pCi/L 60 - 140

Lab Sample ID: 440-264451-B-4-D DU **Client Sample ID: Duplicate**

Matrix: Water Prep Type: Total/NA **Analysis Batch: 468726 Prep Batch: 468140**

Total DU DU Sample Sample **RER** Uncert. Result Qual Result Qual **MDC** Unit Analyte $(2\sigma + / -)$ RL RER Limit 24.11 U G Gross Alpha -12.2 U G 30.7 3.00 50.8 pCi/L 0.68 1 **Gross Beta** 8.25 UG 22.34 G 4.00 0.67 11.8 16.8 pCi/L

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5/4/2020

Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Count

Lab Sample ID: MB 160-467695/1-A

Matrix: Water

Analysis Batch: 467836

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467695

| | | | | . • • • • | | | | | | |
|--------------|--------|-----------|---------|-----------|------|------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 1.446 | U | 12.2 | 12.2 | 20.0 | 15.4 | pCi/L | 04/14/20 14:27 | 04/15/20 08:35 | 1 |
| Potassium-40 | -22.63 | U | 154 | 154 | | 222 | pCi/L | 04/14/20 14:27 | 04/15/20 08:35 | 1 |
| | | | | | | | | | | |

Total

Lab Sample ID: LCS 160-467695/2-A

Matrix: Water

Analysis Batch: 467837

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467695

| | | | | Total | | | | | | |
|---------------|--------|--------|------|---------|------|------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Americium-241 | 136000 | 126100 | | 14600 | | 349 | pCi/L | 93 | 90 - 111 | |
| Cesium-137 | 43700 | 43790 | | 4390 | 20.0 | 102 | pCi/L | 100 | 90 - 111 | |
| Cobalt-60 | 26300 | 25540 | | 2530 | | 54.0 | pCi/L | 97 | 89 - 110 | |

Lab Sample ID: 440-264162-K-1-K DU

Matrix: Water

Analysis Batch: 467837

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 467695

| , | | | | | Total | | | | | |
|--------------|--------|--------|--------|------|---------|------|------|-------|------|-------|
| | Sample | Sample | DU | DU | Uncert. | | | | | RER |
| Analyte | Result | Qual | Result | Qual | (2σ+/-) | RL | MDC | Unit | RER | Limit |
| Cesium-137 | 0.162 | U — | 3.072 | U | 8.42 | 20.0 | 10.2 | pCi/L | 0.16 | 1 |
| Potassium-40 | 9.19 | U | -143.8 | U | 141 | | 220 | pCi/L | 0.70 | 1 |

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467450/22-A

Matrix: Water

Carrier

Ba Carrier

Analysis Batch: 469493

| OI: | C | - 1 | D - | Method | Diamir |
|-------|------|------|------------|--------|--------|
| CHENT | Samo | Ie I | 1). | Method | Blank |

Prep Type: Total/NA

Prep Batch: 467450

| | | | Count | Total | | | | | | |
|------------|-----------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | -0.005278 | U | 0.0628 | 0.0628 | 1.00 | 0.138 | pCi/L | 04/12/20 15:55 | 05/04/20 06:18 | 1 |
| | MB | МВ | | | | | | | | |

Lab Sample ID: LCS 160-467450/1-A

93.6

%Yield Qualifier

Limits

40 - 110

Matrix: Water

Analysis Batch: 469493

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

04/12/20 15:55 05/04/20 06:18

Prepared

Dil Fac

Prep Batch: 467450

Analyzed

| | | | | i Otai | | | | |
|------------|-------|--------|------|---------|------|-------------|------|----------|
| | Spike | LCS | LCS | Uncert. | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits |
| Radium-226 | 15.1 | 14.75 | | 1.59 | 1.00 | 0.148 pCi/L | 97 | 75 - 125 |

Total

LCS LCS

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 75.2

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 440-264162-K-1-B MS

Matrix: Water

Analysis Batch: 469493

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 467450

Total Sample Sample Spike MS MS %Rec. Uncert. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec Radium-226 75 - 138 0.130 15.1 13.75 1.49 1.00 0.135 pCi/L 90

MS MS

Carrier%YieldQualifierLimitsBa Carrier79.540 - 110

Lab Sample ID: 440-264162-K-1-C MSD

Matrix: Water

Analysis Batch: 469493

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 467450

Total

Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Added RL Analyte Result Qual Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits RER Limit Radium-226 0.130 15.1 14.79 1.59 1.00 0.204 pCi/L 0.34

MSD MSD

 Carrier
 %Yield
 Qualifier
 Limits

 Ba Carrier
 79.2
 40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-467451/22-A

Matrix: Water

Analysis Batch: 469048

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

Prep Batch: 467451

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.1854 U 0.264 0.264 1.00 0.442 pCi/L 04/12/20 16:21 04/28/20 07:16

MB MB Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 40 - 110 04/12/20 16:21 04/28/20 07:16 93.6 Y Carrier 82.6 40 - 110 04/12/20 16:21 04/28/20 07:16

Lab Sample ID: LCS 160-467451/1-A

Matrix: Water

Analysis Batch: 469050

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

Prep Batch: 467451

Total Spike LCS LCS Uncert.

%Rec. Added RL Analyte Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits 1.00 Radium-228 11.9 13.25 1.58 0.656 pCi/L 112 75 - 125

LCS LCS

 Carrier
 % Yield Plant
 Qualifier Plant
 Limits Augustian

 Ba Carrier
 75.2
 40 - 110

 Y Carrier
 83.4
 40 - 110

Eurofins Calscience Irvine

5/4/2020

Client: Haley & Aldrich, Inc.

Job ID: 440-264182-2 Project/Site: Routine Outfall 009 Comp

MS MS

Result Qual

13.18

Count

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 440-264162-K-1-E MS

Spike

Added

11.9

Matrix: Water

Analysis Batch: 469050

Prep Type: Total/NA **Prep Batch: 467451** Total Uncert. %Rec. RL **MDC** Unit Limits (2σ+/-) %Rec

0.624 pCi/L

| | MS | MS | |
|------------|--------|-----------|----------|
| Carrier | %Yield | Qualifier | Limits |
| Ba Carrier | 79.5 | | 40 - 110 |
| Y Carrier | 84 5 | | 40 - 110 |

Sample Sample

Result Qual

0.176 U

Lab Sample ID: 440-264162-K-1-F MSD

Matrix: Water

Analyte

Radium-228

Analysis Batch: 469050

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

110

Prep Batch: 467451

Client Sample ID: Matrix Spike

45 - 150

| | | | | | | Total | | | | | | |
|------------|--------|--------|-------|--------|------|---------|------|-------------|------|----------|------|-------|
| | Sample | Sample | Spike | MSD | MSD | Uncert. | | | | %Rec. | | RER |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Radium-228 | 0.176 | U | 11.9 | 14.91 | | 1.70 | 1.00 | 0.518 pCi/L | 124 | 45 - 150 | 0.53 | 1 |

1.55

1.00

MSD MSD Carrier %Yield Qualifier Limits Ba Carrier 79.2 40 - 110 Y Carrier 85.2 40 - 110

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-467509/10-A

Matrix: Water

Analysis Batch: 468938

| Client Sample ID: Method Blank |
|--------------------------------|
| Prep Type: Total/NA |
| Prep Batch: 467509 |

| | | | | . • • • • | | | | | | |
|--------------|--------|-----------|---------|-----------|------|-------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.1722 | U | 0.208 | 0.208 | 3.00 | 0.343 | pCi/L | 04/13/20 07:49 | 04/24/20 13:13 | 1 |
| | МВ | MB | | | | | | | | |

Total

| Carrier | %Yield | Qualifier Lim | nits | Prepared Analyzed | Dil Fac |
|------------|--------|---------------|-------|-------------------------------|---------|
| Sr Carrier | 87.2 | 40 - | - 110 | 04/13/20 07:49 04/24/20 13:13 | 1 |
| Y Carrier | 91.2 | 40 - | - 110 | 04/13/20 07:49 04/24/20 13:13 | 1 |

Lab Sample ID: LCS 160-467509/1-A

Matrix: Water

Analysis Batch: 468937

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

Prep Batch: 467509

| | | | | i Otai | | | | | |
|--------------|-------|--------|------|---------|------|-----------|--------|----------|---|
| | Spike | LCS | LCS | Uncert. | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC Uni | t %Rec | Limits | |
| Strontium-90 | 7.88 | 7.758 | | 0.844 | 3.00 | 0.340 pCi | /L 98 | 75 - 125 | - |

| | LCS | LCS | |
|------------|--------|-----------|----------|
| Carrier | %Yield | Qualifier | Limits |
| Sr Carrier | 91.3 | | 40 - 110 |
| Y Carrier | 85.2 | | 40 - 110 |

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: 440-264162-K-1-H MS Client Sample ID: Matrix Spike

Matrix: Water

Analysis Batch: 468937

Prep Type: Total/NA

Prep Batch: 467509

Total Sample Sample Spike MS MS Uncert. %Rec. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec 0.217 Ū 19 - 150 Strontium-90 7.88 7.547 0.848 3.00 0.342 pCi/L 93

MS MS

Carrier %Yield Qualifier Limits Sr Carrier 76.5 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264162-K-1-I MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Analysis Batch: 468937

Total

Prep Type: Total/NA

Prep Batch: 467509

MSD MSD %Rec. **RER** Sample Sample Spike Uncert. Analyte Result Qual Added RL **MDC** Unit %Rec Result Qual $(2\sigma + / -)$ Limits RER Limit Strontium-90 0.217 U 7.89 7.398 0.860 3.00 0.414 pCi/L 91 19 - 150 0.09

MSD MSD

Carrier %Yield Qualifier Limits Sr Carrier 70.3 40 - 110 Y Carrier 90.8 40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-468476/1-A

Matrix: Water

Analysis Batch: 468623

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

Prep Batch: 468476

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL

MDC Unit Prepared Dil Fac Analyzed Tritium 62.16 U 161 161 500 277 pCi/L 04/22/20 04:26 04/22/20 13:34

Lab Sample ID: LCS 160-468476/2-A

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468476

Total Spike LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 500 277 pCi/L 96 75 - 114 2470 2384 380

MSD MSD

Lab Sample ID: 440-264162-K-1-T MSD

Sample Sample

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468476

Total

Spike

Uncert.

%Rec. **RER** %Rec Limits RER Limit

Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit Tritium 14.9 U 2460 2655 404 500 276 pCi/L 107 67 - 130 0.74

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Client: Haley & Aldrich, Inc.

Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 440-264162-L-1-B MS

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Matrix Spike

Prep Type: Total/NA Prep Batch: 468476

Prep Batch: 468476

Sample Sample Spike MS MS Uncert. %Rec. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec 14.9 U 67 - 130 Tritium 2470 2096 353 500 277 pCi/L 84

Total

Lab Sample ID: 160-37864-A-1-B DU

Matrix: Water

Analysis Batch: 468623

Client Sample ID: Duplicate

Prep Type: Total/NA Prep Batch: 468476

Total Sample Sample DU DU **RER** Uncert. Result Qual Result Qual RL **MDC** Unit Analyte $(2\sigma + / -)$ **RER** Limit Tritium 66 7 U 77.93 U 156 500 261 pCi/L 0.04

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A

Matrix: Water

Analysis Batch: 468749

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 468046

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier (2σ+/-) (2σ+/-) RL MDC

MB MB

 Tracer
 %Yield Unahim-232
 Qualifier Qualifier 30 - 110
 Limits 30 - 110

 Prepared
 Analyzed
 Dil Fac

 04/17/20 17:03
 04/24/20 09:34
 1

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

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

Prep Batch: 468046

Total Spike LCS LCS Uncert. %Rec. RL **Analyte** Added Result Qual $(2\sigma + / -)$ **MDC** Unit %Rec Limits Uranium-234 12.7 13.10 1.50 1.00 0.150 pCi/L 103 75 - 125 Uranium-238 13.0 13.96 1.58 1.00 0.0962 pCi/L 107 75 - 125

LCS LCS

 Tracer
 %Yield Unalifier
 Qualifier
 Limits

 Uranium-232
 81.2
 30 - 110

Lab Sample ID: 440-263721-M-1-I MS

Matrix: Water

Analysis Batch: 468757

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 468046

| | Tota | | | | | | | | | |
|-------------|--------|--------|-------|--------|------|---------|------|-------------|------|----------|
| | Sample | Sample | Spike | MS | MS | Uncert. | | | | %Rec. |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits |
| Uranium-234 | 0.0485 | U | 12.7 | 12.44 | | 1.46 | 1.00 | 0.164 pCi/L | 97 | 65 - 146 |
| Uranium-238 | 0.150 | | 13.0 | 14.35 | | 1.63 | 1.00 | 0.129 pCi/L | 109 | 68 - 143 |

MS MS

Tracer %Yield Qualifier Limits
Uranium-232 65.3 30 - 110

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 440-263721-M-1-J MSD **Client Sample ID: Matrix Spike Duplicate**

Matrix: Water

Analysis Batch: 468759

Prep Type: Total/NA

Prep Batch: 468046

| | | | | | | Total | | | | | • | | |
|-------------|--------|--------|-------|--------|------|---------|------|-------|-------|------|----------|------|-------|
| | Sample | Sample | Spike | MSD | MSD | Uncert. | | | | | %Rec. | | RER |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | RER | Limit |
| Uranium-234 | 0.0485 | U | 12.8 | 13.87 | | 1.59 | 1.00 | 0.158 | pCi/L | 108 | 65 - 146 | 0.47 | 1 |
| Uranium-238 | 0.150 | | 13.0 | 12.82 | | 1.50 | 1.00 | 0.141 | pCi/L | 97 | 68 - 143 | 0.49 | 1 |
| | | | | | | | | | | | | | |

MSD MSD %Yield Qualifier Limits Tracer 30 - 110 Uranium-232 65.1

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Rad

| Prep l | Ratch | 1· 46 | 7450 |
|--------|-------|-------|------|

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467450/22-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467450/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| 440-264162-K-1-B MS | Matrix Spike | Total/NA | Water | PrecSep-21 | |
| 440-264162-K-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-21 | |

Prep Batch: 467451

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-467451/22-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-467451/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| 440-264162-K-1-E MS | Matrix Spike | Total/NA | Water | PrecSep_0 | |
| 440-264162-K-1-F MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep_0 | |

Prep Batch: 467509

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|-------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | PrecSep-7 | |
| MB 160-467509/10-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-467509/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264162-K-1-H MS | Matrix Spike | Total/NA | Water | PrecSep-7 | |
| 440-264162-K-1-I MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-7 | |

Prep Batch: 467695

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | Fill_Geo-0 |
| MB 160-467695/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 |
| LCS 160-467695/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 |
| 440-264162-K-1-K DU | Duplicate | Total/NA | Water | Fill_Geo-0 |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Pre | p Batch |
|----------------------|--------------------------|-----------|--------|------------|---------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | ExtChrom | |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-I MS | Matrix Spike | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | Total/NA | Water | ExtChrom | |

Prep Batch: 468140

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-----------|--------|-------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | Evaporation | |
| MB 160-468140/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-468140/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| LCSB 160-468140/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 440-264451-B-4-B MS | Matrix Spike | Total/NA | Water | Evaporation | |
| 440-264451-B-4-C MSBT | Matrix Spike | Total/NA | Water | Evaporation | |
| 440-264451-B-4-D DU | Duplicate | Total/NA | Water | Evaporation | |

Prep Batch: 468476

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264182-1 | Outfall009_20200407_Comp | Total/NA | Water | LSC_Dist_Susp | |
| MB 160-468476/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp | |

Eurofins Calscience Irvine

Job ID: 440-264182-2

QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264182-2

Project/Site: Routine Outfall 009 Comp

Rad (Continued)

Prep Batch: 468476 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|---------------|------------|
| LCS 160-468476/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-K-1-T MSD | Matrix Spike Duplicate | Total/NA | Water | LSC_Dist_Susp | |
| 440-264162-L-1-B MS | Matrix Spike | Total/NA | Water | LSC_Dist_Susp | |
| 160-37864-A-1-B DU | Duplicate | Total/NA | Water | LSC_Dist_Susp | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264182-2

Project/Site: Routine Outfall 009 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. |
| Χ | Carrier is outside acceptance limits. |

QC

RER

RPD

TEF

TEQ

RL

Quality Control

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

| Glossary | |
|----------------|---|
| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
| a | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| 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) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |

5/4/2020

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|-----------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, 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 |
|--------------------------|--|------------------------------|-----------------|
| 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| lowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

Eurofins Calscience Irvine

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| | | | Leg | lend: A= | Annual, C=Conc | IIIIonal, EP=E | xpert Panel, F | Reautine, Q=Q | uarterly, QRSW | V≠Quarter | ly Recel | Legend: A=Annuai, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual | Annual | | | | | |
| | Refinquished By | By Date/Time | Company | | | | | Received By | Det | Dete/Time | | | | | Turn-around time (Check) | me (Check) | | |
| | 1 | Ch / The | JII/ocozilih | 1 | 1.1 | | | Willia | William Rivera | Š | - • | 41110 1114 | 6111 | | 24 Hour 48 Hour | 72 Hour 5 Day _ | | 10 Day Normal |
| | Relinquished By | Date/ | Company | | | | | Received By | Date | Date/Time | | | | | | | | |
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| | Reimanished By | By Date/Time | Company | | | | | | Tour C | Pare-rime CCS | offine CLS III | 1/20 | $\mathcal{ZC-MU}$ Store samples for E-months $\mathcal{L}(\mathcal{R}_{\mathcal{C}})$ Data Requirements (Check) No Level IV. | 200 | Store samples Data Requiren No Level IV. | for 6 months nents (Check | () All Level IV | × |
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Test America

Page 23

Unilitated and urpreserved analysis.
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48 hours Holding Time NO₃ & NO₂

((CIO#SZMES) Z 091) SS1

Otal Dissaived Metals Mercury (E245 1)

Gross Alpha(E900 0), Gross Beta(E900 0). Tribum (H-3), (E906 0), Cross Beta (E908 0), Ivel Redium 228 (E903 0 or E903 1) 8 Redium 228 (E901 0 or E901 1)

Cyanide (SM4500-CN-E / E335 2) CEPA-821-R-02-013) · · · · · ·

Total Dissolved Metals (E200 7) NI, Zn (E200 8) Ag, Cd, Cu, Pb, Sb, Se, Tl

ICDD (snd all congeners) (E1613B) Total Recoverable Metale (E200 3) Ni, Zn (E200 8) Ag, Cd, Cu, Pb, Sb, Se, Ti

LDS (SM2540C/E160 1) (00E) N-²ON+^EON *OS 'JO

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

eschamica's services ander this COC shall be performed in accordance with the TSUs water Banker Service Agreements 2019. 2. TestAmenta by and between Haley & Addrich, Inc., its subaldantes and affiliates, and TestAmenta Laboratories Inc.

Test Amenca Contact. Christian Bondoc 17461 Derian Ave Suite #100 Irvne CA 92614 Tel. 949-260-3218

Haley & Aldnrch 5333 Mission Center Rd Suite 300 San Diego, CA 92108

MSMSD

Bottle #

Preservative

of Cont.

Contemer Type 500 mL Poly

Sample Matrix vviv ¥ ¥. ¥ ₹

Sampling Deta/Time

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Ouths#009_20200407_Comp

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eurofins Chain of Custody Record

| Client Information (Sub Contract Lab) Client Conlact Shipping/Receiving Company, TestAmerica Laboratories, Inc. Address. | | | | | | | | | | |
|---|--|---|--|--|---|----------------------------------|------------------------------------|--|--|--|
| lient Contact. Shipping/Receiving Fischmerica Laboratories, Inc. Adress. | Sampler | | Lab PM Bondo | Lab PM: Bondoc, Christian M | Z c | | Carrier | Carrier Tracking No(s): | COC No. 440-154819.1 | 9.1 |
| iompany. FestAmerica Laboratories, Inc. Iddress. 13715 Rider Trail North, | Phone: | | E-Mail christ | E-Mail: christian.bondoc@testamericainc.com | @testamer | icalnc.con | State of Origin. | Origin. Tnia | Page: | |
| idatess: 13715 Rider Trail North, | | | | Accreditations Required (See note) State Program - California | Required (Se | e note): | | | Job #: | |
| | Due Date Requested: 4/17/2020 | | | | | Analysis | Analysis Requested | 20 | Preservation Codes | |
| Oily Searth City | TAT Requested (days): | | | | | | | | A - HCL B - NaOH C - Zn Acetate | M - Hexane N - None e O - AsNaO2 |
| State, 2lp. MO, 63045 | | | | | | | | | D - Nitric Acid | |
| Phone: 314-298-8566(Tel) 314-298-8757(Fax) | PO# | | | | | | | | G - Amchlor | |
| Email; | ,# OM | | | (0) | ste8\s | | 11 | | | |
| Project Name. Boeing NPDES SSFL outfalls | Project #: 44009879 | | | M 10 29 | ńqIA se | 822-mr | | | tainers L-EDA | |
| Site: | SSOW#. | | | y) as | o10 n | Radiu | | | of con | |
| Samule Identification . Client ID // ak ID) | Sample | Sample Type (C=comp, | 7- | ield Filtered S erform MS/Ms erform S-Fill_Ge | 01R_U/ExtChro | 2_qə8əərq\0.80 0_qə8əərq\0.40 | 0.0/LSC_Dist_ | | otal Mumber o | |
| | 1 | Preserva | - | a X | 6 | 6 | - | | | Special Instructions/Note: |
| The property of the second of | 09.10 | + | | 1 | | | + | | 7 | |
| Outfail009_20200407_Comp (440-264182-1) | 47/20 Pacific | | Water | × | × × | × × × × | × | | 2 date from preservation | Boeing SSFL DO NOT FILTER, use prepdate from preservation |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyse & accreditation compliance upon out subcontract laboratories. This samples this new for analysis/tests/marity being analyses, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditation status should be brought to Eurofins Calscience. | e places the ownership of method. x being analyzed, the samples mus the signed Chain of Custody attest | analyte & accredital be shipped back to ng to said complica | tion compliance the Eurofins C nce to Eurofins | upon out subc alscience labo Calscience. | contract labora | atories. This | sample shipmen will be provided | t is forwarded under of Any changes to acc | chain-of-custody. If the is reditation status should t | aboratory does not currently be brought to Eurofins Calscie |
| Possible Hazard Identification Inconfirmed | | | | Sample | Disposal (| A fee may | / be assesse | d if samples are | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | an 1 month) |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: | | | Special Ir | Special Instructions/QC Requirements | 'QC Requi | Disposal by Lab | By Lab | Archive For | Months |
| Empty Kit Relinquished by: | Date: | | | Time: | | | Me | Method of Shipment | | |
| Relinquished by: FI - Comm | Date(filme.) | 02 | Company FC-12 | Received by | ved by: | FED EX | × | Date/Time: | | Company |
| reinriquished by FED EY | Bate/Time Date/Time | U 0 | Company | Sec. | 6 | R | 1 | Ustering UM/UDID | 01:50 010 | |
| | | | | | | | | | | Company |
| A Yes A No | | | | Cooler | Cooler Temperature(s) ³ C and Other Remarks. | (s) °C and O | her Remarks | | | |



| S | hipping #(s):* | Thermometer | r#: | Packag | e Temp:** | Document #: |
|---------------------|--|---------------------|----------|-----------|---|---|
| 1. 1540 4107 | 7227 (2of3) | 19268846 | * | 1 | .7 | |
| 2. 1540 4107 | 7210 (10f3) | | | -1. | 4 | |
| 3. 1540 4107 | 7232 (3.43) | | | 1.7 | | |
| 4. 1540 4107 | 7743 (1.42) | | | -0. | 1 | |
| 5. 1540 4107 | 7254 (2.62) | | | -13 | 3 | |
| 6. | | | | | | |
| 7. | | | | | | |
| ondition (Circle "Y | " for yes, "N" for no and "N/A" for not applica | ble) | | | | |
| . Ø N | Are there custody seals present on the cooler? | | Y | N) | Are there custo | dy seals present on bottle |
| Y QN/A | Do custody seals on cooler appear to tampered with? | be 9. | Y | N N/A | Do custody sea tampered with? | ls on bottles appear to be |
| . (V) N | Were contents of cooler frisked after opening, but before unpacking? | 10. | Y (| N)N/A | Was sample red (If not, make note | ceived with proper pH1? |
| . Ø N | Sample received with Chain of Custo | ody? 11. | (Y) | N N/A | Containers for | Rn-222, C-14, Cl-36, H-3 ed with "Do Not Preserv |
| Y N N/A | Does the Chain of Custody match sai ID's on the container(s)? | mple 12. | (Y) | V | Sample receive | d in proper containers? |
| YN | Was sample received broken? | 13. | Y | N (N/A) | Headspace in V samples? (>6m (If Yes, note samp | |
| YN | Is sample volume sufficient for analy | vsis? 14. | Y | N/A | Soil containers | for C-14, H-3,Tc-99 & I I with "Do Not Dry" labe |
| | ANL, Sandia) sites, pH of ALL containers received | ved must be verific | ed, EXCE | PT VOA, O | il & Grease, Rn-222 | and soils. |
| otes: | Worthing Chould | 10 . 0 100 | | 0 1 | | |
| U | woitainer Should | rave by | en | meso | rveol | |

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

Labels 2nd Reviewed By:

Sample Labels Applied By: MK

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264182-2

Login Number: 264182 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante. Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264182-2

Login Number: 264182

List Number: 3 Creator: Korrinhizer, Micha L List Source: Eurofins TestAmerica, St. Louis List Creation: 04/10/20 08:22 PM

| Question | Answer | Comment |
|--|--------|---|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | The cubitainer was received imporperly preserved. |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264182-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Ba Carrier (40-110) | |
| 440-264162-K-1-B MS | Matrix Spike | 79.5 | |
| 440-264162-K-1-C MSD | Matrix Spike Duplicate | 79.2 | |
| 440-264182-1 | Outfall009_20200407_Comp | 85.3 | |
| LCS 160-467450/1-A | Lab Control Sample | 75.2 | |
| MB 160-467450/22-A | Method Blank | 93.6 | |
| Tracer/Carrier Legend | | | |
| Ba Carrier = Ba Carrier | | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| - | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Ba Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264162-K-1-E MS | Matrix Spike | 79.5 | 84.5 | |
| 440-264162-K-1-F MSD | Matrix Spike Duplicate | 79.2 | 85.2 | |
| 440-264182-1 | Outfall009_20200407_Comp | 85.3 | 86.0 | |
| LCS 160-467451/1-A | Lab Control Sample | 75.2 | 83.4 | |
| MB 160-467451/22-A | Method Blank | 93.6 | 82.6 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |
| Y Carrier = Y Carrier | | | | |
| | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Sr Carrier (40-110) | Y Carrier (40-110) | |
| 440-264162-K-1-H MS | Matrix Spike | 76.5 | 90.8 | |
| 440-264162-K-1-I MSD | Matrix Spike Duplicate | 70.3 | 90.8 | |
| 440-264182-1 | Outfall009_20200407_Comp | 26.0 X | 87.5 | |
| LCS 160-467509/1-A | Lab Control Sample | 91.3 | 85.2 | |
| MB 160-467509/10-A | Method Blank | 87.2 | 91.2 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |

Y Carrier = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Matrix: Water | Prep Type: Total/NA |
|---------------|---------------------|
|---------------|---------------------|

| | | ranium-23 |
|----------------------|--------------------------|-----------|
| Lab Sample ID | Client Sample ID | (30-110) |
| 440-263721-M-1-I MS | Matrix Spike | 65.3 |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | 65.1 |
| 440-264182-1 | Outfall009_20200407_Comp | 88.9 |
| LCS 160-468046/2-A | Lab Control Sample | 81.2 |
| MB 160-468046/1-A | Method Blank | 92.6 |

Eurofins Calscience Irvine

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Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Tracer/Carrier Legend

Uranium-232 = Uranium-232

Job ID: 440-264182-2

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| 440-264182 Field Shoot | |
|------------------------|--|

Job;

| Tracking # : | 1540 | 4 | 107 | 74 | 05 |
|--------------|------|---|-----|----|----|
| | | _ | | | |

SO / PO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

| Notes: | Therm. ID: AC-5 Corr. Factor: 6/ | | _°C |
|--------|---|------|-----|
| | Ice Wet Gel Of | ner | _ |
| | Cooler Custody Seal: 4 ca | | _ |
| | Cooler ID: | | |
| | Temp Observed: 2.6 °C Corrected: | 3.0 | °C |
| | From: Temp Blank Sample | | |
| | Opening/Processing The Shipment Ye | s No | NA |
| | Cooler compromised/tampered with? | D- | D |
| | Cooler Temperature is acceptable? | _ 0 | |
| | Samples received within holding time? | | D |
| | Initials: Date: 9Apr. | 120 | |
| | Unpacking/Labeling The Samples Ye | s No | NA |
| | CoC is complete w/o discrepancies? | _ 0 | |
| | Samples compromised/tampered with? | A | |
| | Sample containers have legible labels? | | |
| | Sample custody seal? | D | Ø |
| | Containers are not broken or leaking? | D | |
| | Sample date/times are provided? | | D |
| | Appropriate containers are used? | | |
| | Sample bottles are completely filled? | | |
| | Sample preservatives verified? | | D |
| | Samples w/o discrepancies? | D | |
| | Zero headspace?* | | D |
| | Alkalinity has no headspace? | | P |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | ם | D |
| | Multiphasic samples are not present? | | D |
| | Non-conformance Yes | No. | NA |
| | NCM Filed? | | D |
| | Initials: DH Date: 4/9/20 | | |



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264550-1

Client Project/Site: Routine Outfall 009 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/21/2020 2:06:29 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Christian Bondoc Project Manager I 4/21/2020 2:06:29 PM Laboratory Job ID: 440-264550-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Page 2 of 14

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Grab Laboratory Job ID: 440-264550-1

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| QC Sample Results | 9 |
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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Grab

Job ID: 440-264550-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264550-1 | Outfall009_20200413_Grab | Water | 04/13/20 09:15 | 04/13/20 11:28 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Job ID: 440-264550-1 Project/Site: Routine Outfall 009 Grab

Job ID: 440-264550-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264550-1

Comments

No additional comments.

Receipt

The samples were received on 4/13/2020 11:28 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

Organic Prep

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

Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264550-1

Project/Site: Routine Outfall 009 Grab

Client Sample ID: Outfall009_20200413_Grab Lab Sample ID: 440-264550-1

Date Collected: 04/13/20 09:15

Date Received: 04/13/20 11:28

| General Chemistry | | | | | | | | | |
|--------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| HEM (Oil & Grease) | ND | | 5.2 | 1.5 | mg/L | | 04/21/20 05:03 | 04/21/20 09:49 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Grab

 Method
 Method Description
 Protocol
 Laboratory

 1664A
 HEM and SGT-HEM
 1664A
 TAL IRV

 1664A
 HEM and SGT-HEM (SPE)
 1664A
 TAL IRV

Protocol References:

1664A = EPA-821-98-002

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264550-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264550-1

Project/Site: Routine Outfall 009 Grab

Client Sample ID: Outfall009_20200413_Grab Lab Sample ID: 440-264550-1

Date Collected: 04/13/20 09:15 Matrix: Water

Date Received: 04/13/20 11:28

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|--------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 1664A | | | 960 mL | 1000 mL | 605772 | 04/21/20 05:03 | L1A | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 605848 | 04/21/20 09:49 | L1A | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264550-1

Project/Site: Routine Outfall 009 Grab

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-605772/1-A

Matrix: Water

Analysis Batch: 605848

MB MB Analyte

HEM (Oil & Grease)

Result Qualifier ND

RL 5.0 **MDL** Unit 1.4 mg/L

Prepared Analyzed 04/21/20 05:03 04/21/20 09:49

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 605772**

Prep Type: Total/NA

Prep Batch: 605772

Prep Type: Total/NA

Prep Batch: 605772

RPD

Prep Type: Total/NA

Prep Batch: 605772

Dil Fac

Lab Sample ID: LCS 440-605772/2-A

Matrix: Water

HEM (Oil & Grease)

Analysis Batch: 605848

Spike Added 40.0

Spike

Added

40.0

LCS LCS 32.2

LCSD LCSD

Result Qualifier

Result Qualifier Unit mg/L

Unit

mg/L

D %Rec 81

Limits 78 - 114

%Rec.

Limits

78 - 114

Client Sample ID: Matrix Spike

Client Sample ID: Lab Control Sample Dup

D %Rec

87

%Rec.

Client Sample ID: Method Blank

RPD

Limit

Lab Sample ID: LCSD 440-605772/3-A

Matrix: Water

Analysis Batch: 605848

Analyte

HEM (Oil & Grease)

Lab Sample ID: 440-264905-A-1-A MS **Matrix: Water**

Analysis Batch: 605848

Sample Sample Analyte HEM (Oil & Grease)

Result Qualifier ND

Spike Added 40.8

MS MS Result Qualifier 39.7

34.7

D %Rec Unit mg/L

%Rec. Limits 97 78 - 114

Eurofins Calscience Irvine

QC Association Summary

Client: Haley & Aldrich, Inc. Job ID: 440-264550-1

Project/Site: Routine Outfall 009 Grab

General Chemistry

Prep Batch: 605772

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264550-1 | Outfall009_20200413_Grab | Total/NA | Water | 1664A | |
| MB 440-605772/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-605772/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-605772/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |
| 440-264905-A-1-A MS | Matrix Spike | Total/NA | Water | 1664A | |

Analysis Batch: 605848

| Lab Sample ID | Sample ID Client Sample ID | | Matrix | Method | Prep Batch | | |
|---------------------|----------------------------|----------|--------|--------|------------|--|--|
| 440-264550-1 | Outfall009_20200413_Grab | Total/NA | Water | 1664A | 605772 | | |
| MB 440-605772/1-A | Method Blank | Total/NA | Water | 1664A | 605772 | | |
| LCS 440-605772/2-A | Lab Control Sample | Total/NA | Water | 1664A | 605772 | | |
| LCSD 440-605772/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 605772 | | |
| 440-264905-A-1-A MS | Matrix Spike | Total/NA | Water | 1664A | 605772 | | |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264550-1

Project/Site: Routine Outfall 009 Grab

Glossary

DL

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|--|
| n | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |

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)

Detection Limit (DoD/DOE)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264550-1

Project/Site: Routine Outfall 009 Grab

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

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Eurofins Calscience Irvine

| Field Readings: (Include units) Time of Readings: C9/D Time of Readings: C9/D pH 7 pH unit 7 7 9 mb Temp 5 4 2 ccf | Field readings QC | Checked by 12000000000000000000000000000000000000 | Comments | | Hold | | D. | | ain of Custody | | and time (Check) | 48 Hour 5 Day Normal | Integrity (Check) | Intact On Ice Store samples for 6 months. | Chata Requirements (Check) No Level IV All Level IV X | |
|---|--|--|-----------------------|--------------------------|--------------------------------|--|----|--|-----------------------------|-----------------|------------------|----------------------|-------------------|---|--|------|
| ANALYSIS REQUIRED | | | | | | | | | 440-264550 Chain of Custody | | Time | +17-70% 109 Fo | Three | terfine | EC112/10 | 1128 |
| | (MSH-APS | araseon | MS/MSD 8 | ž | N ON | | | | | 4 | Date/Time | 1. | Date | | Street . | 1 |
| .s. 209, 010] | ine Miller 944 (cell) | ominick 702 (cell) | Botte # | ħ | 15 | | | | | edend: B=Routin | Received By | (Sams | Received By | Received By | <u>\</u> | P |
| Project Boeing-SSFL NPDES Permit 2020 te Ourball (003-007, 009, 010] Ourball 009 Grab | Project Manager: Katherine Miller 520,289,8806, 520.904.6944 (cell) | Field Manager Mark Dominick 978 234 5033, 818 599 0702 (cell) | Pireservative | HCI | 豆 | | | | | _ | | | | | | |
| Box Routine O | Project # 520.289. | Field N 978 234 | of Cont. | 2 | 2 | | | | | | | | | | | |
| | | | Container Type | 1 L Glass Amber | 1 L Glass Amber | | | | | | | 17:14 | 00 | ٥ | | |
| | Selvice | | Sample | MW. | M. | | | | | | Company | 0550 | | Company | | |
| 90 | with the T&Cs within Bankat he subsidiaries and affiliates, | | Sampling Date/Time | 413/2020/06 | 4/13/2020 / 7/ | | | | | | | -2020/ | 7 2 | 10000 | | |
| Client Name/Address* Haley & Aldrich 5333 Mission Center Rd Sure 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Denan Ave Suite #100 Irvine CA 92814 Tel 949-280-3218 | Trestveriors's services under the CricC shall be performed an excedence with the TGCs within Bankas Services Agreement's 2018-727 feachments by and between Haley & Adricch, Inc. Its subalidaries and affiliates, and Trestverioral Laboratories Inc. | n Smith | Olagas O | Outhall009_20200413_Grab | Ouffeli009_20200413_Grab_Extra | | | | | | | 1418 | / | 7 | | |
| Cient Name/Address: Haley & Addrch 5333 Mission Center F San Diego, CA 92108 Eurofins Calscience in 17461 Densn Ave Suit Irvne CA 92814 Tel: 949-280-3218 | TestAmerica's ser Agreement# 2019 TestAmerica Labo | Sampler Dan Smith | Sample Description | as street | | | | | | | Retinguished By | The | Refinquished By | Relinquished By | | |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264550-1

Login Number: 264550 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | Anower | Commont |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | 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 | |

A

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264634-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

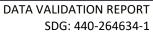
29 May 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264634-1

29 May 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-264634-1

Project Manager: Katherine Miller

Matrix: Water

QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|--------------------------------|--------------------|----------------------|--------|--------------------|---------------------------|---------------------|
| OUTFALL009_2020041 4_COMP | 440-264634-1 | N/A | WM | 4/14/20 9:45 AM | E1613B, E200.7, E200.8 | П |
| OUTFALL009_2020041 4_COMP_F | 440-264634-2 | N/a | WM | 4/14/20 9:45 AM | E200.7, E200.8 | II |

DATA VALIDATION REPORT SDG: 440-264634-1

29 May 2020



SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264634-1:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable, with the following exception. Sample OUTFALL009_20200414_COMP was received for metals analysis unpreserved. The sample was preserved upon receipt at the laboratory.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA-Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were present on the coolers upon receipt at TA-Irvine and TA-Sacramento.





TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



III. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 8, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDD, 2,3,7,8-TCDF, OCDD and OCDF, and for all totals except PeCDF and TCDD. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. Totals PeCDD and HxCDD in the sample matched the concentration or sum of concentrations of the qualified isomers and were also qualified as nondetects (U). The sample totals for HpCDD, HpCDF and HxCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.



III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. Second-column confirmation analysis for isomer 2,3,7,8-TCDF was not necessary, as 2,3,7,8-TCDF was not detected in the initial analysis of the sample.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects (UJ) at the level of the EMPC. Totals PeCDF and TCDD in the sample matched the concentration or sum of concentrations of the qualified isomers and were also qualified as estimated nondetects (UJ). Totals HpCDD, HpCDF and HxCDF flagged by the laboratory as including one or more EMPC peaks were qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^X reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL009_20200414_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.

IV.3. QUALITY CONTROL SAMPLES

IV.3.1. METHOD BLANKS

There were no target analyte detections in the method blanks or calibration blanks of sufficient concentration to warrant qualification of associated site sample results with the exception of total antimony (CCB: $0.775\mu g/L$). The associated sample result was a detect below the RL and was qualified as nondetect (U).



IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. Interferents in site samples were not summarized; therefore, interference was not evaluated.

IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on a sample (total or dissolved) in this SDG for Method 200.7, or for total metals by Method 200.8. MS/MSD analyses were performed on the sample in this SDG for dissolved metals by Method 200.8. Recoveries were within the QAPP control limits of 70-130% and RPDs were ≤20%.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. INTERNAL STANDARDS PERFORMANCE

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MECX used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402646341

Analysis Method E1613B

Sample Name OUTFALL009_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

| Analyte 1 | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Oualifier | Validation Notes |
|---|--------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N | 39001-02-0 | 0.0000024 | 0.00011 | 0.00000042 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo- dioxin (OCDD) | p- N | 3268-87-9 | 0.000012 | 0.00011 | 0.00000048 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N) | 67562-39-4 | 0.0000015 | 0.000055 | 0.00000031 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-pdioxin (HpCDD) | o- N | 35822-46-9 | 0.0000017 | 0.000055 | 0.00000039 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N) | 55673-89-7 | 0.00000074 | 0.000055 | 0.00000033 | ug/L | J,DXq | UJ | *Ш |
| 1,2,3,4,7,8-Hexachlorodibenzofura (HxCDF) | n N | 70648-26-9 | 0.00000080 | 0.000055 | 0.00000049 | ug/L | J,DX | J | DNQ |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 39227-28-6 | 0.0000024 | 0.000055 | 0.00000044 | ug/L | J,DXMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 57117-44-9 | 0.00000069 | 0.000055 | 0.00000053 | ug/L | J,DX | J | DNQ |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 57653-85-7 | ND | 0.000055 | 0.00000043 | ug/L | U | U | |
| 1,2,3,7,8,9-Hexachlorodibenzofura (HxCDF) | n N | 72918-21-9 | 0.00000074 | 0.000055 | 0.00000029 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 19408-74-3 | 0.00000086 | 0.000055 | 0.00000039 | ug/L | J,DXMBq | U | В |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-41-6 | 0.00000076 | 0.000055 | 0.00000033 | ug/L | J,DXq | UJ | *Ш |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N | 40321-76-4 | 0.00000087 | 0.000055 | 0.00000037 | ug/L | J,DXMB | U | В |
| 2,3,4,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 60851-34-5 | 0.00000037 | 0.000055 | 0.00000032 | ug/L | J,DXq | UJ | *Ш |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-31-4 | 0.00000064 | 0.000055 | 0.00000036 | ug/L | J,DXq | UJ | *Ш |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | ND | 0.000011 | 0.00000025 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxi | n N | 1746-01-6 | 0.0000010 | 0.000011 | 0.00000037 | ug/L | J,DXq | UJ | *Ш |
| Total Heptachlorodibenzofuran (HpCDF) | N | 38998-75-3 | 0.0000030 | 0.000055 | 0.00000031 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | N | 37871-00-4 | 0.0000036 | 0.000055 | 0.00000039 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Hexachlorodibenzofuran (HxCDF) | N | 55684-94-1 | 0.0000026 | 0.000055 | 0.00000029 | ug/L | J,DXMBq | J | B, DNQ, *III |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N | 34465-46-8 | 0.0000032 | 0.000055 | 0.00000039 | ug/L | J,DXMBq | U | В |
| Total Pentachlorodibenzofuran (PeCDF) | N | 30402-15-4 | 0.0000014 | 0.000055 | 0.00000033 | ug/L | J,DXq | UJ | *Ш |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N | 36088-22-9 | 0.00000087 | 0.000055 | 0.00000037 | ug/L | J,DXMB | U | В |
| Total Tetrachlorodibenzofuran (TCDF) | N | 55722-27-5 | ND | 0.000011 | 0.00000025 | ug/L | U | U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | N | 41903-57-5 | 0.0000010 | 0.000011 | 0.00000037 | ug/L | J,DXq | UJ | *Ш |

Analysis Method E200.7

Sample Name OUTFALL009_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---------|---------|------------|-----------------|----|-----|-----------------|------------------|-------------------------|---------------------|
| Nickel | T | 7440-02-0 | ND | 10 | 5.0 | ug/L | U | U | |
| Zinc | T | 7440-66-6 | ND | 20 | 12 | ug/L | U | U | |

Sample Name OUTFALL009 20200414 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-2

Result Result Analyte Fraction: CAS No RL**MDL** Lab Validation Validation Value Units Qualifier Qualifier Notes Nickel 7440-02-0 ND 10 5.0 ug/L Zinc 7440-66-6 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL009_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

| Analyte | Frac | ction: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|------|---------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Antimony | T | 7440-36-0 | 1.2 | 2.0 | 0.50 | ug/L | J,DX | U | В |
| Cadmium | T | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | T | 7440-50-8 | 3.8 | 2.0 | 0.50 | ug/L | | | |
| Lead | T | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | T | 7782-49-2 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Silver | T | 7440-22-4 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Thallium | Т | 7440-28-0 | ND | 1.0 | 0.20 | ug/L | IJ | U | |

Sample Name OUTFALL009 20200414 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-2

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|---------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Antimony | D | 7440-36-0 | 1.4 | 2.0 | 0.50 | ug/L | J,DX | J | DNQ |
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 3.9 | 2.0 | 0.50 | ug/L | | | |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | ND | 2.0 | 0.50 | ug/L | U | U | |
| Silver | D | 7440-22-4 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Thallium | D | 7440-28-0 | ND | 1.0 | 0.20 | ug/L | U | U | |

Friday, June 12, 2020 Page 2 of 2



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264634-1

Client Project/Site: Routine Outfall 009 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 4/23/2020 1:15:14 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Routine Outfall 009 Comp

Laboratory Job ID: 440-264634-1

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Cotton for

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Christian Bondoc Project Manager I 4/23/2020 1:15:14 PM

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Laboratory Job ID: 440-264634-1

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|----------------------------|--------|----------------|----------------|----------|
| 440-264634-1 | Outfall009_20200414_Comp | Water | 04/14/20 09:45 | 04/14/20 13:55 | |
| 440-264634-2 | Outfall009_20200414_Comp_F | Water | 04/14/20 09:45 | 04/14/20 13:55 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264634-1

Comments

No additional comments.

Receipt

The samples were received on 4/14/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.5° C, 1.0° C, 1.3° C, 1.6° C and 2.1° C.

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

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: Outfall009 20200414 Comp (440-264634-1), (CCV 320-373674/2), (LCS 320-372899/2-A) and (MB 320-372899/1-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

Method FILTRATION: The following sample requested dissolved metals and was not filtered in the field: Outfall009 20200414 Comp F (440-264634-2). This sample was filtered and preserved upon receipt to the laboratory.

04/14/20 2.5mL of HNO3 HNO3 Lot # 0000234822

Method 200.8: Due to the high concentration of Silver, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 440-605115 and analytical batch 440-605225 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 200.7 Rev 4.4: The method blank for preparation batch 440-605121 and analytical batch 440-605236 contained Zinc above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 245.1: The matrix spike (MS) sample was mistakenly double spiked by the prep analyst. (440-264634-A-2-A MS)

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.

Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B Sox Sep P preparation/analysis: Sample Outfall009 20200414 Comp (440-264634-1) were received in a wide-mouth amber glass bottle.

Prep Batch: 372899

Method: 1613 (Waste Water)

Matrix: Water

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

Job ID: 440-264634-1

Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp

Date Collected: 04/14/20 09:45 Date Received: 04/14/20 13:55

OCDD

OCDF

Total TCDD

Total TCDF

Total PeCDD

Total PeCDF

Total HxCDD

Lab Sample ID: 440-264634-1

Matrix: Water

| Method: 300.0 - Anions, Ion Analyte | | phy Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|----------------|------------------|----------|----------------|------|---|----------------|----------------|---------|
| Chloride | 5.0 | | 0.50 | | mg/L | = | | 04/14/20 15:32 | 1 |
| Nitrate as N | ND | | 0.11 | 0.055 | - | | | 04/14/20 15:32 | 1 |
| Nitrite as N | ND | | 0.15 | 0.025 | • | | | 04/14/20 15:32 | 1 |
| Sulfate | 6.5 | | 0.50 | 0.25 | mg/L | | | 04/14/20 15:32 | 1 |
| _ Method: NO3NO2 Calc - Nit | rogen, Nitrate | -Nitrite | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nitrate Nitrite as N | ND | | 0.15 | 0.055 | mg/L | | | 04/15/20 14:58 | 1 |
| Method: 1613B - Dioxins an | d Furans (HR | GC/HRMS) | | | | | | | |
| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | 0.0000010 | J,DX q | 0.000011 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 2,3,7,8-TCDF | ND | | 0.000011 | 0.0000002 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,7,8-PeCDD | 0.0000087 | J,DX MB | 0.000055 | 5 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,7,8-PeCDF | 0.00000076 | J,DX q | 0.000055 | 7 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 2,3,4,7,8-PeCDF | 0.00000064 | J,DX q | 0.000055 | 3 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.0000024 | J,DX MB | 0.000055 | 6 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000055 | 4 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.00000086 | J,DX MB q | 0.000055 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,4,7,8-HxCDF | 0.00000080 | J,DX | 0.000055 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,6,7,8-HxCDF | 0.0000069 | J,DX | 0.000055 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.0000074 | J,DX MB | 0.000055 | 0.0000002 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 2,3,4,6,7,8-HxCDF | 0.0000037 | J,DX q | 0.000055 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.0000017 | J,DX MB | 0.000055 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.0000015 | J,DX MB | 0.000055 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |
| 1,2,3,4,7,8,9-HpCDF | 0.0000074 | J,DX q | 0.000055 | 1 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | 1 |

0.00011

0.00011

0.000011

0.000011

0.000055

0.000055

0.000055

0.0000004 ug/L

0.0000004 ug/L

0.0000003 ug/L

0.0000002 ug/L

0.0000003 ug/L

0.0000003 ug/L

0.0000003 ug/L 9

0.000012 J,DX MB

0.0000024 J,DX MB

0.0000010 J,DX q

ND

0.00000087 J,DX MB

0.0000014 J,DX q

0.0000032 J,DX MB q

Eurofins Calscience Irvine

4/23/2020

04/16/20 12:05 04/20/20 19:43

04/16/20 12:05 04/20/20 19:43

04/16/20 12:05 04/20/20 19:43

04/16/20 12:05 04/20/20 19:43

04/16/20 12:05 04/20/20 19:43

04/16/20 12:05 04/20/20 19:43

04/16/20 12:05 04/20/20 19:43

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp

Date Collected: 04/14/20 09:45 Date Received: 04/14/20 13:55

Lab Sample ID: 440-264634-1

Matrix: Water

| Method: 1613B - Dioxins an Analyte | Result | Qualifier | RL | • | Unit | D | Prepared | Analyzed | Dil F |
|---------------------------------------|------------------|------------|----------|---------------------|------|---|----------------|----------------|-------|
| Total HxCDF | 0.0000026 | J,DX MB q | 0.000055 | 0.0000002 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | |
| Total HpCDD | 0.0000036 | J,DX MB q | 0.000055 | 9 0.0000003 9 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | |
| Total HpCDF | 0.0000030 | J,DX MB q | 0.000055 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 19:43 | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 13C-2,3,7,8-TCDD | 78 | | 25 - 164 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 13C-2,3,7,8-TCDF | 75 | | 24 - 169 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 13C-1,2,3,7,8-PeCDD | 69 | | 25 - 181 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 13C-1,2,3,7,8-PeCDF | 69 | | 24 - 185 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 13C-2,3,4,7,8-PeCDF | 70 | | 21 - 178 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,4,7,8-HxCDD | 69 | | 32 - 141 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,6,7,8-HxCDD | 72 | | 28 - 130 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,4,7,8-HxCDF | 74 | | 26 - 152 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,6,7,8-HxCDF | 72 | | 26 - 123 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,7,8,9-HxCDF | 78 | | 29 - 147 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-2,3,4,6,7,8-HxCDF | 74 | | 28 - 136 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,4,6,7,8-HpCDD | 88 | | 23 - 140 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,4,6,7,8-HpCDF | 82 | | 28 - 143 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-1,2,3,4,7,8,9-HpCDF | 98 | | 26 - 138 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| 3C-OCDD | 87 | | 17 - 157 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| urrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil |
| 7CI4-2,3,7,8-TCDD | 88 | | 35 - 197 | | | | 04/16/20 12:05 | 04/20/20 19:43 | |
| Method: 200.7 Rev 4.4 - Met | tals (ICP) - Tot | al Recover | able | | | | | | |
| nalyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil l |
| ickel | ND | | 10 | 5.0 | ug/L | | 04/15/20 09:51 | 04/15/20 17:09 | |
| inc | ND | | 20 | 12 | ug/L | | 04/15/20 09:51 | 04/15/20 17:09 | |
| lethod: 200.8 - Metals (ICP | /MS) - Total R | ecoverable | | | | | | | |
| nalyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil |
| ilver | ND | | 1.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:47 | |
| admium | ND | | 1.0 | 0.25 | ug/L | | 04/15/20 09:38 | 04/15/20 16:47 | |
| opper | 3.8 | | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:47 | |
| ead | ND | | 1.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:47 | |
| Intimony | 1.2 | J,DX | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:47 | |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 16:47 | |
| hallium | ND | | 1.0 | 0.20 | ug/L | | 04/15/20 09:38 | 04/15/20 22:21 | |
| Method: 245.1 - Mercury (C | VAA) | | | | | | | | |
| nalyte | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil |
| Mercury | ND | | 0.20 | 0.10 | ug/L | | 04/14/20 15:17 | 04/15/20 12:28 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| Total Dissolved Solids | 120 | | 10 | | mg/L | | | 04/21/20 09:35 | - |
| Total Suspended Solids | ND | | 1.0 | | mg/L | | | 04/21/20 13:42 | |
| Cyanide, Total | ND | | 5.0 | 0.5 | ug/L | | 04/15/20 09:51 | 04/16/20 13:39 | |

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp_F

Date Collected: 04/14/20 09:45 Date Received: 04/14/20 13:55 Lab Sample ID: 440-264634-2

Matrix: Water

| Method: 200.7 Rev 4.4 - Meta Analyte Nickel | Result Qualifier ND | RL | MDL 5.0 | Unit ug/L | <u>D</u> | Prepared 04/15/20 10:36 | Analyzed 04/15/20 18:03 | Dil Fac |
|---|---------------------|-----|----------------|--------------|----------|-------------------------|-------------------------|---------|
| Zinc | ND | 20 | 12 | ug/L | | 04/15/20 10:36 | 04/15/20 18:03 | 1 |
| Method: 200.8 - Metals (ICP/N | MS) - Dissolved | | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | 1.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |

| | (1011110) 210001100 | | | | | | | |
|----------|---------------------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND — | 1.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Copper | 3.9 | 2.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Antimony | 1.4 J,DX | 2.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Selenium | ND | 2.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| Thallium | ND | 1.0 | 0.20 | ug/L | | 04/15/20 10:30 | 04/16/20 10:44 | 1 |
| <u> </u> | | | | | | | | |

| Method: 245.1 - Mercury (CVA | A) - Dissolved | | | | | | |
|------------------------------|------------------|------|-----------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | 0.20 | 0.10 ug/L | | 04/17/20 11:03 | 04/20/20 12:51 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method **Method Description** Protocol Laboratory MCAWW TAL IRV 300.0 Anions, Ion Chromatography NO3NO2 Calc Nitrogen, Nitrate-Nitrite **EPA** TAL IRV TAL SAC 1613B Dioxins and Furans (HRGC/HRMS) **EPA** 200.7 Rev 4.4 Metals (ICP) EPA TAL IRV 200.8 Metals (ICP/MS) **EPA** TAL IRV 245.1 Mercury (CVAA) **EPA** TAL IRV SM 2540C Solids, Total Dissolved (TDS) SM TAL IRV SM 2540D Solids, Total Suspended (TSS) TAL IRV SM SM 4500 CN E Cyanide, Total (Low Level) SM TAL IRV 1613B Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans EPA TAL SAC 200.2 Preparation, Total Recoverable Metals **EPA** TAL IRV 245.1 Preparation, Mercury EPA TAL IRV Distill/CN Distillation, Cyanide None TAL IRV **FILTRATION** Sample Filtration None TAL IRV

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:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

4/23/2020

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Job ID: 440-264634-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp

Lab Sample ID: 440-264634-1 Date Collected: 04/14/20 09:45 **Matrix: Water**

Date Received: 04/14/20 13:55

| | Batch | Batch | _ | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|---------------|-----|--------|----------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 300.0 | | 1 | | | 604917 | 04/14/20 15:32 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | | | 604918 | 04/14/20 15:32 | NTN | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 605189 | 04/15/20 14:58 | TLN | TAL IRV |
| Total/NA | Prep | 1613B | | | 911.7 mL | 20.0 uL | 372899 | 04/16/20 12:05 | NR | TAL SAC |
| Total/NA | Analysis | 1613B | | 1 | | | 373674 | 04/20/20 19:43 | ALM | TAL SAC |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605121 | 04/15/20 09:51 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 605236 | 04/15/20 17:09 | P1R | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605115 | 04/15/20 09:38 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 605225 | 04/15/20 16:47 | MQP | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 605115 | 04/15/20 09:38 | EP | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 605293 | 04/15/20 22:21 | B1H | TAL IRV |
| Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 605002 | 04/14/20 15:17 | MEM | TAL IRV |
| Total/NA | Analysis | 245.1 | | 1 | | | 605167 | 04/15/20 12:28 | MEM | TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 605842 | 04/21/20 09:35 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 605914 | 04/21/20 13:42 | HTL | TAL IRV |
| Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 605119 | 04/15/20 09:51 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 CN E | | 1 | | | 605374 | 04/16/20 13:39 | KMY | TAL IRV |

Client Sample ID: Outfall009_20200414_Comp_F

Date Received: 04/14/20 13:55

Date Collected: 04/14/20 09:45

| ab Samp | le ID: | 440-264634- | 2 |
|---------|--------|-------------|---|
|---------|--------|-------------|---|

Matrix: Water

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|---------------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | · | 150 mL | 150 mL | 605017 | 04/14/20 17:29 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 605131 | 04/15/20 10:36 | M1G | TAL IRV |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 605236 | 04/15/20 18:03 | P1R | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 605017 | 04/14/20 17:29 | M1G | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 605128 | 04/15/20 10:30 | M1G | TAL IRV |
| Dissolved | Analysis | 200.8 | | 1 | | | 605351 | 04/16/20 10:44 | B1H | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 605016 | 04/14/20 17:27 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 605496 | 04/17/20 11:03 | MEM | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 605723 | 04/20/20 12:51 | EMS | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604917/6

Matrix: Water

Analysis Batch: 604917

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

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac

Analyte Nitrate as N 0.11 0.055 mg/L 04/14/20 13:03 ND 0.15 04/14/20 13:03 Nitrite as N ND 0.025 mg/L

Lab Sample ID: LCS 440-604917/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604917

Spike LCS LCS %Rec. Added Result Qualifier D %Rec Limits Analyte Unit Nitrate as N 1.13 1.09 96 90 - 110 mg/L Nitrite as N 1 52 1.47 mg/L 96 90 - 110

Lab Sample ID: 440-264634-1 MS Client Sample ID: Outfall009_20200414_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604917

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier %Rec Analyte Unit D Limits 1.13 Nitrate as N ND 1.09 mg/L 96 80 - 120 Nitrite as N ND 1.52 1.46 mg/L 96 80 - 120

Lab Sample ID: 440-264634-1 MSD Client Sample ID: Outfall009_20200414_Comp

Matrix: Water

Analysis Batch: 604917

MSD MSD **RPD** Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Nitrate as N ND 1.13 1.08 95 80 - 120 20 mg/L Nitrite as N ND 1.52 1.43 mg/L 94 80 - 120 2 20

Lab Sample ID: MB 440-604918/6 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604918

MB MB

MDL Unit Analyte Result Qualifier RL Dil Fac D Prepared Analyzed Chloride $\overline{\mathsf{ND}}$ 0.50 0.25 mg/L 04/14/20 13:03 ND 0.50 0.25 mg/L 04/14/20 13:03 Sulfate

Lab Sample ID: LCS 440-604918/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604918

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 5.00 Chloride 4.62 mg/L 92 90 - 110 Sulfate 5.00 4.90 mg/L 98 90 - 110

Lab Sample ID: 440-264634-1 MS Client Sample ID: Outfall009_20200414_Comp

Matrix: Water

Analysis Batch: 604918

| , | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 5.0 | | 5.00 | 10.1 | | mg/L | _ | 103 | 80 - 120 | |
| Sulfate | 6.5 | | 5.00 | 11.6 | | mg/L | | 103 | 80 - 120 | |

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Prep Type: Total/NA

Prep Type: Total/NA

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 440-264634-1 MSD

Matrix: Water

| Analysis Batch: 604918 | | | | | | | | | | | |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloride | 5.0 | | 5.00 | 9.98 | | mg/L | | 100 | 80 - 120 | 1 | 20 |
| Sulfate | 6.5 | | 5.00 | 11.5 | | mg/L | | 100 | 80 - 120 | 1 | 20 |

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

Lab Sample ID: MB 320-372899/1-A

| Lab Sample ID: WB 320-37 | 2099/1-A | | | | | | | ie id: Methot | |
|--------------------------|-------------|-----------|----------|----------------|------|---|----------------|----------------|---------|
| Matrix: Water | | | | | | | | Prep Type: To | |
| Analysis Batch: 373674 | MR | мв | | | | | | Prep Batch: | 372899 |
| Analyte | | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | ND | | 0.000010 | 0.0000003 | ug/L | | | 04/20/20 16:41 | 1 |
| 1,2,3,7,8-PeCDD | 0.000000862 | J,DX | 0.000050 | 8 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8-PeCDF | ND | | 0.000050 | 3 | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,0-PECDF | ND | | 0.000030 | 0.0000004 | ug/L | | 04/10/20 12.03 | 04/20/20 10.41 | 1 |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.00000189 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.00000710 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8-HxCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.000000893 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000730 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000720 | J,DX | 0.000050 | 0.0000005 1 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| OCDD | 0.0000663 | J,DX | 0.00010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| OCDF | 0.0000257 | J,DX | 0.00010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDD | ND | | 0.000010 | 0.0000003 8 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDF | 0.00000636 | J,DX | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDD | 0.00000862 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDF | ND | | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HxCDD | 0.00000260 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HxCDF | 0.000000893 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |

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Client Sample ID: Outfall009_20200414_Comp

Prep Type: Total/NA

Client Sample ID: Method Blank

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-1

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

Lab Sample ID: MB 320-372899/1-A Client Sample ID: Method Blank

| Matrix: Water | | | | | | | | Prep Type: To | |
|-------------------------|-----------|-----------------|----------|-----------|------|---|------------------|-----------------|---------|
| Analysis Batch: 373674 | мо | мо | | | | | | Prep Batch: | 372899 |
| Analyte | | MB Qualifier | RL | EDI | Unit | D | Prepared | Analyzed | Dil Fac |
| | | | | | | | | | Dil Fac |
| Total HpCDD | 0.0000130 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HpCDF | 0.0000152 | J DX | 0.000050 | 0.0000005 | ua/l | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1000110001 | 0.0000102 | 0,27 | 0.000000 | 0.0000003 | ug/L | | 0 11 10/20 12:00 | 0 1/20/20 10:11 | |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | | | 25 - 164 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,7,8-TCDF | 72 | | 24 - 169 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8-PeCDD | 65 | | 25 - 181 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8-PeCDF | 64 | | 24 - 185 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,4,7,8-PeCDF | 72 | | 21 - 178 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDD | 70 | | 32 - 141 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 70 | | 28 - 130 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 72 | | 26 - 152 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 69 | | 26 - 123 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 68 | | 29 - 147 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,4,6,7,8-HxCDF | 67 | | 28 - 136 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 72 | | 23 - 140 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 72 | | 28 - 143 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 79 | | 26 - 138 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-OCDD | 73 | | 17 - 157 | | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | MR | МВ | | | | | | | |

Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 37CI4-2,3,7,8-TCDD 86 35 - 197 04/16/20 12:05 04/20/20 16:41

Lab Sample ID: LCS 320-372899/2-A **Client Sample ID: Lab Control Sample Matrix: Water**

Analysis Batch: 373674 Spike LCS LCS %Rec. **Analyte** Added Result Qualifier %Rec Limits Unit 2,3,7,8-TCDD 0.000200 0.000199 99 67 - 158 ug/L 2,3,7,8-TCDF 0.000200 0.000207 MB ug/L 104 75 - 158 1,2,3,7,8-PeCDD 0.00100 0.00105 MB ug/L 105 70 - 142 1,2,3,7,8-PeCDF 0.00100 0.00106 ug/L 106 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 0.000959 MB ug/L 96 70 - 164 1,2,3,6,7,8-HxCDD 0.00100 0.00107 ug/L 107 76 - 1341,2,3,7,8,9-HxCDD 0.00100 0.00104 MB ug/L 104 64 - 162 91 1,2,3,4,7,8-HxCDF 0.00100 0.000915 ug/L 72 - 134 0.00101 101 1,2,3,6,7,8-HxCDF 0.00100 ug/L 84 - 1301,2,3,7,8,9-HxCDF 0.00100 0.00103 MB ug/L 103 78 - 130 ug/L 2,3,4,6,7,8-HxCDF 0.00100 0.00102 102 70 - 156 1,2,3,4,6,7,8-HpCDD 0.00100 0.00101 MB ug/L 101 70 - 140 1,2,3,4,6,7,8-HpCDF 0.00100 0.00104 MB 104 82 - 122 ug/L 0.000964 96 1,2,3,4,7,8,9-HpCDF 0.00100 ug/L 78 - 138 OCDD 0.00200 0.00199 MB ug/L 100 78 - 144 **OCDF** 0.00200 0.00217 MB 108 63 - 170 ug/L

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Prep Type: Total/NA **Prep Batch: 372899**

Project/Site: Routine Outfall 009 Comp

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

| lantana Dikutian | LCS | | Limita |
|-------------------------|-----------|-----------|----------|
| Isotope Dilution | %Recovery | Qualifier | Limits |
| 13C-2,3,7,8-TCDD | 69 | | 20 - 175 |
| 13C-2,3,7,8-TCDF | 64 | | 22 - 152 |
| 13C-1,2,3,7,8-PeCDD | 59 | | 21 - 227 |
| 13C-1,2,3,7,8-PeCDF | 60 | | 21 - 192 |
| 13C-2,3,4,7,8-PeCDF | 64 | | 13 - 328 |
| 13C-1,2,3,4,7,8-HxCDD | 62 | | 21 - 193 |
| 13C-1,2,3,6,7,8-HxCDD | 63 | | 25 - 163 |
| 13C-1,2,3,4,7,8-HxCDF | 64 | | 19 - 202 |
| 13C-1,2,3,6,7,8-HxCDF | 61 | | 21 - 159 |
| 13C-1,2,3,7,8,9-HxCDF | 63 | | 17 - 205 |
| 13C-2,3,4,6,7,8-HxCDF | 63 | | 22 - 176 |
| 13C-1,2,3,4,6,7,8-HpCDD | 68 | | 26 - 166 |
| 13C-1,2,3,4,6,7,8-HpCDF | 66 | | 21 - 158 |
| 13C-1,2,3,4,7,8,9-HpCDF | 75 | | 20 - 186 |
| 13C-OCDD | 67 | | 13 - 199 |
| | LCS | LCS | |
| Surrogate | %Recovery | Qualifier | Limits |
| 37CI4-2,3,7,8-TCDD | 84 | | 31 - 191 |

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

| Lab Sample ID: MB 320-372 Matrix: Water Analysis Batch: 373924 | 899/1-A | | | | | | | le ID: Method Prep Type: To Prep Batch: 3 | otal/NA |
|--|-----------|-----------|----------|-----------|------|---|----------------|---|---------|
| | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD - RA | ND | | 0.000010 | 0.0000011 | ug/L | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |
| 2,3,7,8-TCDF - RA | ND | | 0.000010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |
| | | | | 6 | | | | | |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDF - RA | 67 | | 24 - 169 | | | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |
| | MB | MB | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 37CI4-2,3,7,8-TCDD - RA | 85 | | 35 - 197 | | | | 04/16/20 12:05 | 04/21/20 13:45 | 1 |

Method: 200.7 Rev 4.4 - Metals (ICP)

| Lab Sample ID: MB 440-605121/1-A | Client Sample ID: Method Blank |
|----------------------------------|--------------------------------|
| Matrix: Water | Prep Type: Total Recoverable |
| Analysis Batch: 605236 | Prep Batch: 605121 |
| MB MB | |

| | 1410 | 1410 | | | | | | | |
|---------|--------|-----------|----|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND | | 10 | 5.0 | ug/L | | 04/15/20 09:51 | 04/15/20 16:00 | 1 |
| Zinc | 12.0 | J,DX | 20 | 12 | ug/L | | 04/15/20 09:51 | 04/15/20 16:00 | 1 |

| Lab Sample ID: LCS 440-605121/2-A | | | | Clie | | • | : Lab Control Sample | |
|-----------------------------------|-------|--------|-----------|------|---|---------|---------------------------|--|
| Matrix: Water | | | | | P | rep Typ | pe: Total Recoverable | |
| Analysis Batch: 605236 | | | | | | | Prep Batch: 605121 | |
| | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Nickel | 500 | 491 | | ug/L | | 98 | 85 - 115 | |

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Spike

Added

Spike

Added

500

500

Spike

Added

500

500

Spike

Added

500

500

Spike

Added

500

500

RL

10

20

500

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

LCS LCS

MS MS

497

655

Result Qualifier

MSD MSD

490

640

Result Qualifier

MDL Unit

12 ug/L

5.0 ug/L

LCS LCS

MS MS

484

491

Result Qualifier

494

490

Result Qualifier

492

Result Qualifier

Unit

ua/L

Unit

ug/L

ug/L

Unit

ug/L

ug/L

Unit

ug/L

ug/L

Unit

ug/L

ug/L

Project/Site: Routine Outfall 009 Comp

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

Sample Sample

Sample Sample

140 MR

6.8 $\overline{J.DX}$

Result Qualifier

MB MB Result Qualifier

 $\overline{\mathsf{ND}}$

ND

Result Qualifier

Lab Sample ID: LCS 440-605121/2-A **Matrix: Water**

Analysis Batch: 605236

Zinc Lab Sample ID: 440-264642-E-1-B MS

Matrix: Water Analysis Batch: 605236

Nickel 6.8 J.DX Zinc 140 MB

Lab Sample ID: 440-264642-E-1-C MSD

Matrix: Water

Analyte

7inc

Nickel

Analyte

Nickel

Analysis Batch: 605236

Analyte Nickel

Lab Sample ID: MB 440-605017/1-C

Matrix: Water

Analysis Batch: 605236

Analyte

Zinc

Lab Sample ID: LCS 440-605017/2-C

Matrix: Water Analysis Batch: 605236

Analyte Nickel

Zinc

Lab Sample ID: 440-264636-B-3-C MS **Matrix: Water**

Analysis Batch: 605236

7inc NΩ

Lab Sample ID: 440-264636-B-3-D MSD **Matrix: Water**

Analysis Batch: 605236

Sample Sample Analyte Result Qualifier

500 Nickel ND ND 500 Zinc

Spike MSD MSD Added

Sample Sample

ND

Result Qualifier

Result Qualifier 493 503

ug/L ug/L

Unit D

D

%Rec qq 101

70 - 130 70 - 130

Limits Limit 20 2 2

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Prep Batch: 605121

Prep Batch: 605121

Prep Batch: 605121

Prep Type: Dissolved

Analyzed

Prep Batch: 605131

Prep Batch: 605131

RPD

2

Client Sample ID: Lab Control Sample

%Rec

%Rec

%Rec

Prepared

%Rec

%Rec

97

98

99

98

97

99

D

98

102

98

%Rec.

Limits

%Rec.

Limits

70 - 130

70 - 130

%Rec.

Limits

70 - 130

70 - 130

Client Sample ID: Method Blank

04/15/20 10:36 04/15/20 17:50

04/15/20 10:36 04/15/20 17:50

%Rec.

Limits

85 - 115

85 - 115

Prep Type: Total Recoverable

Client Sample ID: Matrix Spike Duplicate

85 - 115

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Type: Total Recoverable

RPD

Limit

Dil Fac

20

20

Client Sample ID: Lab Control Sample Prep Type: Dissolved

Client Sample ID: Matrix Spike Prep Type: Dissolved

Prep Batch: 605131

%Rec.

Limits 70 - 130

70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved Prep Batch: 605131

RPD %Rec.

RPD

20

4/23/2020

Project/Site: Routine Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-605115/1-A

Matrix: Water

Analysis Batch: 605225

Client Sample ID: Method Blank **Prep Type: Total Recoverable Prep Batch: 605115**

Client Sample ID: Method Blank

| | INIB INIB | | | | | | | |
|----------|------------|-----------|------|------|---|----------------|----------------|---------|
| Analyte | Result Qua | lifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND ND | 1.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Cadmium | ND | 1.0 | 0.25 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Copper | ND | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Antimony | ND | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| Selenium | ND | 2.0 | 0.50 | ug/L | | 04/15/20 09:38 | 04/15/20 15:49 | 1 |
| L | | | | | | | | |

Lab Sample ID: MB 440-605115/1-A

Matrix: Water

Analysis Batch: 605293

Prep Type: Total Recoverable Prep Batch: 605115

MB MB MDL Unit RL Analyte Result Qualifier D Prepared Analyzed Dil Fac Thallium 1.0 0.20 ug/L 04/15/20 09:38 04/15/20 22:11 $\overline{\mathsf{ND}}$

Lab Sample ID: LCS 440-605115/2-A

Matrix: Water

Analysis Batch: 605225

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

Prep Batch: 605115

| | Spike | LCS | LCS | | | | %Rec. | |
|----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Silver | 80.0 | 82.0 | | ug/L | | 102 | 85 - 115 | |
| Cadmium | 80.0 | 74.5 | | ug/L | | 93 | 85 - 115 | |
| Copper | 80.0 | 79.4 | | ug/L | | 99 | 85 - 115 | |
| Lead | 80.0 | 75.2 | | ug/L | | 94 | 85 - 115 | |
| Antimony | 80.0 | 77.3 | | ug/L | | 97 | 85 - 115 | |
| Selenium | 80.0 | 77.9 | | ug/L | | 97 | 85 - 115 | |

Lab Sample ID: LCS 440-605115/2-A

Matrix: Water

Analysis Batch: 605293

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 605115

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 85 - 115 Thallium 80.0 72.7 ug/L 91

Lab Sample ID: 440-264639-A-11-B MS

Matrix: Water

Analysis Batch: 605225

Client Sample ID: Matrix Spike **Prep Type: Total Recoverable**

Prep Batch: 605115 Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Cadmium 80.0 72.6 ND ug/L 91 70 - 130 460 80.0 Copper 488 BB ug/L 37 70 - 130Lead ND 80.0 75.5 ug/L 94 70 - 130 Antimony 0.73 J,DX 80.0 77.7 ug/L 70 - 130 Selenium 80.0 74.7 93 70 - 130 ND ug/L

Lab Sample ID: 440-264639-A-11-B MS

Matrix: Water

Analysis Batch: 605293

Client Sample ID: Matrix Spike Prep Type: Total Recoverable Prep Batch: 605115

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Thallium ND 80.0 72.7 ug/L 91 70 - 130

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Job ID: 440-264634-1

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: 440-264639-A-11-C MSD

Analysis Batch: 605225

Matrix: Water

Sample Sample

| | | Client Sa | mp | le ID: N | latrix Spik | ce Dup | licate |
|--------|-----------|-----------|----|----------|-------------|---------|--------|
| | | | P | rep Ty | oe: Total F | Recove | rable |
| | | | | | Prep Ba | tch: 60 |)5115 |
| MSD | MSD | | | | %Rec. | | RPD |
| Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 73.3 | | ug/L | _ | 92 | 70 - 130 | 1 | 20 |

Client Sample ID: Matrix Spike Duplicate

| | Campie | Campie | Opike | IVIOD | MOD | | | | /ortec. | | וגו ט |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cadmium | ND | | 80.0 | 73.3 | | ug/L | | 92 | 70 - 130 | 1 | 20 |
| Copper | 460 | | 80.0 | 519 | BB | ug/L | | 75 | 70 - 130 | 6 | 20 |
| Lead | ND | | 80.0 | 77.1 | | ug/L | | 96 | 70 - 130 | 2 | 20 |
| Antimony | 0.73 | J,DX | 80.0 | 79.7 | | ug/L | | 99 | 70 - 130 | 3 | 20 |
| Selenium | ND | | 80.0 | 77.6 | | ug/L | | 97 | 70 - 130 | 4 | 20 |
| | | | | | | | | | | | |

Snika

Lab Sample ID: 440-264639-A-11-C MSD

Matrix: Water

| Analysis Batch: 605293 | | | | | | | | | Prep B | atch: 60 |)5115 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|----------|--------------|
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Thallium | ND | | 80.0 | 74.1 | | ua/L | | 93 | 70 - 130 | 2 | 20 |

Lab Sample ID: MB 440-605017/1-B

Matrix: Water

Analysis Batch: 605351

Client Sample ID: Method Blank Prep Type: Dissolved

Prep Type: Total Recoverable

Prep Batch: 605128

| | MIR I | MR | | | | | | | |
|----------|----------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Silver | ND | | 1.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| Antimony | ND | | 2.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| Thallium | ND | | 1.0 | 0.20 | ug/L | | 04/15/20 10:30 | 04/16/20 10:40 | 1 |
| | | | | | | | | | |

Lab Sample ID: LCS 440-605017/2-B

Matrix: Water

Analysis Batch: 605351

| Client Sample ID: Lab Control Sample |
|--------------------------------------|
| Prep Type: Dissolved |
| Prep Batch: 605128 |
| |

| | Spike | LCS | LCS | | | | %Rec. | |
|----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Silver | 80.0 | 79.5 | | ug/L | | 99 | 85 - 115 | |
| Cadmium | 80.0 | 79.3 | | ug/L | | 99 | 85 - 115 | |
| Copper | 80.0 | 80.7 | | ug/L | | 101 | 85 - 115 | |
| Lead | 80.0 | 79.8 | | ug/L | | 100 | 85 - 115 | |
| Antimony | 80.0 | 82.2 | | ug/L | | 103 | 85 - 115 | |
| Selenium | 0.08 | 78.7 | | ug/L | | 98 | 85 - 115 | |
| Thallium | 80.0 | 79.7 | | ug/L | | 100 | 85 - 115 | |

Lab Sample ID: 440-264634-2 MS

Matrix: Water

Analysis Batch: 605351

| Client Sample ID: Outfall009 | _20200414_ | Comp_F |
|------------------------------|-------------|-----------|
| D | ron Tunoi D | lees dued |

Prep Type: Dissolved Prep Batch: 605128

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Silver | ND | | 80.0 | 82.8 | | ug/L | | 104 | 70 - 130 | |
| Cadmium | ND | | 80.0 | 82.5 | | ug/L | | 103 | 70 - 130 | |
| Copper | 3.9 | | 80.0 | 88.6 | | ug/L | | 106 | 70 - 130 | |
| Lead | ND | | 80.0 | 83.2 | | ug/L | | 104 | 70 - 130 | |
| Antimony | 1.4 | J,DX | 80.0 | 87.5 | | ug/L | | 108 | 70 - 130 | |

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Project/Site: Routine Outfall 009 Comp

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

Lab Sample ID: 440-264634-2 MS Client Sample ID: Outfall009_20200414_Comp_F **Matrix: Water Prep Type: Dissolved Analysis Batch: 605351** Prep Batch: 605128

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Selenium | ND | | 80.0 | 77.4 | | ug/L | | 97 | 70 - 130 | |
| Thallium | ND | | 80.0 | 82.9 | | ug/L | | 104 | 70 - 130 | |

Lab Sample ID: 440-264634-2 MSD Client Sample ID: Outfall009_20200414_Comp_F **Matrix: Water Prep Type: Dissolved Analysis Batch: 605351** Prep Batch: 605128 Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Silver 80.0 79.7 ND ug/L 100 70 - 130 4 20 ug/L Cadmium ND 80.0 79.8 100 70 - 130 20 3 Copper 3.9 80.0 85.4 ug/L 102 70 - 13020 ND 80.5 Lead 80.0 ug/L 101 70 - 130 20 Antimony 1.4 J,DX 80.0 84.2 ug/L 103 70 - 130 20 Selenium ND 80.0 76.6 ug/L 96 70 - 130 20

Method: 245.1 - Mercury (CVAA)

ND

Lab Sample ID: MB 440-605002/1-A Client Sample ID: Method Blank Prep Type: Total/NA

80.6

ug/L

101

70 - 130

Prep Batch: 605002

80.0

Matrix: Water

Thallium

Analysis Batch: 605167

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.20 0.10 ug/L $\overline{\mathsf{ND}}$ 04/14/20 15:17 04/15/20 12:13 Mercury

Lab Sample ID: LCS 440-605002/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605167** Prep Batch: 605002 Spike LCS LCS %Rec. Added Result Qualifier Unit Limits Analyte D %Rec 85 - 115 Mercury 4.00 3.64 ug/L 91

Lab Sample ID: 320-60074-C-1-D MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605167** Prep Batch: 605002 Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits **Analyte** %Rec Unit Mercury ND 4.00 3.75 ug/L 94 75 - 125

Lab Sample ID: 320-60074-C-1-E MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605167** Prep Batch: 605002 MSD MSD **RPD** Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit ND 4.00 4.03 Mercury ug/L 101 75 - 125

20

RL

0.20

Spike

Added

4.00

Spike

Added

4.00

Spike

Added

4.00

Spike

Added

1000

RI

10

MDL Unit

0.10 ug/L

LCS LCS

MS MS

MSD MSD

3.97

Result Qualifier

MDI Unit

LCS LCS

DU DU

772

Result Qualifier

984

Result Qualifier

5.0 mg/L

4.01

Result Qualifier

Unit

ug/L

Unit

ug/L

Unit

mg/L

3.98

Project/Site: Routine Outfall 009 Comp

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 440-605016/1-C

Matrix: Water

Analysis Batch: 605723

MB MB

Sample Sample

Sample Sample

 $\overline{\mathsf{ND}}$

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

Result Qualifier

MB MB

 $\overline{\mathsf{ND}}$

Sample Sample

Result Qualifier

ND

Result Qualifier

Analyte Result Qualifier

Mercury ND

Lab Sample ID: LCS 440-605016/2-C **Matrix: Water**

Analysis Batch: 605723

Analyte

Lab Sample ID: 440-264636-A-3-D MS

Matrix: Water

Mercury

Analysis Batch: 605723

Analyte

Mercury

Lab Sample ID: 440-264636-A-3-E MSD

Matrix: Water

Analysis Batch: 605723

Analyte Mercury

Lab Sample ID: MB 440-605842/1

Matrix: Water

Analysis Batch: 605842

Analyte

Total Dissolved Solids

Matrix: Water

Lab Sample ID: LCS 440-605842/2

Analysis Batch: 605842

Analyte

Total Dissolved Solids

Lab Sample ID: 440-264865-H-1 DU **Matrix: Water**

Analysis Batch: 605842

Result Qualifier

Total Dissolved Solids 790

Client Sample ID: Method Blank

Prep Type: Dissolved Prep Batch: 605496

Prepared Analyzed Dil Fac 04/17/20 11:03 04/20/20 12:35

Client Sample ID: Lab Control Sample

Prep Type: Dissolved Prep Batch: 605496

%Rec.

Unit D %Rec Limits

Result Qualifier ug/L 99

85 - 115

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 605496

%Rec.

Limits D %Rec

75 - 125 100

Client Sample ID: Matrix Spike Duplicate Prep Type: Dissolved

Prep Batch: 605496

%Rec. **RPD**

Limits D %Rec **RPD** Limit 99 75 - 125 20

Prepared

Client Sample ID: Method Blank

Prep Type: Total/NA

Dil Fac

Analyzed

04/21/20 09:35

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec.

90 - 110

%Rec Limits

Client Sample ID: Duplicate

Prep Type: Total/NA

RPD **RPD** Limit

Unit mg/L

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Project/Site: Routine Outfall 009 Comp

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

Lab Sample ID: MB 440-605914/1 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 605914

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared Total Suspended Solids 1.0 0.50 mg/L 04/21/20 13:42 ND

Lab Sample ID: LCS 440-605914/2 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605914

LCS LCS Spike %Rec. Added Result Qualifier Unit D %Rec Limits 1000 **Total Suspended Solids** 1010 mg/L 101 85 - 115

Lab Sample ID: 440-264709-B-4 DU **Client Sample ID: Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605914

Sample Sample DU DU **RPD** Result Qualifier Result Qualifier Unit ח RPD Limit Analyte **Total Suspended Solids** 18 17.2 mg/L 10

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

Lab Sample ID: MB 440-605119/1-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 605374

MB MB

RL Analyte Result Qualifier **MDL** Unit Prepared Analyzed Dil Fac 5.0 04/15/20 09:51 04/16/20 13:39 Cyanide, Total ND 2.5 ug/L

LCS LCS

Lab Sample ID: LCS 440-605119/2-A **Matrix: Water**

Analysis Batch: 605374

Added Limits Analyte Result Qualifier Unit %Rec Cyanide, Total 100 101 ug/L 101 80 - 120

Spike

Lab Sample ID: 440-264517-F-1-B MS

Matrix: Water

Analysis Batch: 605374

Prep Batch: 605119 Sample Sample Spike MS MS %Rec. Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits 100 69.3 LN Cyanide, Total ND ug/L 69 75 - 125

Lab Sample ID: 440-264517-F-1-C MSD

Matrix: Water

Analysis Batch: 605374

Prep Batch: 605119 MSD MSD **RPD** Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Unit Limits RPD Limit 75 - 125 Cyanide, Total ND 100 68.5 LN ug/L 69

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4/23/2020

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 605119

Prep Type: Total/NA

Prep Batch: 605119

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike Duplicate

%Rec.

Client Sample ID: Matrix Spike

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

HPLC/IC

Analysis Batch: 604917

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | 300.0 | |
| MB 440-604917/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604917/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264634-1 MS | Outfall009_20200414_Comp | Total/NA | Water | 300.0 | |
| 440-264634-1 MSD | Outfall009_20200414_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 604918

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | 300.0 | |
| MB 440-604918/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604918/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264634-1 MS | Outfall009_20200414_Comp | Total/NA | Water | 300.0 | |
| 440-264634-1 MSD | Outfall009_20200414_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 605189

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | NO3NO2 Calc | |

Specialty Organics

Prep Batch: 372899

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|--------------------------|-----------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | 1613B | |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | |
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 373674

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | 1613B | 372899 |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | 372899 |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | 372899 |

Analysis Batch: 373924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|------------------|-----------|--------|--------|------------|
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | 372899 |

Metals

Prep Batch: 605002

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | 245.1 | |
| MB 440-605002/1-A | Method Blank | Total/NA | Water | 245.1 | |
| LCS 440-605002/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |
| 320-60074-C-1-D MS | Matrix Spike | Total/NA | Water | 245.1 | |
| 320-60074-C-1-E MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | |

Filtration Batch: 605016

| Lab Sample ID 440-264634-2 | Client Sample ID Outfall009 20200414 Comp F | Prep Type Dissolved | Matrix Water | Method FILTRATION | Prep Batch |
|-------------------------------|---|---------------------|--------------|-------------------|------------|
| MB 440-605016/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-605016/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |

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Job ID: 440-264634-1

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Metals (Continued)

| Filtration | Batch: | 605016 | (Continued) |
|-------------------|---------|--------|------------------------------|
| i iili alioii | Dateii. | | i Odii iii i i i i i de di i |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|------------|------------|
| 440-264636-A-3-D MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264636-A-3-E MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Filtration Batch: 605017

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|------------|------------|
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-605017/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-605017/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-605017/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-605017/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264634-2 MS | Outfall009_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264634-2 MSD | Outfall009_20200414_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264636-B-3-C MS | Matrix Spike | Dissolved | Water | FILTRATION | |
| 440-264636-B-3-D MSD | Matrix Spike Duplicate | Dissolved | Water | FILTRATION | |

Prep Batch: 605115

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605115/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605115/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264639-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264639-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

Prep Batch: 605121

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-605121/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-605121/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264642-E-1-B MS | Matrix Spike | Total Recoverable | Water | 200.2 | |
| 440-264642-E-1-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.2 | |

Prep Batch: 605128

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |
| MB 440-605017/1-B | Method Blank | Dissolved | Water | 200.2 | 605017 |
| LCS 440-605017/2-B | Lab Control Sample | Dissolved | Water | 200.2 | 605017 |
| 440-264634-2 MS | Outfall009_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |
| 440-264634-2 MSD | Outfall009_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |

Prep Batch: 605131

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | 200.2 | 605017 |
| MB 440-605017/1-C | Method Blank | Dissolved | Water | 200.2 | 605017 |
| LCS 440-605017/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 605017 |
| 440-264636-B-3-C MS | Matrix Spike | Dissolved | Water | 200.2 | 605017 |
| 440-264636-B-3-D MSD | Matrix Spike Duplicate | Dissolved | Water | 200.2 | 605017 |

Analysis Batch: 605167

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | 245.1 | 605002 |
| MB 440-605002/1-A | Method Blank | Total/NA | Water | 245.1 | 605002 |

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Job ID: 440-264634-1

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4.0

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Metals (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| LCS 440-605002/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 605002 |
| 320-60074-C-1-D MS | Matrix Spike | Total/NA | Water | 245.1 | 605002 |
| 320-60074-C-1-E MSD | Matrix Spike Duplicate | Total/NA | Water | 245.1 | 605002 |

Analysis Batch: 605225

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total Recoverable | Water | 200.8 | 605115 |
| MB 440-605115/1-A | Method Blank | Total Recoverable | Water | 200.8 | 605115 |
| LCS 440-605115/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 605115 |
| 440-264639-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.8 | 605115 |
| 440-264639-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.8 | 605115 |

Analysis Batch: 605236

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-------------------|--------|---------------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| MB 440-605017/1-C | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| MB 440-605121/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| LCS 440-605017/2-C | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| LCS 440-605121/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| 440-264636-B-3-C MS | Matrix Spike | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| 440-264636-B-3-D MSD | Matrix Spike Duplicate | Dissolved | Water | 200.7 Rev 4.4 | 605131 |
| 440-264642-E-1-B MS | Matrix Spike | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |
| 440-264642-E-1-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.7 Rev 4.4 | 605121 |

Analysis Batch: 605293

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total Recoverable | Water | 200.8 | 605115 |
| MB 440-605115/1-A | Method Blank | Total Recoverable | Water | 200.8 | 605115 |
| LCS 440-605115/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 605115 |
| 440-264639-A-11-B MS | Matrix Spike | Total Recoverable | Water | 200.8 | 605115 |
| 440-264639-A-11-C MSD | Matrix Spike Duplicate | Total Recoverable | Water | 200.8 | 605115 |

Analysis Batch: 605351

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | 200.8 | 605128 |
| MB 440-605017/1-B | Method Blank | Dissolved | Water | 200.8 | 605128 |
| LCS 440-605017/2-B | Lab Control Sample | Dissolved | Water | 200.8 | 605128 |
| 440-264634-2 MS | Outfall009_20200414_Comp_F | Dissolved | Water | 200.8 | 605128 |
| 440-264634-2 MSD | Outfall009_20200414_Comp_F | Dissolved | Water | 200.8 | 605128 |

Prep Batch: 605496

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | 245.1 | 605016 |
| MB 440-605016/1-C | Method Blank | Dissolved | Water | 245.1 | 605016 |
| LCS 440-605016/2-C | Lab Control Sample | Dissolved | Water | 245.1 | 605016 |
| 440-264636-A-3-D MS | Matrix Spike | Dissolved | Water | 245.1 | 605016 |
| 440-264636-A-3-E MSD | Matrix Spike Duplicate | Dissolved | Water | 245.1 | 605016 |

Eurofins Calscience Irvine

Job ID: 440-264634-1

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-1

Metals

Analysis Batch: 605723

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|----------------------------|-----------|--------|--------|------------|
| 440-264634-2 | Outfall009_20200414_Comp_F | Dissolved | Water | 245.1 | 605496 |
| MB 440-605016/1-C | Method Blank | Dissolved | Water | 245.1 | 605496 |
| LCS 440-605016/2-C | Lab Control Sample | Dissolved | Water | 245.1 | 605496 |
| 440-264636-A-3-D MS | Matrix Spike | Dissolved | Water | 245.1 | 605496 |
| 440-264636-A-3-E MSD | Matrix Spike Duplicate | Dissolved | Water | 245.1 | 605496 |

General Chemistry

Prep Batch: 605119

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|------------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | Distill/CN | |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | Distill/CN | |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | Distill/CN | |
| 440-264517-F-1-B MS | Matrix Spike | Total/NA | Water | Distill/CN | |
| 440-264517-F-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | Distill/CN | |

Analysis Batch: 605374

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | SM 4500 CN E | 605119 |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 605119 |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-F-1-B MS | Matrix Spike | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-F-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | SM 4500 CN E | 605119 |

Analysis Batch: 605842

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | SM 2540C | |
| MB 440-605842/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-605842/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 440-264865-H-1 DU | Duplicate | Total/NA | Water | SM 2540C | |

Analysis Batch: 605914

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | SM 2540D | |
| MB 440-605914/1 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-605914/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 440-264709-B-4 DU | Duplicate | Total/NA | Water | SM 2540D | |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Qualifiers

| Dioxin |
|---------------|
| Qualifier |

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.

Metals

Qualifier **Qualifier Description**

BB Sample > 4X spike concentration

Qualifier Description

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

General Chemistry

Qualifier **Qualifier Description**

LN MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

| Abbreviation | These commonly | y used abbreviations may | y or may not be | present in this rep | ort |
|--------------|----------------|--------------------------|-----------------|---------------------|-----|
| | | | | | |

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid **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)

MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

PQL Practical Quantitation Limit

Quality Control QC

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)

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4/23/2020

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | | Program State | Identification Number | Expiration Date 06-30-20 |
|-------------------------|----------------------|-------------------------------|---|--|
| , | | port, but the laboratory is r | 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 | |
| NO3NO2 Calc | | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-21 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-22 |
| Michigan | State | 9947 | 01-29-20 * |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Jersey | NELAP | CA005 | 06-30-20 |
| New York | NELAP | 11666 | 04-01-21 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-21 |
| Virginia | NELAP | 460278 | 03-14-21 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

Eurofins Calscience Irvine

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

10 Day Normal

24 Hour 72 Hour 48 Hour 5 Day ___ Turn-around time (Check)

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Sample Integrity (Check)
Intact
Store samples for 6 months
Data Requirements (Check)
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Legend: EP=Expert Panel, R=Routine Received By Date/Time

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Eurofins Calscience Irvine

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| Hent Name/Addre | łaiey & Aldrich X333 Mission Cent Xan Diego, CA 921 | Eurofins Calsoleno 17461 Denan Ave Ivine CA 92614 el 949-260-3218 | ostAmence's services on 019-22-TestAmence by a: 10 | Sampler | Sample | | | • • • | | | | 80 | 500 Me | | | | |
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| Company: Aquatic Bioassay | | | | State Pro | ons kequ ogram - | Accreditations Required (See note) State Program - Californía | yte} | | | | | | | Job #: 440-264634-1 | 4-1 | | |
| Address 29 North Olive Street, , | Due Date Requested: 4/22/2020 | | | | | A | Analysis Requested | Red | uest | þa | | | | Preservation Codes: | ĕ | Love | |
| City Ventura | TAT Requested (days): | | | | | | - | | | | | | | | | - None - AsNaO2 | |
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| Phone | PO#: | | | 1.7 | -2616 | | | | | | | | <u> </u> | F - MeOH G - Amchlor H - Ascochic Acid | - | R - Na2S203 S - H2SO4 T - TSP Dodecabudrate | |
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| Project Name Boeing NPDES SSFL outfalls | Project #. 44009879 | | | | /wnn | | | | | | | | ienistr | K - EDTA L - EDA | X X | w - pH 4-5 Z - other (specify) | |
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| Note: Since laboratory accreditations are subject to change. Euroffins Calscience places the ownership of method, analyte & accreditation compliance upon out subconitract laboratorys. This sample shipment is forwarded under channels calscience places to recreditation the State of Origin listed above for analysis/Restshmatrix being analyzed, the samples must be shipped back to the Euroffins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Euroffins Calscience attention immediately. If all requested accreditations are current to date, refurn the signed Chain of Custody attesting to said complicance to Euroffins Calscience. | piaces the ownership of met being analyzed, the samples late, return the signed Chain o | od, analyte & accr must be shipped by f Custody attesting | editation complia ack to the Eurofir to said complica | nce upon o s Calscier nce to Eur | out subcor ice tabora offins Cals | tract labora ory or othe sience. | fories ' | his san ons will | ple ship bo prov | pment i | s forwai | ded un | der cha accred | n-of-custody If | the fabora ould be bro | itory does not currently ought to Eurofins | > |
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seurofins Calscience

Chain of Custody Record

Eurofins Calscience Irvine 17461 Denan Ave Sute 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

| Clinic from miles in (Sub Contract Lab) Stronger Sub Contract Lab | Comparison (Sub Contract Lab) Prove Contract Lab Prove | FILOTIE: 343-201-1022 FBX: 949-200-3297 | | | | | | | | |
|--|--|---|--|------------------------------|---|-------------------|-----------------------|---|---------------------------------|-----------------------------------|
| State Communication Comm | State of Section 19 | formation | Sampler: | Lat | PM: ndoc, Christian | Σ | Carrie | r Tracking No(s); | COC No: 440-155034.1 | |
| Controlled Con | Control Cont | Client Contact: Shipping/Receiving | Phone: | E-N | tait: istian.bondoc@ | testamericair | | of Origin: | Page: | |
| Artist Protection Control | Comparison Com | Company: TestAmerica Laboratories, Inc. | | | Accreditations R State Program | equired (See not | | | Job #: | |
| 12.2286-0500T 314.228-0500T 314.228-050T | Note Control | Address: 13715 Rider Trail North, , | Due Date Requested: 4/24/2020 | | | Ans | alvsis Remies | pa | Preservation Co | des: |
| 1.22 1 | 1.5 | City. Earth City | TAT Requested (days): | | | | | | A-HCL B-NaOH | |
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| Sample Martin Sample Martin Sample Martin Martin Sample Martin Martin Sample Martin Martin Sample Corporal Martin Martin Sample Corporal Martin Martin Sample Corporal Martin Martin Corporal Martin Martin Martin Corporal Martin Martin Corporal Corp | Sample Identification - Client ID (Lab ID) Sample Date Sample Time Gargetian Common Co | ole: | SSOW#; | | 60 ⁰ 0 K | on Gro 21 Rad | S Z_də | | | |
| Duffallong 20000414, Comp (440-264634.1) 414420 Pageling Pageling Water X X X X X X X X X X X X X X X X X X X | The service of the control of the co | ample Identification - Client ID (Lab ID) | Sample | | ield Filtered Perform MS/M Serform S/Fill_G | 00.00/Evaporati | 23e19\0812_20 | | | |
| The State of the Port (adf)-264634-1) 4/14/20 0/14/20 | One Since unbranchy accreditation are subject to charge, Euroffin Calcidations place the countries of the standard formation and the s | | 1 | | ; ; ; ; | 6 | 6 | | | structions/Note: |
| ties Strock blooders are ablest to change. Eurelies, designers all the morphology accordations are authorised to change. Eurelies designers are authorised to change a condition or mediatory. The production compares a condition or mediatory. The change of | See the branch of the state of Complete the name and Complete the | 0.itfall009 20200414 Comp (440-264634-1) | 1 | | | | | | _ | 44. |
| tel Since televistro y acceditations are subject to change. Eurofine Calacitorize places the ownership of method, analytic & acceditation compliance upon out subconfluct laborations. This sample shownership of method, analytic & acceditation compliance upon out subconfluctual benchines. This sample shownership of method, analytic & acceditation compliance upon out subconfluctual benchines. This sample shownership of method, analytic & acceditation compliance upon out subconfluctual benchines. This sample shownership of method, and the sample showership of method and showership of method, and the sample showership of method showership of method, and the sample showership of method showership of method showership of method, and the sample showership of method showership | of Since laboratory accretioners are authorit to change. Euroffin Calcionro places the ownership of method, analyse & accretisation complication or the State of Output September Septembe | (1-10-103-01-1) (1110-1-10-103-103-103-103-103-103-103-10 | | Water | | × | × | | | NOT FILTER; use pre |
| incontinued by: A ED E Date Times Date T | The standard of the standard o | | | | | | | | | |
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| Primary Deliverable Requested it. III. III. IV. Other (specify) Action of Company Primary Deliverable Rank: 2 Primary Deliverable Rank: 2 Primary Deliverable Rank: 2 Primary Deliverable Rank: 3 Primary Deliverable Rank: 2 Primary Deliverable Rank: 3 Primary Deliverable Requested: I. II. III. IV. Other (specify) Primary Deliverable Rank: 2 Primary Deliverable Requested: I. II. III. IV. Other (specify) Primary Deliverable Rank: 2 Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Rank: 2 Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Rank: 2 Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Rank: 2 Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. IV. III. III. IV. Other (specify) Primary Deliverable Requested: IV. | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Inconfirmed Inconf | ote: Since laboratory accreditations are subject to change, Euroffins Carlonna acceptation in the State of Origin listed above for analysis/tes | Asscience places the ownership of method, an sts/matrix being analyzed, the samples must b | alyte & accreditation comp | liance upon out sub | contract laborate | ories. This sample sh | pment is forwarded un vided. Any changes to | der chain-of-custody. If the is | boratory does not current |
| Equested: I. II. III. IV, Other (specify) Primary Deliverable Rank: 2 Special Instructions/OC Requirements: Archive For Months Months Inquished by: Date: Time: Active Both IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | Equested: I. II. III. N, Other (specify) Primary Deliverable Rank: 2 Special Instructions/OC Requirements: Archive For Months Months Inquished by: Date: Time: Time: Method of Shipment: Company FED E Date/Time: Company Received by: FED E: Date/Time: Company FED E Date/Time: Company Received by: Received by: Company Company All Infact: Custody Seal No.: Cooler Temperature(s).*C and Other Remarks: Date/Time: Company | rossible Hazard Identification | urrent to date, return the signed Chain of Custo | ody attesting to said compli | cance to Eurofins C | slscience. | e may be assess | ed if samples are | retained longer than | month) |
| Pate: Pate | Time: Date: Date: Special Instructions/QC Requirements: Date: Date: Time: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: | Jaconfirmed | | | Retu | rn To Client | Dispose | I By Lab | ☐ Archive For | Months |
| Time: Time: Time: Time: Time: Time: Method of Shipment: Company FED E Date/Time: Date/Time: Date | Time: Date: Date: Time: Time: Time: Date: Date | Jenverable Nequested. I. II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | | Special Ins | tructions/QC | Requirements: | | | |
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| Date/Time: Company Received by: Date/Time: Company | als Infact: Custody Seal No.: Date/Time: Company Received By: Confer Temperature(s) **C and Other Remarks: Company | FED | Date/Time: | Company | Received | 0 | 12. | Date/Time: | | 1 |
| | Custody Seal No.: | telinquished by: | Date/Time: | Company | Received | in the second | ton | Date/Time: | | 2 |

| lf samp | les are from West | red at < 6°- If not, note contents below. Temperature of EVERY SAMPLE that | t is temperature co | itical m | ust be record | ed on the COC. | |
|---------|-------------------|--|---------------------|----------|---------------|---|--|
| | S | hipping #(s):* | Chermometer | #: | Packa | ge Temp:** | Document #: |
| 1. | 1540 410 | 7 8342 | 19215262 | 8 | (| 2,(| |
| 3. | - | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| Cond | ition (Circle "Y | " for yes, "N" for no and "N/A" for not applica | ble): | | | | |
| 1. | N | Are there custody seals present on the cooler? | | Y | 0 | Are there custo | dy seals present on bottles? |
| 2. | Y / N/A | Do custody seals on cooler appear to tampered with? | be 9. | Y | AN N | Do custody sea tampered with? | ls on bottles appear to be |
| 3. | 5 N | Were contents of cooler frisked after opening, but before unpacking? | 10. | Y | My N/A | | eived with proper pH1? |
| 4. | N (Y | Sample received with Chain of Custo | ody? 11. | 6 | N N/A | Containers for | Rn-222, C-14, Cl-36, H-3 & ed with "Do Not Preserve" |
| 5. | ON N/A | Does the Chain of Custody match san ID's on the container(s)? | mple 12. | 0 | N | Sample receive | d in proper containers? |
| 6. | Ø Y | Was sample received broken? | 13. | Y | N D | Headspace in V samples? (>6m (If Yes, note samp | OA, or Rn-222 liquid m) le ID's below) |
| 7. | ИØ | Is sample volume sufficient for analy | rsis? 14. | Y | N DA | | for C-14, H-3,Tc-99 & I- l with "Do Not Dry" label? |
| or DC | E-AL (Pantex, L. | ANL, Sandia) sites, pH of ALL containers received 4634- J-1 0(656) Ut A | | | 1 1 | il & Grease, Rn-222 | and soils. |
| OLCS | . 770-20 | 4634-J-1 preserved up | on outive | 1 10 | lab. | | |
| | | | | | | | |
| | | | | | | | |
| 1000 | djustment (| - ILCOAPT | | | | servation: 4 4 | |
| iitiai | | strip lot#: 0H=7 HC90561 strip lot#: 0H=2 HC90561 | 34 | | | ot#: HN03 (vative: 6 ml | 000024882 |

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

Chain of Custody Record

17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

Eurofins Calscience Irvine

seurofins Calscience

| | Sampler | | Lab PM | 4 | Carrier Tracking No(s): | COC No: | |
|---|---|--|--|--|---|---|---|
| Client Information (Sub Contract Lab) | | | Bond | Bondoc, Christian M | | 440-155033.1 | |
| Client Contact: Shipping/Receiving | Phone: | | E-Mail: christi | E-Mail: christian.bondoc@testamericainc.com | State of Origin: California | Page 1 of 1 | |
| Company: TestAmerica Laboratories, Inc. | | | | Accreditations Required (See note): State Program - California | | Job #: 440-264634-1 | |
| Address: 880 Riverside Parkway, | Due Date Requested: 4/24/2020 | | | Analysis | Analysis Requested | Preservation Codes: | S: M - Haxana |
| City. West Sacramento State, Zp.: CA, 95605 | TAT Requested (days): | | | vi Totals | | Acid Acid | N - None O - AsNaO2 P - Na2O4S O - Na2SO3 |
| Phone. 916-373-5600(Tel) 916-372-1059(Fax) | PO#. | | | | | G - Amehlor H - Ascorbic Acid | R - NaZSZO3 S - HZSO4 T - TSP Dodecahydrate |
| Email: | WO#; | | | (oN | | 1 - Ice J - DI Water | U - Acetone V - MCAA |
| Project Name. Boeing NPDES SSFL outfalls | Project#. 44009879 | | | 10 50, | | | W - pH 4-5 Z - other (specify) |
| Site: | SSOW#. | | | L) asi | | of co Other: | |
| Sample Identification - Client ID (Lab ID) | Sample Date Time | Sample Type (C=comp, | (winder, Smoolid. | beild Filel MiZM mnohaq 2_acranacrar | | Total Number | Special Instructions/Note: |
| | 1 | 1 | Preservation Code: | X | | \bigwedge | |
| Outfall009_20200414_Comp (440-264634-1) | 4/14/20 09:45 Pacific | 45 ific | Water | × | | See QAS, Boeing Boeing Boeing Boeing glassware. | See QAS, Boeing w/u to zero, ug/L, Use Boeing glassware. |
| Outfalloog - 2020 O414 - Comp - Extra | 4/14/20 Og.45 | 15 | water | × | | 2 , 00 | hatel |
| -459492-044) | 3) | | | | | | |
| | | | | | | | |
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| Note: Since laboratory accreditations are subject to change. Eurofins Calscience places the owneship of method, analyte & accreditation compliance upon out subcontract laboratorys. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin fisted above for analysis/tests/matrix being analyzed, the samples must be stripped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should 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. | nce places the ownership of me thin being analyzed, the sample to date, return the signed Chain | thod, analyte & a s must be shippe of Custody attest | ccreditation complied back to the Eurofiling to said complications | ance upon out subcontract laboratories. The Calscience laboratory or other instruction once to Eurofins Calscience. | is sample shipment is forwarded ns will be provided. Any changer | under chain-of-custody. If the lat s to accreditation status should be | oratory does not currently brought to Eurofins |
| Possible Hazard Identification | | | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mont | Disposal By Lab | are retained longer than 1 | month) Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | ank: 2 | | Special Instructions/QC Requirements | ements: | | |
| Empty Kit Relinquished by: | Date: | | | Time: | Method of Shipment: | | |
| Refinquished by: | Date/Time: | 1500 | - | PV Received by. | | (5/30 930 | Company |
| Relinquished by: | Date/Time. | | Company | Received by. | Date/Time | | |
| Relinquished by: | Date/Time: | | Company | Received by: | Date/Time: | 39 | Company |
| Custody Seals Intact: Custody Seal No.: Seal | | | | Cooler Temperature(s) °C and Other Remarks: | her Remarks 0.7°C | | |
| | | | | | | | |

Client: Haley & Aldrich, Inc.

Job Number: 440-264634-1

Login Number: 264634 List Source: Eurofins Irvine

List Number: 1

Creator: Dolidze, Lado

| Creator: Dollaze, Lado | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | 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 Calscience Irvine

Client: Haley & Aldrich, Inc.

Job Number: 440-264634-1

Login Number: 264634 List Source: Eurofins TestAmerica, Sacramento List Number: 2

List Creation: 04/15/20 11:59 AM

Creator: Oropeza, Salvador

| Creator. Oropeza, Sarvador | | |
|--|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | 0.7c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

Eurofins Calscience Irvine

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 440-264634-1

Project/Site: Routine Outfall 009 Comp

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

Matrix: Water Prep Type: Total/NA

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|----------|-------------|-------------|------------|------------|----------|----------|
| | | TCDD | TCDF | PeCDD | PeCDF | PeCF | HxCDD | HxDD | HxCDF |
| Lab Sample ID | Client Sample ID | (25-164) | (24-169) | (25-181) | (24-185) | (21-178) | (32-141) | (28-130) | (26-152) |
| 440-264634-1 | Outfall009_20200414_Comp | 78 | 75 | 69 | 69 | 70 | 69 | 72 | 74 |
| MB 320-372899/1-A | Method Blank | 76 | 72 | 65 | 64 | 72 | 70 | 70 | 72 |
| MB 320-372899/1-A - RA | Method Blank | | 67 | | | | | | |
| | | | Perce | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| | | | IIXOI | IJCIIXCI | провв | проы | проога | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| Lab Sample ID 440-264634-1 | Client Sample ID Outfall009_20200414_Comp | | | | | • | • | | |
| _ · · · · · · · · · · · · · · · · · · · | _ <u> </u> | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |

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

11,01 - 130-1,2,3,0,7,0-11,00

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

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|--------------------|--------------------|------------------|------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|
| 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 320-372899/2-A | Lab Control Sample | 69 | 64 | 59 | 60 | 64 | 62 | 63 | 64 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-372899/2-A | Lab Control Sample | 61 | 63 | 63 | 68 | 66 | 75 | 67 | |

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD

TCDF = 13C-2,3,7,8-TCDF

PeCDD = 13C-1,2,3,7,8-PeCDD

 $\mathsf{PeCDF} = \mathsf{13C}\text{-}\mathsf{1,2,3,7,8}\text{-}\mathsf{PeCDF}$

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

Eurofins Calscience Irvine

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Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine 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

Job ID: 440-264634-1

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| Hacking # | Tracking # : | 1540 | 4107 | 8353 | |
|-----------|--------------|------|------|------|--|
|-----------|--------------|------|------|------|--|

SO PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

| Notes: | | |
|--------|---|----------|
| | Ice Wet Gel Other | |
| | Cooler Custody Seal: Seal | |
| | Cooler ID: | |
| | Temp Observed: O→ → °C Corrected: O→ → From: Temp Blank □ Sample □ | _°C |
| | Opening/Processing The Shipment Yes No | N |
| | Cooler compromised/tampered with? | |
| | Cooler Temperature is acceptable? | |
| | Samples received within holding time? | |
| | Initials: PL Date: 04/15/2 | 0 |
| | Unpacking/Labeling The Samples Yes No | N |
| | CoC is complete w/o discrepancies? | |
| | Samples compromised/tampered with? | |
| | Sample containers have legible labels? | |
| | Sample custody seal? | 7 |
| | Containers are not broken or leaking? | |
| | Sample date/times are provided? | |
| | Appropriate containers are used? | |
| | Sample bottles are completely filled? | |
| | Sample preservatives verified? | Ø |
| | Samples w/o discrepancies? | |
| | Zero headspace?* | Ø |
| | Alkalinity has no headspace? | × |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | Ø |
| | Multiphasic samples are not present? | |
| | Non-conformance Yes No | NA |
| | NCM Filed? | P |
| | Initials: So Date: 4115120 | |
| | *Containers requiring zero headspace have no headspace, or bubble < 6 m | m (1/47) |

IITACORPICORPIOAIQA_FACILITIESISACRAMENTO-QAIDOCUMENT-MANAGEMENTIFORMSIQA-812 SAMPLE RECEIVING NOTES DOC

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264634-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

5 June 2020







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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264634-2

Project Manager: Katherine Miller

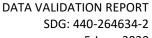
Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|--------------------|--|
| OUTFALL009_20200414 _COMP | 440-264634-1 | N | WM | 4/14/20 9:45 AM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL009_20200414 _COMP | 440-264634-2 | N | WM | 4/14/20 9:45 AM | RADIUM |



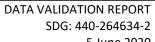
5 June 2020



SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264634-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- Field and laboratory personnel signed and dated the COCs.
- The sample containers were received at the laboratory without preservation. The appropriate containers were acidified to pH ≤2 upon receipt.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-SL.



5 June 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | Passon | | | | | |
|--------|--|--|--|--|--|--|
| Code | Organic | Inorganic | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 5, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and HASL-300 U Mod, and the National Functional Guidelines for Superfund Inorganic Method Data Review (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved (except as noted in the Sample Management section above) and holding time requirements were met.

III.2. CALIBRATION:

The detector efficiencies for gross alpha and radium-226 were less than 20%; therefore, the detected results for gross alpha and radium-226 were qualified as an estimated with potential low bias (J-). All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

Target isotopes were not detected in the method blanks above the MDC with the exception of radium-228. A comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 1% level of confidence for gross alpha, gross beta and radium-228. The detected sample results for gross alpha, gross beta and radium-228 were qualified as nondetect (U). It should be noted that the result for gross alpha was previously qualified J- (see Calibration section above) and was therefore ultimately qualified as UJ.

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicates were performed on the sample from this SDG for Method 900.0. RERs met laboratory control limits. Laboratory duplicates were not performed on the sample from this SDG for the remaining methods.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

Matrix spike and matrix spike duplicate analyses were not performed on the sample from this SDG.

III.4. SAMPLE RESULT VERIFICATION:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC. The sample was prepared at a reduced aliquot due to matrix issues for Methods 903.0, 904.0 and 905.

III.5. FIELD QC SAMPLES:

DATA VALIDATION REPORT SDG: 440-264634-2

5 June 2020



Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. The following are findings associated with field QC samples:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402646342

Analysis Method E900

Sample Name OUTFALL009 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

CAS No Result Total RL**MDC** Result Analyte Lab Validation Validation Uncert. Value Units Qualifier Qualifier Notes pCi/L *Ш, В Gross Alpha Analytes GROSSALPHA 1.44 1.01 3.00 1.38 UJ Gross Beta Analytes GROSSBETA 1.87 0.767 4.00 1.04 pCi/L U В

Analysis Method E901.1

Sample Name OUTFALL009_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Cesium-137 10045-97-3 3.39 10.6 20.0 13.2 pCi/L U U Potassium-40 13966-00-2 U U -32.1 159 207 207 pCi/L

Analysis Method E903.0

Sample Name OUTFALL009 20200414 COMP Matrix Type: WM Result Type: TRO

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

Total RL**MDC** Analyte CAS No Result Result Lab Validation Validation Value **Oualifier** Uncert. Units Qualifier Notes 1.50 *Ш Radium-226 0.246 1.00 0.0987 pCi/L 13982-63-3

Analysis Method E904.0

Sample Name OUTFALL009 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-228 15262-20-1 0.457 0.279 1.00 0.424 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name OUTFALL009 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.375 0.407 3.00 0.664 pCi/L

Analysis Method E906.0

Sample Name OUTFALL009_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes 23.4 Tritium 10028-17-8 169 500 307 pCi/L

Analysis Method HASL-300 U Mod

Sample Name OUTFALL009 20200414 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-1

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Total Uranium **URANIUM** 0.127 1.00 0.523 pCi/L

Analysis Method RADIUM

Sample Name OUTFALL009_20200414_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/14/2020 9:45:00 AM Validation Level: 9

Lab Sample Name: 440-264634-2

RLMDC Result Analyte CAS No Result Total Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 0.344 *Ш RADIUM226228 1.50 pCi/L

Friday, June 12, 2020 Page 2 of 2



Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264634-2

Client Project/Site: Routine Outfall 009 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/14/2020 11:31:33 AM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Project/Site: Routine Outfall 009 Comp

Laboratory Job ID: 440-264634-2

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc Project Manager I

5/14/2020 11:31:33 AM

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp Laboratory Job ID: 440-264634-2

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264634-1 | Outfall009_20200414_Comp | Water | 04/14/20 09:45 | 04/14/20 13:55 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264634-2

Comments

No additional comments.

Receipt

The samples were received on 4/14/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.5° C, 1.0° C, 1.3° C, 1.6° C and 2.1° C.

RAD

Method 900.0: Gross Alpha/Beta Prep Batch 160-469494

The Gross Alpha and Gross Beta detection goals were not met for the following samples due to a reduction of the sample size attributed to high residual mass: (160-37832-C-2-A), (160-37832-C-2-D DU), (160-37832-C-2-B MS) and (160-37832-C-2-C MSBT). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha/Beta Prep Batch 160-469494

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 20200414 Comp (440-264634-1), (LCS 160-469494/2-A), (LCSB 160-469494/3-A), (MB 160-469494/1-A), (160-37832-C-2-A), (160-37832-C-2-D DU), (160-37832-C-2-B MS) and (160-37832-C-2-C MSBT)

Method 901.1: Gamma Prep Batch 160-468154

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.

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 |
| | |

Job ID: 440-264634-2

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Job ID: 440-264634-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Outfall009 20200414 Comp (440-264634-1), (LCS 160-468154/2-A), (MB 160-468154/1-A), (440-264517-R-1-F) and (440-264517-R-1-G DU)

Method 903.0: Radium-226 Prep Batch 160-467982

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 20200414 Comp (440-264634-1), (LCS 160-467982/1-A), (MB 160-467982/23-A), (440-264517-R-1-A), (440-264517-M-1-B MS) and (440-264517-M-1-C MSD)

Method 904.0: Radium-228 Prep Batch 160-468070

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 20200414 Comp (440-264634-1), (LCS 160-468070/1-A), (MB 160-468070/23-A), (440-264517-R-1-E), (440-264517-M-1-F MS) and (440-264517-M-1-G MSD)

Method 905: Sr-90 Prep Batch 160-468677

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_20200414_Comp (440-264634-1), (LCS 160-468677/1-A), (MB 160-468677/22-A), (440-264517-R-1-H), (440-264517-M-1-H) MS) and (440-264517-M-1-I MSD)

Method 906.0: Tritium Prep Batch 160-469023

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 20200414 Comp (440-264634-1), (LCS 160-469023/2-A), (MB 160-469023/1-A), (160-37794-B-1-A), (160-37794-B-1-B DU), (440-264517-Q-1-A), (440-264517-L-1-B MS) and (440-264517-L-1-C MSD)

Method A-01-R: Isotopic Uranium Prep Batch 160-468046

The tracer achieved fewer (370) than 400 counts during the 240 minute count interval. While the tracer recovery was within QC limits, the lower number of counts may lead to a slightly higher than stated uncertainty. The original data is reported. Outfall009 20200414 Comp (440-264634-1)

Methods A-01-R, U-02-RC: Isotopic Uranium Prep Batch 160-468046

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 20200414 Comp (440-264634-1), (LCS 160-468046/2-A), (MB 160-468046/1-A), (440-263721-S-1-J), (440-263721-M-1-I MS) and (440-263721-M-1-J MSD)

Method ExtChrom: Uranium Prep Batch 160-468046:

The following samples have matrix observations: Outfall009_20200414_Comp (440-264634-1). Samples 440-263721-1, 1 MS, and 1 MSD, 550-140782-1 and 3, 440-264162-1, 1 MS, and 1 MSD, and 440-264517-1, 1 MS, and 1 MSD are pale vellow. Samples 440-264182-1, 440-264370-1, and 440-264634-1 were medium yellow. Sample 440-264510-1 is yellow with sediment and was prepared at a reduced aliquot. Sample 160-37759-4 had thick brown sediment and was prepared at a reduced aliquot. Sample 160-37794-1 was pale brown in color with a small amount of sediment. Sample 160-37794-2 was thick brown with sediment and other plant-like

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Job ID: 440-264634-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

particulates with a sewage smell and was prepared at a reduced aliquot.

Method PrecSep-7: Strontium 90 Prep Batch 160-468677:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall009_20200414_Comp (440-264634-1). Samples 440-264370-1, 440-264510-1, 440-264517-1, 440-264517-1 MS, 440-264517-1 MSD, 440-264634-1, and 440-264783-1 all have a yellow discoloration. Sample 310-179946-1 has brown discoloration and heavy sediment.

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

2

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp

Date Collected: 04/14/20 09:45 Date Received: 04/14/20 13:55 Lab Sample ID: 440-264634-1

Matrix: Water

Job ID: 440-264634-2

| | • | | Count | Total | | | | | | |
|-------------|--------|-----------|---------|---------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 1.44 | | 0.992 | 1.01 | 3.00 | 1.38 | pCi/L | 05/04/20 10:53 | 05/10/20 22:24 | 1 |
| Gross Beta | 1.87 | | 0.744 | 0.767 | 4.00 | 1.04 | pCi/L | 05/04/20 10:53 | 05/10/20 22:24 | 1 |

| Method: 901.1 - 0 | Cesium 137 | & Other G | amma Emi | tters (GS) | | | | | | |
|-------------------|------------|-----------|----------|------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 3.39 | U | 10.5 | 10.6 | 20.0 | 13.2 | pCi/L | 04/19/20 14:22 | 04/21/20 08:31 | 1 |
| Potassium-40 | -32.1 | U | 159 | 159 | | 207 | pCi/L | 04/19/20 14:22 | 04/21/20 08:31 | 1 |
| | | | | | | | | | | |

| Wethod: 903.0 - | Radium-226 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|--------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 1.50 | - | 0.205 | 0.246 | 1.00 | 0.0987 | pCi/L | 04/16/20 13:59 | 05/12/20 04:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 93.9 | - | 40 - 110 | | | | | 04/16/20 13:59 | 05/12/20 04:41 | 1 |

| Method: 904.0 - | Radium-228 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.457 | | 0.276 | 0.279 | 1.00 | 0.424 | pCi/L | 04/19/20 16:36 | 04/30/20 07:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 93.9 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:41 | |
| Y Carrier | 88.6 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:41 | 1 |

| Method: 905 - Stro | ntium-90 (| GFPC) | | | | | | | | |
|--------------------|------------|-----------|----------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.375 | U | 0.406 | 0.407 | 3.00 | 0.664 | pCi/L | 04/23/20 09:24 | 05/06/20 09:28 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 79.0 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:28 | 1 |
| Y Carrier | 92.0 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:28 | 1 |

| Method: 906.0 | Method: 906.0 - Tritium, Total (LSC) | | | | | | | | | | | | |
|---------------|--------------------------------------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|--|--|--|
| | | | Count | Total | | | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac | | | |
| Tritium | 23.4 | U | 169 | 169 | 500 | 307 | pCi/L | 04/28/20 04:41 | 04/29/20 07:37 | 1 | | | |

| Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) | | | | | | | | | | | | |
|--|--------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|--|--|
| | - | | Count | Total | | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac | | |
| Total Uranium | 0.127 | U | 0.392 | 0.392 | 1.00 | 0.523 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 | | |

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Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264634-2

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp Lab Sample ID: 440-264634-1

Date Collected: 04/14/20 09:45

. Matrix: Water

Date Received: 04/14/20 13:55

| Tracer | %Yield Qualifier | Limits | Prepared Analyzed | Dil Fac |
|-------------|------------------|----------|-------------------------------|---------|
| Uranium-232 | 43.2 | 30 - 110 | 04/17/20 17:03 04/24/20 09:34 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

| lethod | Method Description | Protocol | Laboratory |
|--------------|--|----------|------------|
| 0.00 | Gross Alpha and Gross Beta Radioactivity | EPA | TAL SL |
| 01.1 | Cesium 137 & Other Gamma Emitters (GS) | EPA | TAL SL |
| 03.0 | Radium-226 (GFPC) | EPA | TAL SL |
| 04.0 | Radium-228 (GFPC) | EPA | TAL SL |
| 05 | Strontium-90 (GFPC) | EPA | TAL SL |
| 06.0 | Tritium, Total (LSC) | EPA | TAL SL |
| -01-R | Isotopic Uranium (Alpha Spectrometry) | DOE | TAL SL |
| vaporation | Preparation, Evaporation | None | TAL SL |
| xtChrom | Preparation, Extraction Chromatography Resin Actinide Separation | None | TAL SL |
| II_Geo-0 | Fill Geometry, No In-Growth | None | TAL SL |
| SC_Dist_Susp | Distillation and Suspension (LSC) | None | TAL SL |
| recSep_0 | Preparation, Precipitate Separation | None | TAL SL |
| recSep-21 | Preparation, Precipitate Separation (21-Day In-Growth) | None | TAL SL |
| recSep-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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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Job ID: 440-264634-2

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264634-2

Project/Site: Routine Outfall 009 Comp

Client Sample ID: Outfall009_20200414_Comp

Lab Sample ID: 440-264634-1 Date Collected: 04/14/20 09:45

Matrix: Water Date Received: 04/14/20 13:55

| | Batch | Batch | _ | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|------------|--------|--------|----------------|---------|--------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Evaporation | | | 200.11 mL | 1.0 g | 469494 | 05/04/20 10:53 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | | 469946 | 05/10/20 22:24 | CJQ | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 468154 | 04/19/20 14:22 | MLG | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 468183 | 04/21/20 08:31 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 1000.96 mL | 1.0 g | 467982 | 04/16/20 13:59 | RBR | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 470197 | 05/12/20 04:41 | KLS | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 1000.96 mL | 1.0 g | 468070 | 04/19/20 16:36 | MNH | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | | | 469238 | 04/30/20 07:41 | KRR | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 500.26 mL | 1.0 g | 468677 | 04/23/20 09:24 | RBR | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 469750 | 05/06/20 09:28 | CJQ | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.3 mL | 1.0 g | 469023 | 04/28/20 04:41 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 469168 | 04/29/20 07:37 | KRR | TAL SL |
| Total/NA | Prep | ExtChrom | | | 499.42 mL | 1.0 mL | 468046 | 04/17/20 17:03 | CMM | TAL SL |
| Total/NA | Analysis | A-01-R | | 1 | | | 468776 | 04/24/20 09:34 | KRR | TAL SL |

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client: Haley & Aldrich, Inc. Job ID: 440-264634-2

Project/Site: Routine Outfall 009 Comp

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-469494/1-A **Matrix: Water**

Analysis Batch: 469946

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 469494**

Count Total мв мв Uncert. Uncert. Result Qualifier RL **MDC** Unit Dil Fac Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed Gross Alpha 05/04/20 08:52 05/10/20 13:29 0.1119 U 0.445 0.446 3.00 0.866 pCi/L **Gross Beta** 0.6416 U 0.525 0.529 4.00 0.829 pCi/L 05/04/20 08:52 05/10/20 13:29

Lab Sample ID: LCS 160-469494/2-A

Matrix: Water

Analysis Batch: 469946

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

Prep Batch: 469494

Total LCS LCS %Rec. Spike Uncert. RL Analyte Added Result Qual $(2\sigma + / -)$ **MDC** Unit %Rec Limits Gross Alpha 49.6 45.79 6.94 3.00 1.72 pCi/L 92 75 - 125

Lab Sample ID: LCSB 160-469494/3-A

Matrix: Water

Analysis Batch: 469946

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 469494

Total Spike LCSB LCSB Uncert.

Added Result Qual Analyte

84.4

77.14

%Rec. $(2\sigma + / -)$ RL MDC Unit %Rec Limits 4.00 91 75 - 125 8.24 0.831 pCi/L

Lab Sample ID: 160-37832-C-2-B MS

Matrix: Water

Gross Beta

Analysis Batch: 469946

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 469494

Total MS MS %Rec. Sample Sample **Spike** Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits 1060 pCi/L Gross Alpha 8680 G 23600 31670 4720 3.00 97 60 - 140

Lab Sample ID: 160-37832-C-2-C MSBT

Matrix: Water

Analysis Batch: 469946

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

Prep Batch: 469494

Total Sample Sample MSBT MSBT %Rec. Spike Uncert. RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits Gross Beta 2680 G 38300 33740 G 3630 4.00 526 pCi/L 60 - 140

Lab Sample ID: 160-37832-C-2-D DU

Matrix: Water

Analysis Batch: 469946

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 469494

Total DU DU Sample Sample **RER** Uncert. Result Qual Result Qual **MDC** Unit Analyte $(2\sigma + / -)$ RL RER Limit Gross Alpha 8680 G 9783 G 2130 3.00 1210 pCi/L 0.27 1 **Gross Beta** 2680 G 2894 G 606 4.00 0.18 544 pCi/L

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5/14/2020

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-468154/1-A

Matrix: Water

Analysis Batch: 468184

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 440-264634-2

Prep Batch: 468154

| | | | Count | iolai | | | | | | |
|--------------|--------|-----------|---------|---------|------|------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 9.865 | U | 9.03 | 9.08 | 20.0 | 10.3 | pCi/L | 04/19/20 14:22 | 04/21/20 07:26 | 1 |
| Potassium-40 | -10.82 | U | 156 | 156 | | 222 | pCi/L | 04/19/20 14:22 | 04/21/20 07:26 | 1 |

Lab Sample ID: LCS 160-468154/2-A

Matrix: Water

Analysis Batch: 468186

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468154

| | | | | Total | | | | | | | |
|---------------|--------|--------|------|---------|------|------|-------|------|----------|--|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | | |
| Americium-241 | 136000 | 126300 | | 14600 | | 415 | pCi/L | 93 | 90 - 111 | | |
| Cesium-137 | 43700 | 43710 | | 4380 | 20.0 | 106 | pCi/L | 100 | 90 - 111 | | |
| Cobalt-60 | 26200 | 25510 | | 2530 | | 64.4 | pCi/L | 97 | 89 - 110 | | |
| | | | | | | | | | | | |

Lab Sample ID: 440-264517-R-1-G DU

Matrix: Water

Analysis Batch: 468183

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 468154

Total DU DU **RER** Sample Sample Uncert. Analyte Result Qual Result Qual $(2\sigma + / -)$ RL **MDC** Unit RER Limit Cesium-137 2.76 U 2.790 U 5.70 20.0 7.42 pCi/L 0 Potassium-40 16.6 U -35.24 U 119 175 pCi/L 0.26

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467982/23-A

Matrix: Water

Analysis Batch: 470197

| 011 | 0 | | ID. | NA - Ale - al | Disaste |
|--------|------|----|-----|---------------|---------|
| Cilent | Samp | le | IU: | Method | Blank |

Prep Type: Total/NA

Prep Batch: 467982

| , , | | | Count | Total | | | | | | |
|------------|---------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.05167 | U | 0.0787 | 0.0788 | 1.00 | 0.135 | pCi/L | 04/16/20 13:59 | 05/12/20 06:30 | 1 |
| | МВ | МВ | | | | | | | | |
| Carrior | %Viold | Qualifier | l imite | | | | | Propared | Analyzed | Dil Fac |

Qualifier Analyzed %Yield Ba Carrier 87.2 40 - 110 04/16/20 13:59 05/12/20 06:30

Lab Sample ID: LCS 160-467982/1-A

Matrix: Water

Analysis Batch: 470197

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467982

| | | | | Total | | | | | | |
|------------|-------|--------|------|---------|------|-------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Radium-226 | 11.3 | 10.36 | | 1.07 | 1.00 | 0.101 | pCi/L | 91 | 75 - 125 | |

LCS LCS Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 97.0

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5/14/2020

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 440-264517-M-1-B MS

Matrix: Water

Analysis Batch: 470197

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Job ID: 440-264634-2

Prep Batch: 467982

Total Sample Sample Spike MS MS %Rec. Uncert. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec Radium-226 75 - 138 0.136 15.1 14.73 1.53 1.00 0.124 pCi/L 96

MS MS

Carrier %Yield Qualifier Limits 82.3 Ba Carrier 40 - 110

Lab Sample ID: 440-264517-M-1-C MSD

Matrix: Water

Analysis Batch: 470197

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 467982

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Added RL Analyte Result Qual Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits RER Limit Radium-226 0.136 15.1 14.06 1.00 0.101 pCi/L 92 0.22 1.45

MSD MSD

Carrier %Yield Qualifier I imits 95.4 40 - 110 Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-468070/23-A

Matrix: Water

Analysis Batch: 469237

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 468070**

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.3732 0.242 0.244 1.00 0.372 pCi/L 04/19/20 16:36 04/30/20 07:45

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 40 - 110 04/19/20 16:36 04/30/20 07:45 87.2 Y Carrier 91.2 40 - 110 04/19/20 16:36 04/30/20 07:45

Lab Sample ID: LCS 160-468070/1-A

MB MB

Matrix: Water

Analysis Batch: 469238

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

Prep Batch: 468070

Total **Spike** LCS LCS Uncert. %Rec. Added $(2\sigma + / -)$ RL Analyte Result Qual MDC Unit %Rec Limits 1.00 75 - 125 Radium-228 8.88 8.918 1.03 0.383 pCi/L 100

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 97.0 40 - 110 Y Carrier 93.5 40 - 110

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 440-264517-M-1-F MS

Matrix: Water

Analysis Batch: 469237

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Job ID: 440-264634-2

Prep Batch: 468070

Total Sample Sample Spike MS MS %Rec. Uncert. Added RL **MDC** Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec -0.0386 U 45 - 150 Radium-228 11.8 12.22 1.44 1.00 0.503 pCi/L 103

MS MS

Carrier %Yield Qualifier Limits Ba Carrier 82.3 40 - 110 Y Carrier 92.0 40 - 110

Lab Sample ID: 440-264517-M-1-G MSD **Client Sample ID: Matrix Spike Duplicate**

Matrix: Water

Analysis Batch: 469237

Prep Type: Total/NA **Prep Batch: 468070**

Total MSD MSD %Rec. **RER** Sample Sample Spike Uncert. Analyte Result Qual Added RL **MDC** Unit %Rec Result Qual $(2\sigma + / -)$ Limits RER Limit Radium-228 -0.0386 U 11.8 1.49 1.00 0.505 pCi/L 45 - 150 0.26 12.99 110

MSD MSD

Carrier %Yield Qualifier Limits Ba Carrier 95.4 40 - 110 Y Carrier 85.6 40 - 110

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Analysis Batch: 469763

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468677

Count Total MB MB Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac Strontium-90 0.2727 U 0.395 0.395 3.00 0.660 pCi/L 04/23/20 09:24 05/06/20 09:25

Carrier %Yield Qualifier Limits Sr Carrier 93.4 40 - 110 92.0 40 - 110 Y Carrier

MΒ MB

> Prepared Analyzed Dil Fac 04/23/20 09:24 05/06/20 09:25 04/23/20 09:24 05/06/20 09:25

Lab Sample ID: LCS 160-468677/1-A

Matrix: Water

Analysis Batch: 469750

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

Prep Batch: 468677

Total

Spike LCS LCS Uncert. %Rec. Added $(2\sigma + / -)$ **MDC** Unit Limits Analyte Result Qual RL %Rec Strontium-90 16.9 16.93 1.79 3.00 0.626 pCi/L 100 75 - 125

LCS LCS

Qualifier Carrier %Yield Limits Sr Carrier 91.7 40 - 110 Y Carrier 85.6 40 - 110

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-264634-2

Project/Site: Routine Outfall 009 Comp

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: 440-264517-M-1-H MS Client Sample ID: Matrix Spike

Matrix: Water

Analysis Batch: 469750

Prep Type: Total/NA

Prep Batch: 468677

Total Sample Sample Spike MS MS Uncert. %Rec. Added RL MDC Unit Limits Analyte Result Qual Result Qual $(2\sigma + / -)$ %Rec 0.284 U 19 - 150 Strontium-90 16.9 16.73 1.77 3.00 0.633 pCi/L 98

MS MS

Carrier %Yield Qualifier Limits Sr Carrier 88.8 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264517-M-1-I MSD **Client Sample ID: Matrix Spike Duplicate**

Matrix: Water

Analysis Batch: 469750

Prep Type: Total/NA

Prep Batch: 468677

Total MSD MSD %Rec. **RER** Sample Sample Spike Uncert. Analyte Result Qual Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Result Qual Limit 0.284 U Strontium-90 16.9 1.68 3.00 0.641 pCi/L 91 19 - 150 0.30 15.70

MSD MSD Carrier %Yield Qualifier Limits Sr Carrier 87.6 40 - 110 Y Carrier 92.7 40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-469023/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 469168

Prep Batch: 469023 Count Total MB MB Uncert. Uncert. **MDC** Unit Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Dil Fac Analyzed Tritium -32.88 U 154 154 500 285 pCi/L 04/28/20 04:41 04/29/20 02:20

Lab Sample ID: LCS 160-469023/2-A

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 469023

Total **Spike** LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits

Tritium 391 500 283 pCi/L 97 75 - 114 2450 2379

Lab Sample ID: 440-264517-L-1-B MS

Client Sample ID: Matrix Spike Matrix: Water Prep Type: Total/NA **Analysis Batch: 469168 Prep Batch: 469023**

Total Sample Sample Spike MS MS Uncert. %Rec. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 194 U 2460 2681 432 500 308 pCi/L 101 67 - 130

Eurofins Calscience Irvine

5/14/2020

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 440-264517-L-1-C MSD

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 469023

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** Result Qual Added RL MDC Unit Limits RER Analyte Result Qual $(2\sigma + / -)$ %Rec Limit 194 U 67 - 130 Tritium 2450 2654 424 500 297 pCi/L 100 0.03

Lab Sample ID: 160-37794-B-1-B DU

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Duplicate Prep Type: Total/NA

Prep Batch: 469023

Total Sample Sample DU DU **RER** Uncert. Result Qual Result Qual RL **MDC** Unit Analyte $(2\sigma + / -)$ **RER** Limit Tritium 10.8 U 77.48 U 166 500 284 pCi/L 0.21

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A

Matrix: Water

Analysis Batch: 468749

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 468046

| 7 many old Dutom 10 | | | Count | Total | | | | | op Dato | |
|---------------------|---------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Total Uranium | 0.03978 | U | 0.1101 | 0.1102 | 1.00 | 0.152 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 |
| | MD | MD | | | | | | | | |

Tracer **%Yield Qualifier** Limits Prepared Analyzed Dil Fac Uranium-232 30 - 110 92.6

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468046

| | | | | Total | | | | | | |
|-------------|-------|--------|------|---------|------|--------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Uranium-234 | 12.7 | 13.10 | | 1.50 | 1.00 | 0.150 | pCi/L | 103 | 75 - 125 | |
| Uranium-238 | 13.0 | 13.96 | | 1.58 | 1.00 | 0.0962 | pCi/L | 107 | 75 - 125 | |

LCS LCS

Tracer %Yield Qualifier Limits Uranium-232 81.2 30 - 110

Lab Sample ID: 440-263721-M-1-I MS **Client Sample ID: Matrix Spike**

Matrix: Water Prep Type: Total/NA **Prep Batch: 468046 Analysis Batch: 468757**

| | | | | i otai | | | | | |
|-------------|---------------|-------|-------------|---------|------|-------------|------|----------|--|
| | Sample Sample | Spike | MS MS | Uncert. | | | | %Rec. | |
| Analyte | Result Qual | Added | Result Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | |
| Uranium-234 | 0.0485 U | 12.7 | 12.44 | 1.46 | 1.00 | 0.164 pCi/L | 97 | 65 - 146 | |
| Uranium-238 | 0.150 | 13.0 | 14.35 | 1.63 | 1.00 | 0.129 pCi/L | 109 | 68 - 143 | |

MS MS Tracer %Yield Qualifier Limits Uranium-232 65.3 30 - 110

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QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264634-2

Project/Site: Routine Outfall 009 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 440-263721-M-1-J MSD

Analysis Batch: 468759

Matrix: Water

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 468046

| | | | | | Total | | | | | | |
|-------------|---------------|-------|--------|------|---------|------|-------------|------|----------|------|-------|
| | Sample Sample | Spike | MSD | MSD | Uncert. | | | | %Rec. | | RER |
| Analyte | Result Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Uranium-234 | 0.0485 U | 12.8 | 13.87 | | 1.59 | 1.00 | 0.158 pCi/L | 108 | 65 - 146 | 0.47 | 1 |
| Uranium-238 | 0.150 | 13.0 | 12.82 | | 1.50 | 1.00 | 0.141 pCi/L | . 97 | 68 - 143 | 0.49 | 1 |
| | 4400 4400 | | | | | | | | | | |

MSD MSD

%Yield Qualifier Limits Tracer 30 - 110 Uranium-232 65.1

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Prep Batch: 467982

Rad

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Pre | p Batch |
|----------------------|--------------------------|-----------|--------|------------|---------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467982/23-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467982/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| 440-264517-M-1-B MS | Matrix Spike | Total/NA | Water | PrecSep-21 | |
| 440-264517-M-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-21 | |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|----------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | ExtChrom | |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-I MS | Matrix Spike | Total/NA | Water | ExtChrom | |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | Total/NA | Water | ExtChrom | |

Prep Batch: 468070

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-468070/23-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-468070/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| 440-264517-M-1-F MS | Matrix Spike | Total/NA | Water | PrecSep_0 | |
| 440-264517-M-1-G MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep_0 | |

Prep Batch: 468154

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch | 1 |
|---------------------|--------------------------|-----------|--------|-------------------|---|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | Fill_Geo-0 | - |
| MB 160-468154/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 | |
| LCS 160-468154/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 | |
| 440-264517-R-1-G DU | Duplicate | Total/NA | Water | Fill_Geo-0 | |

Prep Batch: 468677

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Ba | atch |
|----------------------|--------------------------|-----------|--------|----------------|------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | PrecSep-7 | |
| MB 160-468677/22-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-468677/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-H MS | Matrix Spike | Total/NA | Water | PrecSep-7 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | Total/NA | Water | PrecSep-7 | |

Prep Batch: 469023

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Pre | p Batch |
|----------------------|--------------------------|-----------|--------|---------------|---------|
| 440-264634-1 | Outfall009_20200414_Comp | Total/NA | Water | LSC_Dist_Susp | |
| MB 160-469023/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp | |
| LCS 160-469023/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp | |
| 440-264517-L-1-B MS | Matrix Spike | Total/NA | Water | LSC_Dist_Susp | |
| 440-264517-L-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | LSC_Dist_Susp | |
| 160-37794-B-1-B DU | Duplicate | Total/NA | Water | LSC_Dist_Susp | |

Prep Batch: 469494

| Lab Sample ID 440-264634-1 | Client Sample ID Outfall009_20200414_Comp | Prep Type Total/NA | Matrix Water | Method Evaporation | Prep Batch |
|--------------------------------------|---|--------------------|-----------------|--------------------|------------|
| MB 160-469494/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-469494/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |

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Job ID: 440-264634-2

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Rad (Continued)

Prep Batch: 469494 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------|-----------|--------|-------------|------------|
| LCSB 160-469494/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 160-37832-C-2-B MS | Matrix Spike | Total/NA | Water | Evaporation | |
| 160-37832-C-2-C MSBT | Matrix Spike | Total/NA | Water | Evaporation | |
| 160-37832-C-2-D DU | Duplicate | Total/NA | Water | Evaporation | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264634-2

Project/Site: Routine Outfall 009 Comp

Qualifiers

QC

RER

RPD

TEF

TEQ

RL

Quality Control

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

| 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 |
| 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) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |

5/14/2020

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | İ | Program | Identification Number | Expiration Date |
|------------|---|---------|-----------------------|------------------------|
| California | | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| Iowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

Eurofins Calscience Irvine

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5/14/2020

| String Court | Political Activity Politic | Class Mar | (A debroom | | | | | | | | | | | | | | ANALY | SIS RE | ANALYSIS REQUIRED | | | | |
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| State Communication Comm | Column C | Eurofins C 17461 Dei Invine CA E Tel 949-21 | alsoience ivine Confact. Christian Bondoo ian Ave Suite #100 22614 30-3218 | 0 | | | Routine O | remit 20,20 uffall (003-007 Ouffall 009 Comp | | | | | (4.0 | IT ,92 ,d2 ,d9 , | 3), Sr-80 (E905 O _{or} E90 3), Sr-80 (E905 O _{or} E90 | nieńastum | | | | | | Comments | |
| Supplies | Surgicia | TestAmenus 2019-22-TestA | services under this CoC shall be performed in accordance with menca by and between Hatey & Addrich, Inc., it's subsidiaries is | with the T&Cs within Blanket Service / s and affiliates, and TestAmence Leb | Agreements comportes | | Project N | lanager Kath | styre Miller | | | | 0C/E18 | Cq' C1 | 3 6093) 2 muibs | ed - Vho | | | | | | | |
| Contracts Secretar Secretar Description Descript | Secretary Secr | Sampler | | | | | Field M | anager Mark | Dominick | | | ······································ | PSZWS | ,ιΝ (\ ⊉Α (8 | (6-H) r i취 beni | кхоД э | | | | | | | |
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| Company Comp | Company Comp | | | | | | | | | | | | | | | | | | | | | | |
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| Turn-around time (Check) Turn-around time (C | Turn-around time Company Turn-around time Checky Turn-around time Turn-around t | | | | | | | | egend: EP=Exp | ert Panel, R=R | outine | | | | | | | | | | | | |
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| Store samples for 6 months Company, Received By Date/Time Company, Date Received By Date/Time Date/Tim | | Restroy | Desertine Control (1) | 14-20 | | | ر ال | | Receiveds | 日ころ | Satter/Time | 7 | ۲۱/ | | 13 | ι Γ | . ^ | | Sampl | e Integrity | (Check) | On ice | |
| | , 1,111.3, 0.8/1.0, 0.3/0.5, 1,9/2.1 12-94 | Refinquished | - | Company. | | | | | Received By | | Jathe/Time | | | | | | | | Store a Cata R No Lev | amples fr equireme el IV | or 6 months nts (Check) | All Level | |

1/14/20 W

440-264634 Chain of Custody

2019-2020 Rainy Season O Version 2

Ver 01/16/2019

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| Eurofins Calscience Irvine 17461 Denan Ave Sute 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297 | Chain of Custody Record | ustody Re | cord | | | ofins | Calscience |
|--|--|---|--|----------------------------|-----------------------|--|--|
| Client Information (Sub Contract Lab) | Sampler. | Lab PM Bondoo | Lab PM Bondoc, Christian M | Carrier Tracking No(s) | | COC No ⁻ 440-155035.1 | |
| 5 | Phone: | E-Mail | | State of Origin: | | Page: | |
| Snipping/keceiving | | CINISTIA | 1. DONGOC@testamencamc. | ı | | rage in i | |
| Company: Aquatic Bioassay | | ₹ <u>15</u> | Accreditations Required (See note) State Program - California | | | Job #: 440-264634-1 | |
| Address 29 North Olive Street. | Due Date Requested: 4/22/2020 | | Analy | Analysis Requested | | ĕ | |
| City | TAT Requested (days): | <u>.</u> 14 | u | | | | 3xane ane |
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| 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 chann-of-custody. If the laboratory does not currently managed to channel related above for analyzed shape for ana | sience places the ownership of method, analyte & analyty beamy being analyzed, the campies must be strings | accreditation compliance of back to the Funding | a upon out subcontract laboratori | es This sample shipment is | forwarded under chain | -of-custody If the laboratory | does not currently |
| Calsolence attention immediately If all requested accreditations are current | it to date, return the signed Chain of Custody attec | sting to said complicand | to Eurofins Calscience. | | | | |
| Possible Hazard Identification | | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | may be assessed if s | amples are retaine | ed longer than 1 mont | <i>(</i> 4 |
| Unconfirmed | | | Return To Client | Drsposal By Lab | b Archive For | | Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | | Special Instructions/QC Requirements: | equirements: | | | |
| Empty Kit Relinquished by: | Date: | Τμ | Time: | Method of | Method of Shipment | | |
| Reinquished by: | Date/Time: | Company | Received by | | Date/Time | Company | апу |
| Reinquished by | Date/Time: | Company | Received by | | Date/Time | Company | any |
| Retinquished by | Баtе/Тиле: | Сотрану | Received by | | Date/Time. | Company | апу |
| Custody Seals Intact: Custody Seal No.: | | | Cooler Temperature(s) °C and Other Remarks | ınd Other Remarks. | | | |
| ON ESTA | | | | | | | 010071 |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264634-2

Login Number: 264634 List Source: Eurofins Irvine

List Number: 1

Creator: Dolidze, Lado

| Greator. Donuze, Lado | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |
| s 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264634-2

Login Number: 264634 List Number: 3

List Source: Eurofins TestAmerica, St. Louis List Creation: 04/15/20 03:53 PM

Creator: Mazariegos, Leonel A

| Question | Answer | Comment |
|--|--------|---|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | 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 | 440-264634-J-1 preserved upon arrival to lab. |
| 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 | |

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Job ID: 440-264634-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------------------------------|
| | | Ba Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | |
| 440-264517-M-1-B MS | Matrix Spike | 82.3 | |
| 440-264517-M-1-C MSD | Matrix Spike Duplicate | 95.4 | |
| 440-264634-1 | Outfall009_20200414_Comp | 93.9 | |
| LCS 160-467982/1-A | Lab Control Sample | 97.0 | |
| MB 160-467982/23-A | Method Blank | 87.2 | |
| Tracer/Carrier Legend | | | |
| Ba Carrier = Ba Carrier | | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------------------|-----------------------|-----------------------------------|
| ab Sample ID | Client Sample ID | Ba Carrier (40-110) | Y Carrier (40-110) | |
| 140-264517-M-1-F MS | Matrix Spike | 82.3 | 92.0 | |
| 140-264517-M-1-G MSD | Matrix Spike Duplicate | 95.4 | 85.6 | |
| 140-264634-1 | Outfall009_20200414_Comp | 93.9 | 88.6 | |
| LCS 160-468070/1-A | Lab Control Sample | 97.0 | 93.5 | |
| MB 160-468070/23-A | Method Blank | 87.2 | 91.2 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Sr Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264517-M-1-H MS | Matrix Spike | 88.8 | 90.8 | |
| 440-264517-M-1-I MSD | Matrix Spike Duplicate | 87.6 | 92.7 | |
| 440-264634-1 | Outfall009_20200414_Comp | 79.0 | 92.0 | |
| LCS 160-468677/1-A | Lab Control Sample | 91.7 | 85.6 | |
| MB 160-468677/22-A | Method Blank | 93.4 | 92.0 | |
| Tracer/Carrier Legend | | | | |
| Sr Carrier = Sr Carrier | | | | |
| | | | | |

Y Carrier = Y Carrier

Y Carrier = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| | | ranium-23 |
|----------------------|--------------------------|-----------|
| Lab Sample ID | Client Sample ID | (30-110) |
| 440-263721-M-1-I MS | Matrix Spike | 65.3 |
| 440-263721-M-1-J MSD | Matrix Spike Duplicate | 65.1 |
| 440-264634-1 | Outfall009_20200414_Comp | 43.2 |
| LCS 160-468046/2-A | Lab Control Sample | 81.2 |
| MB 160-468046/1-A | Method Blank | 92.6 |

Eurofins Calscience Irvine

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Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Routine Outfall 009 Comp

Tracer/Carrier Legend

Uranium-232 = Uranium-232

Job ID: 440-264634-2

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ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264459-1

Client Project/Site: Quarterly Outfall 018 Grab

For:

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

Attn: Katherine Miller

Authorized for release by: 4/22/2020 12:30:01 PM

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Quarterly Outfall 018 Grab

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

4/22/2020 12:30:01 PM

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Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Grab Laboratory Job ID: 440-264459-1

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Grab

Job ID: 440-264459-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-264459-1 | Outfall018_20200409_Grab | Water | 04/09/20 12:30 | 04/10/20 11:30 | |
| 440-264459-3 | TB-20200410 | Water | 04/09/20 12:30 | 04/10/20 11:30 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Grab

Job ID: 440-264459-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264459-1

Comments

No additional comments.

Receipt

The samples were received on 4/10/2020 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

GC/MS VOA

Method 624.1: The following volatile sample was received and analyzed with significant headspace in the sample container(s): TB-20200410 (440-264459-3). Significant headspace is defined as a bubble greater than 6 mm in diameter.

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

General Chemistry

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 440-604637.

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

Organic Prep

Methods 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-605782 and analytical batch 440-605871. The laboratory control sample(LCS) was performed in duplicate 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.

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

Job ID: 440-264459-1

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Client Sample ID: Outfall018_20200409_Grab Lab Sample ID: 440-264459-1

Date Collected: 04/09/20 12:30

Matrix: Water

Date Received: 04/10/20 11:30

HEM (Oil & Grease)

| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|---------------------------------------|-------------|-----------|---------------------|------|--------------|---|----------|----------------|-------------------|
| 1,1,1-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/10/20 19:20 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.50 | - | | | 04/10/20 19:20 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/10/20 19:20 | 1 |
| 1,1-Dichloroethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| 1,1-Dichloroethene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| 1,2-Dichloropropane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.50 | 0.25 | | | | 04/10/20 19:20 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Benzene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Bromomethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Carbon tetrachloride | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Chlorobenzene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Dibromochloromethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | |
| Chloroethane | ND | | 1.0 | | ug/L | | | 04/10/20 19:20 | 1 |
| Chloroform | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Chloromethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | |
| cis-1,2-Dichloroethene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Bromodichloromethane | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | |
| Ethylbenzene | ND | | 0.50 | 0.25 | - | | | 04/10/20 19:20 | 1 |
| Methylene Chloride | ND | | 2.0 | | ug/L | | | 04/10/20 19:20 | 1 |
| Naphthalene | ND | | 1.0 | | ug/L | | | 04/10/20 19:20 | |
| Tetrachloroethene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | 1 |
| Toluene | ND | | 0.50 | 0.25 | - | | | 04/10/20 19:20 | 1 |
| trans-1,2-Dichloroethene | ND | | 0.50 | | ug/L | | | 04/10/20 19:20 | |
| trans-1,3-Dichloropropene | ND | | 0.50 | | ug/L ug/L | | | 04/10/20 19:20 | 1 |
| Trichloroethene | ND ND | | 0.50 | 0.25 | - | | | 04/10/20 19:20 | 1 |
| Vinyl chloride | ND | | 0.50 | | ug/L ug/L | | | 04/10/20 19:20 | · · · · · · · · 1 |
| villyi Cilionae | ND | | 0.50 | 0.23 | ug/L | | | 04/10/20 19.20 | ' |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 109 | | 60 - 140 | | | - | • | 04/10/20 19:20 | |
| Dibromofluoromethane (Surr) | 94 | | 60 ₋ 140 | | | | | 04/10/20 19:20 | 1 |
| Toluene-d8 (Surr) | 106 | | 60 - 140 | | | | | 04/10/20 19:20 | 1 |
| , , | | | | | | | | | |
| Method: 624.1 - Volatile Orga | inic Compou | nds (GC/N | IS) - RA | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromoform | ND | | 1.0 | 0.40 | ug/L | | | 04/13/20 10:12 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 95 | | 60 - 140 | | | - | | 04/13/20 10:12 | 1 |
| Dibromofluoromethane (Surr) | 107 | | 60 - 140 | | | | | 04/13/20 10:12 | 1 |
| Toluene-d8 (Surr) | 84 | | 60 - 140 | | | | | 04/13/20 10:12 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | Deculé | Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fac |

5.2

2.3 J,DX

1.5 mg/L

Eurofins Calscience Irvine

04/21/20 06:08 04/21/20 11:20

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Client Sample ID: Outfall018_20200409_Grab

Date Collected: 04/09/20 12:30 Date Received: 04/10/20 11:30 Lab Sample ID: 440-264459-1

Matrix: Water

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Specific Conductance | 380 | | 1.0 | 1.0 | umhos/cm | | | 04/21/20 12:35 | 1 |
| Settleable Solids | ND | | 0.10 | 0.10 | mL/L/Hr | | | 04/10/20 17:48 | 1 |

Client Sample ID: TB-20200410

Date Collected: 04/09/20 12:30

Date Received: 04/10/20 11:30

Lab Sample ID: 440-264459-3

Matrix: Water

| Method: 624.1 - Volatile Orga Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.50 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,1-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,1-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,2-Dichloroethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,2-Dichloropropane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Benzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Bromomethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Carbon tetrachloride | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Chlorobenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Dibromochloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Chloroethane | ND | | 1.0 | 0.40 | ug/L | | | 04/11/20 01:47 | 1 |
| Chloroform | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Chloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Bromodichloromethane | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Ethylbenzene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Methylene Chloride | ND | | 2.0 | | ug/L | | | 04/11/20 01:47 | 1 |
| Naphthalene | ND | | 1.0 | 0.40 | ug/L | | | 04/11/20 01:47 | 1 |
| Tetrachloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| Toluene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| trans-1,2-Dichloroethene | ND | | 0.50 | 0.25 | ug/L | | | 04/11/20 01:47 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.50 | | ug/L | | | 04/11/20 01:47 | 1 |
| Trichloroethene | ND | | 0.50 | | ug/L | | | 04/11/20 01:47 | 1 |
| Vinyl chloride | ND | | 0.50 | | ug/L | | | 04/11/20 01:47 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 107 | | 60 - 140 | | | - | | 04/11/20 01:47 | 1 |
| Dibromofluoromethane (Surr) | 95 | | 60 - 140 | | | | | 04/11/20 01:47 | 1 |

| Surrogate | %Recovery Qual | lifier Limits | Prepared Analyzed | DII Fac |
|-----------------------------|----------------|---------------|-------------------|---------|
| 4-Bromofluorobenzene (Surr) | 107 | 60 - 140 | 04/11/20 01:47 | 7 1 |
| Dibromofluoromethane (Surr) | 95 | 60 - 140 | 04/11/20 01:47 | 7 1 |
| Toluene-d8 (Surr) | 106 | 60 - 140 | 04/11/20 01:47 | 7 1 |

| Method: 624.1 - Volatile C | Organic Compounds (GC/MS) | - RA |
|----------------------------|---------------------------|------|
| Analyte | Result Qualifier | RI |

4-Bromofluorobenzene (Surr)

84

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|---------------------|--------|-----------|---|----------|----------------|---------|
| Bromoform | ND | 1.0 | 0.40 ug/L | | | 04/13/20 09:48 | 1 |
| Surrogate | %Recovery Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |

60 - 140

Eurofins Calscience Irvine

04/13/20 09:48

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Client Sample ID: TB-20200410 Lab Sample ID: 440-264459-3

Date Received: 04/10/20 11:30 Matrix: Water

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

| Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|---------------------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 107 | 60 - 140 | | 04/13/20 09:48 | 1 |
| Toluene-d8 (Surr) | 102 | 60 - 140 | | 04/13/20 09:48 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Grab

Method **Method Description** Protocol Laboratory 40CFR136A TAL IRV 624.1 Volatile Organic Compounds (GC/MS) MCAWW 120.1 Conductivity, Specific Conductance TAL IRV HEM and SGT-HEM 1664A TAL IRV 1664A SM 2540F Solids, Settleable SM TAL IRV 1664A HEM and SGT-HEM (SPE) 1664A TAL IRV

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.

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Job ID: 440-264459-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Client Sample ID: Outfall018_20200409_Grab

Date Collected: 04/09/20 12:30

Date Received: 04/10/20 11:30

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 624.1 | RA | 1 | 10 mL | 10 mL | 604735 | 04/13/20 10:12 | OH1 | TAL IRV |
| Total/NA | Analysis | 624.1 | | 1 | 10 mL | 10 mL | 604634 | 04/10/20 19:20 | GMA | TAL IRV |
| Total/NA | Analysis | 120.1 | | 1 | | | 605665 | 04/21/20 12:35 | XL | TAL IRV |
| Total/NA | Prep | 1664A | | | 960 mL | 1000 mL | 605782 | 04/21/20 06:08 | L1A | TAL IRV |
| Total/NA | Analysis | 1664A | | 1 | | | 605871 | 04/21/20 11:20 | L1A | TAL IRV |
| Total/NA | Analysis | SM 2540F | | 1 | 1000 mL | 1 L | 604637 | 04/10/20 17:48 | HZ | TAL IRV |

Client Sample ID: TB-20200410

Date Collected: 04/09/20 12:30

Date Received: 04/10/20 11:30

| | | Batch | Batch | | | Dil | Initial | Final | Batch | Prepared | | |
|----------|----|----------|--------|---|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Typ | ре | Type | Method | F | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | | Analysis | 624.1 | F | RA | 1 | 10 mL | 10 mL | 604735 | 04/13/20 09:48 | OH1 | TAL IRV |
| Total/NA | | Analysis | 624.1 | | | 1 | 10 mL | 10 mL | 604634 | 04/11/20 01:47 | GMA | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Matrix: Water

Matrix: Water

Lab Sample ID: 440-264459-1

Lab Sample ID: 440-264459-3

Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

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

Lab Sample ID: MB 440-604634/4

Matrix: Water

Analysis Batch: 604634

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

MR MR RL **MDL** Unit Prepared Dil Fac Analyte Result Qualifier Analyzed 0.50 04/10/20 18:52 1,1,1-Trichloroethane $\overline{\mathsf{ND}}$ 0.25 ug/L 1,1,2,2-Tetrachloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1,1,2-Trichloro-1,2,2-trifluoroethane ND 2.0 0.50 ug/L 04/10/20 18:52 1 1,1,2-Trichloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1.1-Dichloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1,1-Dichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 1,2-Dichlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 1,2-Dichloroethane ND 0.50 0.25 ug/L 04/10/20 18:52 1,2-Dichloropropane ND 0.50 0.25 ug/L 04/10/20 18:52 1,3-Dichlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 1,4-Dichlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 Benzene ND 0.50 0.25 ug/L 04/10/20 18:52 1 Bromomethane ND 0.50 0.25 ug/L 04/10/20 18:52 Carbon tetrachloride NΠ 0.50 0.25 ug/L 04/10/20 18:52 Chlorobenzene ND 0.50 0.25 ug/L 04/10/20 18:52 Dibromochloromethane ND 0.50 0.25 ug/L 04/10/20 18:52 Chloroethane ND 1.0 0.40 ug/L 04/10/20 18:52 Chloroform ND 0.50 04/10/20 18:52 0.25 ug/L Chloromethane ND 0.50 0.25 ug/L 04/10/20 18:52 04/10/20 18:52 cis-1,2-Dichloroethene ND 0.50 0.25 ug/L cis-1,3-Dichloropropene ND 0.50 0.25 ug/L 04/10/20 18:52 Bromodichloromethane ND 0.50 0.25 ug/L 04/10/20 18:52 Ethylbenzene ND 0.50 0.25 ug/L 04/10/20 18:52 Methylene Chloride ND 2.0 0.88 ug/L 04/10/20 18:52 Naphthalene ND 04/10/20 18:52 1.0 0.40 ug/L Tetrachloroethene 0.50 0.25 ug/L 04/10/20 18:52 ND Toluene ND 0.50 0.25 ug/L 04/10/20 18:52 trans-1,2-Dichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 trans-1,3-Dichloropropene ND 04/10/20 18:52 0.50 0.25 ug/L Trichloroethene ND 0.50 0.25 ug/L 04/10/20 18:52 Vinyl chloride ND 0.50 0.25 ug/L 04/10/20 18:52

MB MB Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 108

60 - 140 Dibromofluoromethane (Surr) 96 60 - 140 Toluene-d8 (Surr) 102 60 - 140

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

Analyzed

04/10/20 18:52

04/10/20 18:52

04/10/20 18:52

Prepared

Matrix: Water

Lab Sample ID: LCS 440-604634/1002

Analysis Batch: 604634

| | Spike | LCS | LCS | | | | %Rec. | |
|---------------------------|-------|--------|-----------|------|---|------|---------------------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1-Trichloroethane | 25.0 | 18.4 | | ug/L | | 73 | 69 - 151 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 30.3 | | ug/L | | 121 | 68 - 136 | |
| 1,1,2-Trichloroethane | 25.0 | 28.9 | | ug/L | | 116 | 75 - 136 | |
| 1,1-Dichloroethane | 25.0 | 25.2 | | ug/L | | 101 | 71 - 143 | |
| 1,1-Dichloroethene | 25.0 | 22.5 | | ug/L | | 90 | 19 - 212 | |
| 1,2-Dichlorobenzene | 25.0 | 25.9 | | ug/L | | 103 | 59 ₋ 174 | |

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QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Grab

Job ID: 440-264459-1

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

Lab Sample ID: LCS 440-604634/1002

Matrix: Water

Analysis Batch: 604634

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| | Spike | LCS | LCS | | | | %Rec. |
|---------------------------|-------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 1,2-Dichloroethane | 25.0 | 22.6 | | ug/L | | 90 | 72 - 137 |
| 1,2-Dichloropropane | 25.0 | 27.1 | | ug/L | | 108 | 19 - 181 |
| 1,3-Dichlorobenzene | 25.0 | 25.8 | | ug/L | | 103 | 75 - 144 |
| 1,4-Dichlorobenzene | 25.0 | 25.8 | | ug/L | | 103 | 59 - 174 |
| Benzene | 25.0 | 27.5 | | ug/L | | 110 | 75 - 125 |
| Bromomethane | 25.0 | 23.0 | | ug/L | | 92 | 10 - 206 |
| Carbon tetrachloride | 25.0 | 17.9 | | ug/L | | 72 | 65 - 125 |
| Chlorobenzene | 25.0 | 25.0 | | ug/L | | 100 | 82 - 137 |
| Dibromochloromethane | 25.0 | 20.4 | | ug/L | | 82 | 69 - 133 |
| Chloroethane | 25.0 | 26.5 | | ug/L | | 106 | 42 - 202 |
| Chloroform | 25.0 | 21.1 | | ug/L | | 84 | 68 - 121 |
| Chloromethane | 25.0 | 28.2 | | ug/L | | 113 | 10 - 230 |
| cis-1,2-Dichloroethene | 25.0 | 24.2 | | ug/L | | 97 | 60 - 140 |
| cis-1,3-Dichloropropene | 25.0 | 26.9 | | ug/L | | 108 | 5 - 195 |
| Bromodichloromethane | 25.0 | 22.4 | | ug/L | | 89 | 50 - 140 |
| Ethylbenzene | 25.0 | 23.7 | | ug/L | | 95 | 75 - 134 |
| Methylene Chloride | 25.0 | 24.3 | | ug/L | | 97 | 10 - 205 |
| Naphthalene | 25.0 | 26.4 | | ug/L | | 106 | 60 - 140 |
| Tetrachloroethene | 25.0 | 22.7 | | ug/L | | 91 | 70 - 130 |
| Toluene | 25.0 | 25.9 | | ug/L | | 103 | 75 - 134 |
| trans-1,2-Dichloroethene | 25.0 | 24.6 | | ug/L | | 98 | 70 - 130 |
| trans-1,3-Dichloropropene | 25.0 | 26.8 | | ug/L | | 107 | 38 - 162 |
| Trichloroethene | 25.0 | 24.1 | | ug/L | | 96 | 75 - 138 |

25.0

28.3

ug/L

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 109 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 94 | | 60 - 140 |
| Toluene-d8 (Surr) | 102 | | 60 - 140 |

Lab Sample ID: 440-264459-1 MS

Matrix: Water

Vinyl chloride

Analysis Batch: 604634

| Client Sample ID: 0 | Outfall018_ | 20 | 200409 | _Grab |
|---------------------|-------------|----|--------|--------|
| | Prep | T | pe: To | tal/NA |

113

10 - 218

| Alialysis Dalcil. 004034 | | | | | | | | | | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1-Trichloroethane | ND | | 10.0 | 7.70 | | ug/L | | 77 | 52 - 162 | |
| 1,1,2,2-Tetrachloroethane | ND | | 10.0 | 13.2 | | ug/L | | 132 | 46 - 157 | |
| 1,1,2-Trichloroethane | ND | | 10.0 | 12.5 | | ug/L | | 125 | 52 - 150 | |
| 1,1-Dichloroethane | ND | | 10.0 | 10.5 | | ug/L | | 105 | 59 - 155 | |
| 1,1-Dichloroethene | ND | | 10.0 | 9.82 | | ug/L | | 98 | 10 - 234 | |
| 1,2-Dichlorobenzene | ND | | 10.0 | 11.1 | | ug/L | | 111 | 18 - 190 | |
| 1,2-Dichloroethane | ND | | 10.0 | 9.34 | | ug/L | | 93 | 49 - 155 | |
| 1,2-Dichloropropane | ND | | 10.0 | 11.6 | | ug/L | | 116 | 10 - 210 | |
| 1,3-Dichlorobenzene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 59 - 156 | |
| 1,4-Dichlorobenzene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 18 - 190 | |
| Benzene | ND | | 10.0 | 11.7 | | ug/L | | 117 | 37 - 151 | |
| Bromomethane | ND | | 10.0 | 9.98 | | ug/L | | 100 | 10 - 242 | |
| Carbon tetrachloride | ND | | 10.0 | 7.36 | | ug/L | | 74 | 70 - 140 | |

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QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Grab

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

Lab Sample ID: 440-264459-1 MS

Matrix: Water

Analysis Batch: 604634

Client Sample ID: Outfall018_20200409_Grab

Prep Type: Total/NA

Job ID: 440-264459-1

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chlorobenzene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 37 - 160 | |
| Dibromochloromethane | ND | | 10.0 | 8.39 | | ug/L | | 84 | 53 - 149 | |
| Chloroethane | ND | | 10.0 | 11.6 | | ug/L | | 116 | 14 - 230 | |
| Chloroform | ND | | 10.0 | 8.75 | | ug/L | | 88 | 51 - 138 | |
| Chloromethane | ND | | 10.0 | 12.1 | | ug/L | | 121 | 10 - 273 | |
| cis-1,2-Dichloroethene | ND | | 10.0 | 10.3 | | ug/L | | 103 | 60 - 140 | |
| cis-1,3-Dichloropropene | ND | | 10.0 | 11.2 | | ug/L | | 112 | 10 - 227 | |
| Bromodichloromethane | ND | | 10.0 | 9.29 | | ug/L | | 93 | 35 - 155 | |
| Ethylbenzene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 37 - 162 | |
| Methylene Chloride | ND | | 10.0 | 10.1 | | ug/L | | 101 | 10 - 221 | |
| Naphthalene | ND | | 10.0 | 11.0 | | ug/L | | 110 | 60 - 140 | |
| Tetrachloroethene | ND | | 10.0 | 9.78 | | ug/L | | 98 | 64 - 148 | |
| Toluene | ND | | 10.0 | 11.3 | | ug/L | | 113 | 47 - 150 | |
| trans-1,2-Dichloroethene | ND | | 10.0 | 10.2 | | ug/L | | 102 | 54 - 156 | |
| trans-1,3-Dichloropropene | ND | | 10.0 | 10.9 | | ug/L | | 109 | 17 - 183 | |
| Trichloroethene | ND | | 10.0 | 10.4 | | ug/L | | 104 | 70 - 157 | |
| Vinyl chloride | ND | | 10.0 | 11.5 | | ug/L | | 115 | 10 - 251 | |

MS MS

| Surrogate | %Recovery Qualifier | Limits |
|-----------------------------|---------------------|----------|
| 4-Bromofluorobenzene (Surr) | 108 | 60 - 140 |
| Dibromofluoromethane (Surr) | 92 | 60 - 140 |
| Toluene-d8 (Surr) | 105 | 60 - 140 |

Lab Sample ID: 440-264459-1 MSD

Matrix: Water

Analysis Batch: 604634

| Client Sample | ID: Outfall018 | _20200409 | _Grab |
|---------------|----------------|------------|--------|
| | Pre | p Type: To | tal/NA |

| 7 manyolo Batom oo loo . | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|---------------------------|--------|-----------|-------|------|-----------|------|---|------|----------|-----|-------|
| Analyte | • | Qualifier | Added | | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 1,1,1-Trichloroethane | ND | | 10.0 | 7.32 | | ug/L | | 73 | 52 - 162 | 5 | 36 |
| 1,1,2,2-Tetrachloroethane | ND | | 10.0 | 13.3 | | ug/L | | 133 | 46 - 157 | 1 | 61 |
| 1,1,2-Trichloroethane | ND | | 10.0 | 11.7 | | ug/L | | 117 | 52 - 150 | 7 | 45 |
| 1,1-Dichloroethane | ND | | 10.0 | 9.86 | | ug/L | | 99 | 59 - 155 | 7 | 40 |
| 1,1-Dichloroethene | ND | | 10.0 | 9.17 | | ug/L | | 92 | 10 - 234 | 7 | 32 |
| 1,2-Dichlorobenzene | ND | | 10.0 | 10.8 | | ug/L | | 108 | 18 - 190 | 3 | 57 |
| 1,2-Dichloroethane | ND | | 10.0 | 8.97 | | ug/L | | 90 | 49 - 155 | 4 | 49 |
| 1,2-Dichloropropane | ND | | 10.0 | 11.0 | | ug/L | | 110 | 10 - 210 | 5 | 55 |
| 1,3-Dichlorobenzene | ND | | 10.0 | 10.4 | | ug/L | | 104 | 59 - 156 | 4 | 43 |
| 1,4-Dichlorobenzene | ND | | 10.0 | 10.7 | | ug/L | | 107 | 18 - 190 | 2 | 57 |
| Benzene | ND | | 10.0 | 11.1 | | ug/L | | 111 | 37 - 151 | 5 | 61 |
| Bromomethane | ND | | 10.0 | 9.33 | | ug/L | | 93 | 10 - 242 | 7 | 61 |
| Carbon tetrachloride | ND | | 10.0 | 6.93 | LN | ug/L | | 69 | 70 - 140 | 6 | 41 |
| Chlorobenzene | ND | | 10.0 | 10.3 | | ug/L | | 103 | 37 - 160 | 5 | 53 |
| Dibromochloromethane | ND | | 10.0 | 7.99 | | ug/L | | 80 | 53 - 149 | 5 | 50 |
| Chloroethane | ND | | 10.0 | 10.6 | | ug/L | | 106 | 14 - 230 | 9 | 78 |
| Chloroform | ND | | 10.0 | 8.22 | | ug/L | | 82 | 51 - 138 | 6 | 54 |
| Chloromethane | ND | | 10.0 | 11.3 | | ug/L | | 113 | 10 - 273 | 7 | 60 |
| cis-1,2-Dichloroethene | ND | | 10.0 | 9.58 | | ug/L | | 96 | 60 - 140 | 7 | 35 |
| cis-1,3-Dichloropropene | ND | | 10.0 | 10.8 | | ug/L | | 108 | 10 - 227 | 3 | 58 |

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Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

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

Lab Sample ID: 440-264459-1 MSD

Matrix: Water Analysis Batch: 604634 Client Sample ID: Outfall018_20200409_Grab

Prep Type: Total/NA

Sample Sample Spike MSD MSD %Rec. **RPD** RPD Result Qualifier Added Result Qualifier Limits Limit **Analyte** Unit D %Rec Bromodichloromethane ND 10.0 8.71 87 35 - 155 ug/L 6 56 Ethylbenzene ND 10.0 9.84 ug/L 98 37 - 162 63 4 Methylene Chloride ND 10.0 9.43 ug/L 94 10 - 221 28 Naphthalene ND ug/L 60 - 140 2 35 10.0 11.3 113 Tetrachloroethene ND 10.0 9.61 ug/L 96 64 - 148 39 47 - 150 Toluene ND 10.0 107 41 10.7 ug/L trans-1,2-Dichloroethene ND 10.0 9.52 95 54 - 156 45 ug/L trans-1,3-Dichloropropene ND 10.0 10.6 106 17 - 183 3 86 ug/L Trichloroethene ND 10.0 9.71 ug/L 97 70 - 15748 Vinyl chloride ND 10.0 11.1 ug/L 111 10 - 251 66

MSD MSD

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 108 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 92 | | 60 - 140 |
| Toluene-d8 (Surr) | 104 | | 60 - 140 |

Lab Sample ID: MB 440-604735/4

Matrix: Water

Analysis Batch: 604735

Client Sample ID: Method Blank

Prep Type: Total/NA

мв мв

RL Analyte Result Qualifier MDL Unit Prepared D Analyzed Dil Fac Bromoform $\overline{\mathsf{ND}}$ 1.0 0.40 ug/L 04/13/20 08:36

MB MB

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 97 | | 60 - 140 | | 04/13/20 08:36 | 1 |
| Dibromofluoromethane (Surr) | 112 | | 60 - 140 | | 04/13/20 08:36 | 1 |
| Toluene-d8 (Surr) | 116 | | 60 - 140 | | 04/13/20 08:36 | 1 |

Lab Sample ID: LCS 440-604735/1002

Matrix: Water

Analysis Batch: 604735

| | Spike | LCS | LCS | | | | %Rec. | |
|-----------|-------|--------|-----------|------|---|------|---------------------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Bromoform | 25.0 | 25.1 | | ug/L | | 100 | 57 ₋ 156 | |

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 97 | | 60 - 140 |
| Dibromofluoromethane (Surr) | 104 | | 60 - 140 |
| Toluene-d8 (Surr) | 98 | | 60 - 140 |

Lab Sample

Matrix: Wate

Analysis Batch: 604735

| e ID: 440-264459-1 MS | Client Sample ID: Outfall018_20200409_Grab |
|-----------------------|--|
| ter | Prep Type: Total/NA |

| | Sample Sa | ample | Spike | MS | MS | | | %Rec. | |
|-----------|-----------|----------|-------|--------|-----------|------|------|----------|--|
| Analyte | Result Q | ualifier | Added | Result | Qualifier | Unit | %Rec | Limits | |
| Bromoform | ND | | 10.0 | 10.5 | | ug/L | 105 | 45 - 169 | |

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Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

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

Lab Sample ID: 440-264459-1 MS

Matrix: Water

Analysis Batch: 604735

Client: Haley & Aldrich, Inc.

Client Sample ID: Outfall018_20200409_Grab

Prep Type: Total/NA

MS MS Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 60 - 140 81 Dibromofluoromethane (Surr) 107 60 - 140 Toluene-d8 (Surr) 120 60 - 140

Lab Sample ID: 440-264459-1 MSD Client Sample ID: Outfall018 20200409 Grab

Matrix: Water

Analysis Batch: 604735

Prep Type: Total/NA

MSD MSD RPD Spike %Rec. Sample Sample Result Qualifier Added Result Qualifier %Rec Limits Analyte Unit **RPD** Limit Bromoform 10.0 100 45 - 169 5 42 ND 9.99 ug/L

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 9.3 60 - 140 Dibromofluoromethane (Surr) 105 60 - 140 Toluene-d8 (Surr) 102 60 - 140

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 440-605665/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605665

MB MB RL **RL** Unit Analyte Result Qualifier Prepared Analyzed Dil Fac Specific Conductance ND 1.0 1.0 umhos/cm 04/21/20 12:34

Lab Sample ID: LCS 440-605665/4 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605665

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits Specific Conductance 946 917 umhos/cm 90 - 110

Lab Sample ID: 440-264678-A-1 DU **Client Sample ID: Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605665

Sample Sample DU DU RPD Analyte Result Qualifier Result Qualifier Unit RPD Limit Specific Conductance 110 110 umhos/cm

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-605782/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605871

Prep Batch: 605782 MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac HEM (Oil & Grease) ND 5.0 1.4 ma/L 04/21/20 06:08 04/21/20 11:20

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4/22/2020

QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Method: 1664A - HEM and SGT-HEM (Continued)

| Lab Sample ID: LCS 440-605782/2-A | | | | Clie | ent Sar | nple ID | : Lab Cor | ntrol Sample |
|-----------------------------------|-------|--------|-----------|------|---------|---------|-----------|--------------|
| Matrix: Water | | | | | | | Prep Ty | pe: Total/NA |
| Analysis Batch: 605871 | | | | | | | Prep Ba | atch: 605782 |
| • | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| HEM (Oil & Grease) | 40.0 | 32.3 | | mg/L | | 81 | 78 - 114 | |

| Lab Sample ID: LCSD 440-605782/3-A | | | | Client Sa | ample | ID: Lab | Control | Sample | Dup |
|------------------------------------|-------|--------|-----------|-----------|-------|---------|----------|---------|------------|
| Matrix: Water | | | | | | | Prep Ty | pe: Tot | al/NA |
| Analysis Batch: 605871 | | | | | | | Prep Ba | tch: 60 | 5782 |
| • | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| HEM (Oil & Grease) | 40.0 | 34.0 | | mg/L | | 85 | 78 - 114 | 5 | 11 |

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Grab

GC/MS VOA

Analysis Batch: 604634

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264459-1 | Outfall018_20200409_Grab | Total/NA | Water | 624.1 | |
| 440-264459-3 | TB-20200410 | Total/NA | Water | 624.1 | |
| MB 440-604634/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-604634/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264459-1 MS | Outfall018_20200409_Grab | Total/NA | Water | 624.1 | |
| 440-264459-1 MSD | Outfall018_20200409_Grab | Total/NA | Water | 624.1 | |

Analysis Batch: 604735

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264459-1 - RA | Outfall018_20200409_Grab | Total/NA | Water | 624.1 | |
| 440-264459-3 - RA | TB-20200410 | Total/NA | Water | 624.1 | |
| MB 440-604735/4 | Method Blank | Total/NA | Water | 624.1 | |
| LCS 440-604735/1002 | Lab Control Sample | Total/NA | Water | 624.1 | |
| 440-264459-1 MS | Outfall018_20200409_Grab | Total/NA | Water | 624.1 | |
| 440-264459-1 MSD | Outfall018_20200409_Grab | Total/NA | Water | 624.1 | |
| | - - | | | | |

General Chemistry

Analysis Batch: 604637

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|----------|------------|
| 440-264459-1 | Outfall018_20200409_Grab | Total/NA | Water | SM 2540F | |

Analysis Batch: 605665

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-264459-1 | Outfall018_20200409_Grab | Total/NA | Water | 120.1 | |
| MB 440-605665/3 | Method Blank | Total/NA | Water | 120.1 | |
| LCS 440-605665/4 | Lab Control Sample | Total/NA | Water | 120.1 | |
| 440-264678-A-1 DU | Duplicate | Total/NA | Water | 120.1 | |

Prep Batch: 605782

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264459-1 | Outfall018_20200409_Grab | Total/NA | Water | 1664A | |
| MB 440-605782/1-A | Method Blank | Total/NA | Water | 1664A | |
| LCS 440-605782/2-A | Lab Control Sample | Total/NA | Water | 1664A | |
| LCSD 440-605782/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | |

Analysis Batch: 605871

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-264459-1 | Outfall018_20200409_Grab | Total/NA | Water | 1664A | 605782 |
| MB 440-605782/1-A | Method Blank | Total/NA | Water | 1664A | 605782 |
| LCS 440-605782/2-A | Lab Control Sample | Total/NA | Water | 1664A | 605782 |
| LCSD 440-605782/3-A | Lab Control Sample Dup | Total/NA | Water | 1664A | 605782 |

Eurofins Calscience Irvine

4/22/2020

Job ID: 440-264459-1

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12

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Qualifiers

GC/MS VOA

Qualifier **Qualifier Description**

 \overline{LN} MS and/or MSD below acceptance limits. See Blank Spike (LCS)

General Chemistry

Qualifier **Qualifier Description**

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

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 CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC **Quality Control**

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) **TEF** Toxicity Equivalent Quotient (Dioxin) **TEQ**

Eurofins Calscience Irvine

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264459-1

Project/Site: Quarterly Outfall 018 Grab

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Pı | ogram | Identification Number | Expiration Date |
|-----------------------|-----------------------------|--|--|---------------------------------------|
| California | St | ate | 2706 | 06-30-20 |
| The following analyte | s are included in this repo | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for wh |
| , | • | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for wh |
| the agency does not | offer certification. | • | , , , | This list may include analytes for wh |
| , | • | ort, but the laboratory is r Matrix | not certified by the governing authority. Analyte | This list may include analytes for wh |

Eurofins Calscience Irvine

Page 19 of 21 4/22/2020

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Field Readings

ANALYSIS REQUIRED

R CL/S R R

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

Eurofins Calscience Irwne

| Sa 53 H | Hatey & Aldrich 5333 Mission Ce San Diego, CA 9 | Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 | | | | B G | Project: Boeing-SSFL NPDES Permit 2020 | S | | noet국) e | | | | | Field Readings: (Include units) Time of Readings: (230) | nclude units) | |
|----------------------|---|---|--|------------------|-----------------|------------------------|--|--|------------|--------------------------|-------------|-------------|----------|----------------------|--|--------------------------|--------|
| Eur 174 Ter | Eurofins Calscienc 17461 Denan Ave 1 Irvine CA 92614 Tel: 949-260-3218 | Eurofins Calscience Irvine Contact: Christian Bondoo 17461 Denan Ave Suite #100 Irvine CA 92614 Tel: 949-280-3218 | 2 | | | Quarterly Or | Quarteny Outfail (001, 002, 011, 018) Outfail 018 Grab | 011, 018j | | (A. nartieoroufiit-S, | SM2540F)) | (1 021 | | | DO 12.45 mg/L pH 2.76 pH unit Temp 55.3 c/P | mg/l. pH unit creO | |
| Test Agre Test | tAmerica's se bement# 2016 America Lab | TestAmerica's services under the CoC shall be performed in accordance with the T&Cs within blanket Service Agreemen'# 2019-22.1 estAmerica by and between Haley, & Akhrch, inc., its subsidiaries and affiliates, and TestAmerica Laborationes inc. | with the T&Cs within Blanket S S subsidiantes and difflates, at | ervice M | | Project M 520.289.8 | Project Manager. Katherine Miller 520.289.8606, 520.904.6944 (cell) | rine Miller 1944 (cell) | | | (E1605(| 3210B\E | | | Field readings QC | | 17 |
| Sar | Sampler: Dan Smith | an Smith | | | | Field Ma 978 234.5 | Field Manager: Mark Dominick 978 234.5033, 818.599 0702 (cell) | ominick 1702 (ceil) | | | aple Solids | терлий (гру | | | Checked by: 4-9 | 4-9-2020/1230 | |
| <u> </u> | Sample Description | Sample I D | Sampling Date/Time | Sample Matrix | Container Type | # of Cont | Preservative | Boffle # | MS/MSD | NOC 2 | | Condu | | | | Comments | |
| | | | | ×× | 1 L Glass Amber | 2 | 돠 | 15 | ž | × | | | | | | | |
| ····, | | JAPO OXXXXXX BASINANO | 7,00000 | N/S | 40 mL VOA | 6 | ₹ | 50 | Yes | × | | | | | | ٥, | |
| Pa | | and the second of the second | 1230 WW | , ww | 1 L Poly | * | None | 7.0 | £ | | × | | | | | <u> </u> | - } |
| | Outfall 018 | | - | WM | 500 mL Poly | 1 | None | 7.5 | 몬 | | | × | | | | , o) C | |
| e 2 | | | | WW | 1 L Glass Amber | 2 | ₹ | 15 | S. | н | | | | | Hold | | |
| 0 c | | Outfall018_20206410_Grab_Extra | 4/10/2020 | * | 40 mL VOA | 6 | 오 | R | £ | エ | | | | | НоН | (> | |
| of 2 | | | 1130 | ** | 500 mL Paly | - | None | 75 | 운 | | | ı | | | Hold | | T |
| | Tnp Blank | TB-20200410 | 4110/2029/235 | ow . | 40 mi. VOA | 2 | 모 | 20 | Q. | × | | | _ | _ | | | П |
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|] | | | | | | Legenc | : R=Routine, | Legend: R=Routine, Q=Quarterly, S=Serni-Annual | =Semi-Annu | _ | | | | | | | T |
| Reg | Relinquished By | By Date/Time | | | Сопрапу | | | Received By | | Date/Time | me | | | Tum-arou | d time. | | T |
| 1, | In | 11/1 | 0060/02020101-1 | 606 | I | | <i>)</i> (| | Till | 7-77 | 77.31-7 | 5 | 20 | 24 Hour | 72 Hour. 5 Day: | 10 Day X | |
| <u>8</u> | Relinquished By | | | | Company | | | Received By | | Date/Time | ime | | X | Τ- | | 1289 | |
| | | | | | | | | /(| 2 | | | | | Sample in Intact: | Sample Integrity (Check) Intact: | 71/h1 on los. | |
| R. | Reimquished B) | By Date/Time | | | Company | | | Received By | Orn | Date/Time | | 17.7 | 07/0 | Store sam | Store samples for 6 months. | • | |
| | T | 05-01-5 | 11.30 | ,0 | | いいが | 73 | | 21 | 201 | | | 1130 | No Level IV | | All Level IV: X | |
| ٠ | | | | | | | | <u></u> | | | | | | | | | |
| 4/2 | | | | | | | | , | | | | | | | | | |

757/7 2019-2020 Rainy Season O Version 5

Client: Haley & Aldrich, Inc.

List Source: Eurofins Irvine

Job Number: 440-264459-1

Login Number: 264459 List Number: 1

Creator: Escalante, Maria I

| Oreator: Escarante, maria i | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |
| s 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. | 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 Calscience Irvine

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264517-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

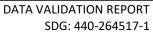
29 May 2020





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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264517-1

29 May 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-264517-1

Project Manager: Katherine Miller

Matrix: Water

QC Level: II

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|--------------------------------|--------------------|----------------------|--------|---------------------|---------------------------|---------------------|
| OUTFALL018_2020041 0_COMP | 440-264517-1 | N/A | WM | 4/10/20 12:50 PM | E1613B, E200.7, E200.8 | П |
| OUTFALL018_2020041 0_COMP_F | 440-264517-3 | N/A | WM | 4/10/20 12:50 PM | E200.7, E200.8 | II |

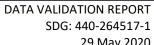
DATA VALIDATION REPORT SDG: 440-264517-1 29 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264517-1:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the original and transfer COCs.
- The sample was transferred from TA-Irvine to TA- Sacramento for analysis of Method 1613B.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine and TA-Sacramento. No evidence of tampering was noted.
- Strikethroughs on the original COC were initialed but not dated.



29 May 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



II. EPA METHOD 1613B — DIOXIN/FURANS

L. Calvin of MEC^X reviewed the SDG on June 8, 2020.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (2011).

III.1. HOLDING TIMES

Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

III.2. INSTRUMENT PERFORMANCE

Instrument performance criteria were not evaluated at a Stage II validation.

III.3. CALIBRATION

Calibration criteria were not evaluated at a Stage II validation.

III.4. QUALITY CONTROL SAMPLES

III.4.1. METHOD BLANKS

The method blank had detects above the EDL and below the reporting limit (RL) for isomers 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDD, 2,3,7,8-TCDF, OCDD and OCDF, and for all totals except PeCDF and TCDD. The sample results for the isomer method blank contaminants detected below the RL were qualified as nondetects (U) at the level of contamination. Totals PeCDD and TCDF in the sample matched the concentration of the qualified isomer (isomer 2,3,7,8-TCDF would have been qualified if retained) and were also qualified as nondetects (U). The result for total HxCDD (containing both qualified method blank isomers and a qualified EMPC isomer) was qualified as an estimated nondetect (UJ). The sample totals for HpCDD, HpCDF and HxCDF were qualified as estimated (J), as only a portion of the total was determined to be method blank contamination.

III.4.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

III.5. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

111.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.



III.6. INTERNAL STANDARDS PERFORMANCE

The labeled standard recoveries were not evaluated at a Stage II validation.

III.7. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation. The second-column confirmation analysis for isomer 2,3,7,8-TCDF did not confirm the initial result. As the confirmation column is more specific for the detection of 2,3,7,8-TCDF, the nondetect confirmation result was retained and the initial result rejected (R) as duplicate data.

III.8. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was not evaluated at a Stage II validation. The laboratory calculated and reported compound-specific detection limits. Detects between the EDL and the RL were qualified as estimated (J) and coded with DNQ to comply with the NPDES permit. Nondetects are valid to the EDL. Per client request, results below the EDL meeting retention time and signal to noise (S/N) criteria were to be reported; however, this sample had no reported detects below the EDL.

Isomers previously qualified as method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects (UJ) at the level of the EMPC. Total HxCDD in the sample (containing both qualified method blank isomers and a qualified EMPC isomer) was qualified as an estimated nondetect (UJ). The concentration of total TCDD in the sample matched the qualified isomer and was therefore also qualified as an estimated nondetect (UJ). Total HxCDF flagged by the laboratory as including one or more EMPC peaks was qualified as estimated (J).

IV. METHODS 200.7 AND 200.8— METALS

M. Hilchey of MEC^X reviewed the SDG on May 29, 2020.

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7 and 200.8 and the National Functional Guidelines for Inorganic Method Data Review (2017).

IV.1. HOLDING TIMES

The analytical holding time, six months for metals, was met. Sample OUTFALL018_20200410_COMP_F was filtered and preserved within 24 hours of receipt, as required on the COC.

IV.2. CALIBRATION

ICP-MS mass calibrations were within 0.1 atomic mass units of the true value. The %RSDs were ≤5%.

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES, and 90-110% for ICP-MS. Continuing calibration verification recoveries were within QAPP control limits of 90-110% for both methods.



IV.3. QUALITY CONTROL SAMPLES

IV.3.1. **METHOD BLANKS**

There were no target analyte detections in the method blanks or calibration blanks.

IV.3.2. INTERFERENCE CHECK SAMPLES:

ICP-AES and ICP-MS ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. Interferents in site samples were not summarized; therefore, interference was not evaluated.

IV.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries (total and dissolved) were within the QAPP control limits of 85-115%.

IV.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on a sample in this SDG.

IV.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the samples in this SDG (total and dissolved) for both methods. Recoveries were within the QAPP control limits of 70-130% and RPDs were ≤20%.

IV.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

IV.4. INTERNAL STANDARDS PERFORMANCE

Internal standard summaries indicated that sample internal standard recoveries met QAPP control limits of 60-125%.

IV.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements. Nondetects are valid to the MDL.

IV.6. FIELD QC SAMPLES

MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

IV.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402645171

Analysis Method E1613B

Sample Name OUTFALL018_20200410_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

| Analyte 1 | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|---|--------|------------|-----------------|----------|------------|-----------------|------------------|-------------------------|---------------------|
| 1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF) | N | 39001-02-0 | 0.000014 | 0.00010 | 0.00000064 | ug/L | J,DXMB | Ū | В |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo- dioxin (OCDD) | p- N | 3268-87-9 | 0.000029 | 0.00010 | 0.00000068 | ug/L | J,DXMB | U | В |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF) | N) | 67562-39-4 | 0.0000050 | 0.000052 | 0.00000048 | ug/L | J,DXqMB | U | В |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-pdioxin (HpCDD) | o- N | 35822-46-9 | 0.0000060 | 0.000052 | 0.00000050 | ug/L | J,DXMB | U | В |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran (HpCDF) | N) | 55673-89-7 | 0.0000047 | 0.000052 | 0.00000052 | ug/L | J,DX | J | DNQ |
| 1,2,3,4,7,8-Hexachlorodibenzofura (HxCDF) | n N | 70648-26-9 | 0.0000031 | 0.000052 | 0.00000083 | ug/L | J,DX | J | DNQ |
| 1,2,3,4,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 39227-28-6 | 0.0000055 | 0.000052 | 0.00000058 | ug/L | J,DXMB | U | В |
| 1,2,3,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 57117-44-9 | 0.0000029 | 0.000052 | 0.00000089 | ug/L | J,DXq | UJ | *111 |
| 1,2,3,6,7,8-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 57653-85-7 | 0.0000030 | 0.000052 | 0.00000058 | ug/L | J,DXq | UJ | *Ш |
| 1,2,3,7,8,9-Hexachlorodibenzofura (HxCDF) | n N | 72918-21-9 | 0.0000042 | 0.000052 | 0.00000051 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8,9-Hexachlorodibenzo-p- dioxin (HxCDD) | N | 19408-74-3 | 0.0000038 | 0.000052 | 0.00000053 | ug/L | J,DXMB | U | В |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-41-6 | 0.0000029 | 0.000052 | 0.00000045 | ug/L | J,DX | J | DNQ |
| 1,2,3,7,8-Pentachlorodibenzo-p- dioxin (PeCDD) | N | 40321-76-4 | 0.0000023 | 0.000052 | 0.00000049 | ug/L | J,DXqMB | U | В |
| 2,3,4,6,7,8-Hexachlorodibenzofura (HxCDF) | n N | 60851-34-5 | 0.0000031 | 0.000052 | 0.00000056 | ug/L | J,DXq | UJ | *Ш |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | N | 57117-31-4 | 0.0000025 | 0.000052 | 0.00000047 | ug/L | J,DX | J | DNQ |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | 0.00000071 | 0.000010 | 0.00000030 | ug/L | J,DXqMB | R | D |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | N | 51207-31-9 | ND | 0.000010 | 0.00000074 | ug/L | U | U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxi | n N | 1746-01-6 | 0.00000088 | 0.000010 | 0.00000046 | ug/L | J,DXq | UJ | *111 |
| Total Heptachlorodibenzofuran (HpCDF) | N | 38998-75-3 | 0.000011 | 0.000052 | 0.00000048 | ug/L | J,DXqMB | J | B, DNQ |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | ı N | 37871-00-4 | 0.0000085 | 0.000052 | 0.00000050 | ug/L | J,DXMB | J | B, DNQ |
| Total Hexachlorodibenzofuran (HxCDF) | N | 55684-94-1 | 0.000013 | 0.000052 | 0.00000051 | ug/L | J,DXqMB | J | B, DNQ, *III |
| Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture | N | 34465-46-8 | 0.000012 | 0.000052 | 0.00000053 | ug/L | J,DXqMB | UJ | В, *Ш |
| Total Pentachlorodibenzofuran (PeCDF) | N | 30402-15-4 | 0.0000053 | 0.000052 | 0.00000045 | ug/L | J,DX | J | DNQ |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | N | 36088-22-9 | 0.0000023 | 0.000052 | 0.00000049 | ug/L | J,DXqMB | U | В |
| Total Tetrachlorodibenzofuran (TCDF) | N | 55722-27-5 | 0.00000071 | 0.000010 | 0.00000030 | ug/L | J,DXqMB | U | В |

Analysis Method E1613B

Total Tetrachlorodibenzo-p-dioxin N 41903-57-5 0.00000088 0.000010 0.00000046 ug/L J,DXq **UJ** *III

(TCDD)

Analysis Method E200.7

Sample Name OUTFALL018 20200410 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

Analyte Fraction: CAS No Result RLMDL Result Lab Validation Validation Value Units **Qualifier Qualifier** Notes Aluminum 7429-90-5 520 100 50 ug/L 7440-66-6 ND U Zinc 20 12 ug/L U

Sample Name OUTFALL018 20200410 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-3

Fraction: CAS No Result RLMDL Result **Analyte** Lab Validation Validation Value Units Qualifier Qualifier Notes Aluminum D 7429-90-5 250 100 50 ug/L D Zinc 7440-66-6 74 20 12 ug/L

Analysis Method E200.8

Sample Name OUTFALL018_20200410_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

Analyte Fraction: CAS No Result RL**MDL** Result Lab Validation Validation Value Units **Oualifier** Qualifier Notes Cadmium 7440-43-9 ND 0.25 T 1.0 ug/L U U Т 7440-50-8 2.1 2.0 0.50 Copper ug/L Т 7439-92-1 ND 0.50 U U Lead 1.0 ug/L 0.55 0.50 Selenium 7782-49-2 2.0 ug/L J,DX J DNQ

Sample Name OUTFALL018 20200410 COMP F Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-3

| Analyte | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|--------|------------|-----------------|-----|------|-----------------|------------------|-------------------------|---------------------|
| Cadmium | D | 7440-43-9 | ND | 1.0 | 0.25 | ug/L | U | U | |
| Copper | D | 7440-50-8 | 2.0 | 2.0 | 0.50 | ug/L | | | |
| Lead | D | 7439-92-1 | ND | 1.0 | 0.50 | ug/L | U | U | |
| Selenium | D | 7782-49-2 | 0.66 | 2.0 | 0.50 | ug/L | J.DX | J | DNO |

Friday, June 12, 2020 Page 2 of 2



Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

Laboratory Job ID: 440-264517-1

Client Project/Site: Quarterly Outfall 018 Comp

Revision: 1

For:

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

Attn: Katherine Miller

Authorized for release by: 6/5/2020 8:21:34 AM

Lena Davidkova, Project Manager II (949)260-3229

lena.davidkova@testamericainc.com

Designee for

Christian Bondoc, Project Manager I (949)260-3218

christian.bondoc@testamericainc.com

Review your project results through

Total Access

Have a Question?



Visit us at: www.eurofinsus.com/Env The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Project/Site: Quarterly Outfall 018 Comp

Lena Davidkova Project Manager II 6/5/2020 8:21:35 AM Laboratory Job ID: 440-264517-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

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Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Asset ID

 440-264517-1
 Outfall018_20200410_Comp
 Water
 04/10/20 12:50
 04/10/20 16:45

 440-264517-3
 Outfall018_20200410_Comp_F
 Water
 04/10/20 12:50
 04/10/20 16:45

Job ID: 440-264517-1

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Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264517-1

Comments

This report was revised to exclude Hardness results for sample Outfall018_20200410_Comp_F (440-264517-3) not requested on the COC

Receipt

The samples were received on 4/10/2020 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 1.3° C, 1.4° C, 1.7° C, 2.1° C, 2.4° C and 2.6° C.

GC/MS Semi VOA

Method 625.1: Surrogate Phenol-d5 recovery for the following sample was outside control limits: Outfall018_20200410_Comp (440-264517-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. Low recovery is possibly due to less than optimal extraction conditions. Data is reported with a possible low bias.

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

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-604707 and analytical batch 440-604795. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-604707/5-A)

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

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: Outfall018_20200410_Comp (440-264517-1), (CCV 320-373674/2), (LCS 320-372899/2-A) and (MB 320-372899/1-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

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: Outfall018_20200410_Comp_F (440-264517-3), Outfall018_20200410_Comp_F (440-264517-3[MS]) and Outfall018_20200410_Comp_F (440-264517-3[MSD]). These samples were filtered and preserved upon receipt to the laboratory.

04/11/20 by CDH/HZ 2.5mL of HNO3 HNO3 Lot # 0000234822

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

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

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Job ID: 440-264517-1

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Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

Job ID: 440-264517-1 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 1613B Sox Sep P preparation/analysis: Sample Outfall018_20200410_Comp (440-264517-1) were received in a wide-mouth amber glass bottle.

Prep Batch: 372899

Method: 1613 (Waste Water)

Matrix: Water

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

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp Lab Sample ID: 440-264517-1

Date Collected: 04/10/20 12:50

Matrix: Water

Job ID: 440-264517-1

Date Received: 04/10/20 16:45

| Analyte | Organic Cor Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|--|-----------------------|--------------------|----------------------|----------------|--------|---|----------------|----------------------------------|--------|
| 2,4,6-Trichlorophenol | ND | | 6.4 | | ug/L | = | 04/13/20 08:58 | 04/15/20 10:29 | |
| Bis(2-ethylhexyl) phthalate | ND | | 5.3 | | ug/L | | 04/13/20 08:58 | 04/15/20 10:29 | |
| N-Nitrosodimethylamine | ND. | | 5.3 | | ug/L | | 04/13/20 08:58 | 04/15/20 10:29 | |
| Pentachlorophenol | ND | | 5.3 | | ug/L | | | 04/15/20 10:29 | |
| 2,4-Dinitrotoluene | ND | | 5.3 | | ug/L | | | 04/15/20 10:29 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 2,4,6-Tribromophenol | 84 | | 60 - 120 | | | | 04/13/20 08:58 | 04/15/20 10:29 | |
| -Fluorobiphenyl | 76 | | 51 - 120 | | | | 04/13/20 08:58 | 04/15/20 10:29 | |
| -Fluorophenol | 81 | | 43 - 120 | | | | 04/13/20 08:58 | 04/15/20 10:29 | |
| litrobenzene-d5 | 87 | | 53 - 150 | | | | 04/13/20 08:58 | 04/15/20 10:29 | |
| erphenyl-d14 | 104 | | 12 - 142 | | | | 04/13/20 08:58 | 04/15/20 10:29 | |
| Phenol-d5 | 32 | LG | 45 - 150 | | | | 04/13/20 08:58 | 04/15/20 10:29 | |
| Method: 608.3 - Organochlo | | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| lpha-BHC | ND | | 0.0052 | 0.0026 | ug/L | | 04/13/20 05:29 | 04/14/20 14:36 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| etrachloro-m-xylene | 48 | | 10 - 104 | | | | 04/13/20 05:29 | 04/14/20 14:36 | |
| OCB Decachlorobiphenyl (Surr) | 71 | | 18 - 134 | | | | 04/13/20 05:29 | 04/14/20 14:36 | |
| Method: 300.0 - Anions, Ion | _ | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| litrate as N | 0.15 | | 0.11 | 0.055 | - | | | 04/10/20 22:40 | |
| Nitrite as N | ND | | 0.15 | 0.025 | mg/L | | | 04/10/20 22:40 | |
| Method: 300.0 - Anions, Ion | | | | | | | | | |
| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| Chloride | 5.9 | | 2.5 | 1.3 | mg/L | | | 04/10/20 23:09 | |
| Sulfate | 88 | | 2.5 | 1.3 | mg/L | | | 04/10/20 23:09 | |
| Method: 314.0 - Perchlorate | | Ovelities. | D. | MDI | l lmit | | Duamanad | A | Dil F |
| Analyte | ND | Qualifier | 4.0 | | Unit | D | Prepared | Analyzed 04/14/20 10:35 | Dil F |
| Perchlorate | | | 4.0 | 0.95 | ug/L | | | 04/14/20 10:35 | |
| Method: NO3NO2 Calc - Nitr | | | | | | | | | |
| Analyte | | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil F |
| litrate Nitrite as N | 0.15 | | 0.15 | 0.055 | mg/L | | | 04/14/20 12:16 | |
| Method: 1613B - Dioxins and | • | GC/HRMS) Qualifier | RL | EDI | Unit | D | Prepared | Analyzed | Dil F |
| Inaluto | 0.0000088 | | 0.000010 | 0.0000004 | | | | 04/20/20 18:57 | |
| • | | J,DA Y | 0.000010 | 0.0000004 | | | | | |
| 2,3,7,8-TCDD | | | | | | | 04/40/00 40 05 | | |
| 2,3,7,8-TCDD | | J,DX q MB | 0.000052 | 0.0000004 9 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 2,3,7,8-TCDD 1,2,3,7,8-PeCDD | | • | 0.000052 0.000052 | 9 0.0000004 | | | | 04/20/20 18:57 04/20/20 18:57 | |
| Analyte 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF | 0.0000023 | J,DX | | 9 | ug/L | | 04/16/20 12:05 | | |

Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp Lab Sample ID: 440-264517-1

Date Collected: 04/10/20 12:50 Matrix: Water Date Received: 04/10/20 16:45

| 0.0000030 0.0000038 0.0000031 0.0000029 | J,DX MB | 0.000052 0.000052 | 0.0000005 8 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
|--|--|---|--|---|--|--|------------------|---|
| 0.0000031 | , | | | | | | | |
| | J,DX | 0.000050 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000029 | | 0.000052 | 0.0000008 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| | J,DX q | 0.000052 | 0.0000008 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000042 | J,DX MB | 0.000052 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000031 | J,DX q | 0.000052 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000060 | J,DX MB | 0.000052 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000050 | J,DX q MB | 0.000052 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000047 | J,DX | 0.000052 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.000029 | J,DX MB | 0.00010 | 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.000014 | J,DX MB | 0.00010 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000088 | J,DX q | 0.000010 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000071 | J,DX q MB | 0.000010 | 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000023 | J,DX q MB | 0.000052 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000053 | J,DX | 0.000052 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.000012 | J,DX q MB | 0.000052 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.000013 | J,DX q MB | 0.000052 | | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.0000085 | J,DX MB | 0.000052 | 0.0000005 0 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 0.000011 | J,DX q MB | 0.000052 | 0.0000004 8 | ug/L | | 04/16/20 12:05 | 04/20/20 18:57 | |
| %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| 71 | | 25 - 164 | | | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 66 | | | | | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 58 | | 25 - 181 | | | | 04/16/20 12:05 | 04/20/20 18:57 | |
| 59 | | | | | | | | |
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| 72 | | 28 - 143 | | | | | | |
| 85 | | 26 - 138 | | | | 04/16/20 12:05 | 04/20/20 18:57 | |
| | 0.0000031 0.0000060 0.0000050 0.0000047 0.000029 0.000014 0.00000088 0.0000071 0.0000023 0.0000053 0.000012 0.000013 0.000014 %Recovery 71 66 58 59 60 62 65 67 65 69 66 78 72 | 0.0000031 J,DX q 0.0000060 J,DX MB 0.0000050 J,DX q MB 0.0000047 J,DX 0.000029 J,DX MB 0.0000014 J,DX MB 0.00000088 J,DX q 0.00000071 J,DX q MB 0.0000053 J,DX q MB 0.000012 J,DX q MB 0.000013 J,DX q MB 0.000014 J,DX q MB 0.000015 J,DX q MB 0.000015 J,DX q MB 0.000016 J,DX q MB 0.000017 J,DX q MB 0.000018 J,DX q MB 0.000018 J,DX q MB 0.000018 J,DX q MB 0.000019 J,DX q MB 0.0000019 J,DX q MB | 0.0000031 J,DX q 0.000052 0.0000050 J,DX q MB 0.000052 0.0000047 J,DX 0.000052 0.000029 J,DX MB 0.00010 0.0000044 J,DX MB 0.000010 0.0000071 J,DX q MB 0.000010 0.0000023 J,DX q MB 0.000052 0.000012 J,DX q MB 0.000052 0.000013 J,DX q MB 0.000052 0.000013 J,DX q MB 0.000052 0.000011 J,DX q MB 0.000052 0.000013 J,DX q MB 0.000052 0.000011 J,DX q MB 0.000052 0.000012 J,DX q MB 0.000052 0.000013 J,DX q MB 0.000052 0.000014 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Limits

Dil Fac

Surrogate

Client Sample ID: Outfall018_20200410_Comp

%Recovery Qualifier

Date Collected: 04/10/20 12:50 Date Received: 04/10/20 16:45

Lab Sample ID: 440-264517-1

Prepared

Matrix: Water

Analyzed

Job ID: 440-264517-1

| | , , | | | | | | | · | |
|------------------------------------|------------------|------------------------|-------------|-----------|------|---|----------------|----------------|-------|
| 37CI4-2,3,7,8-TCDD | 84 | | 35 - 197 | | | | 04/16/20 12:05 | 04/20/20 18:57 | |
| Method: 1613B - Dioxins | s and Furans (HR | GC/HRMS) | - RA | | | | | | |
| Analyte | • | Qualifier | RL | EDL | Unit | D | Prepared | Analyzed | Dil F |
| 2,3,7,8-TCDF | ND | | 0.000010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/21/20 15:01 | |
| | | | | 4 | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 13C-2,3,7,8-TCDF | 62 | | 24 - 169 | | | | 04/16/20 12:05 | 04/21/20 15:01 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil F |
| 37CI4-2,3,7,8-TCDD | 85 | | 35 - 197 | | | | 04/16/20 12:05 | 04/21/20 15:01 | |
| Method: 200.7 Rev 4.4 - Analyte | • • | al Recove Qualifier | rable RL | MDL | Unit | D | Prepared | Analyzed | Dil I |
| Zinc | ND | | 20 | 12 | ug/L | | 04/14/20 09:09 | 04/15/20 12:42 | |
| ZIIIC | | | | | | | | | |

| Method: 200.8 - Metals (I | CP/MS) - Total Recoverable | - Total Recoverable | | | | | | |
|---------------------------|----------------------------|---------------------|------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND — | 1.0 | 0.25 | ug/L | | 04/13/20 16:07 | 04/13/20 20:43 | 1 |
| Copper | 2.1 | 2.0 | 0.50 | ug/L | | 04/13/20 16:07 | 04/13/20 20:43 | 1 |
| Lead | ND | 1.0 | 0.50 | ug/L | | 04/13/20 16:07 | 04/13/20 20:43 | 1 |
| Selenium | 0.55 J,DX | 2.0 | 0.50 | ug/L | | 04/13/20 16:07 | 04/13/20 20:43 | 1 |
| | | | | | | | | |

| Method: 245.1 - Mercury (CVAA) | 1 | | | | | | | |
|--------------------------------|------------------|------|------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | 0.20 | 0.10 | ug/L | | 04/13/20 13:07 | 04/13/20 17:12 | 1 |

| Method: SM 2340B - Total Hai | | | | | | | |
|------------------------------|------------------|------|-----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Hardness, as CaCO3 | 91 | 0.33 | 0.17 mg/L | | | 04/23/20 23:29 | 1 |

| General Chemistry Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| Turbidity | 0.71 | | 0.10 | 0.040 | NTU | | | 04/10/20 19:22 | 1 |
| Total Dissolved Solids | 270 | | 10 | 5.0 | mg/L | | | 04/16/20 10:34 | 1 |
| Total Suspended Solids | 1.3 | | 1.0 | 0.50 | mg/L | | | 04/16/20 12:59 | 1 |
| Cyanide, Total | ND | | 5.0 | 2.5 | ug/L | | 04/15/20 09:51 | 04/16/20 13:39 | 1 |
| Ammonia (as N) | ND | | 0.200 | 0.100 | mg/L | | | 04/20/20 13:31 | 1 |
| Methylene Blue Active Substances | 0.086 | J,DX | 0.10 | 0.050 | mg/L | | | 04/11/20 11:05 | 1 |
| Biochemical Oxygen Demand | ND | | 2.0 | 2.0 | mg/L | | | 04/12/20 08:14 | 1 |

Client Sample ID: Outfall018_20200410_Comp_F

Lab Sample ID: 440-264517-3 Date Collected: 04/10/20 12:50 **Matrix: Water**

Date Received: 04/10/20 16:45

| Method: 608.3 - Organochlorine Pesticides in Water | | | | | | | | | | | |
|--|-----------------------|------------------|--------|--------|------|---|----------------|----------------|---------|--|--|
| | Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | | |
| | Chlordane (technical) | ND | 0.10 | 0.083 | ug/L | | 04/13/20 05:29 | 04/14/20 15:21 | 1 | | |
| | Dieldrin | ND | 0.0052 | 0.0021 | ug/L | | 04/13/20 05:29 | 04/14/20 15:21 | 1 | | |
| | Toxaphene | ND | 0.52 | 0.25 | ug/L | | 04/13/20 05:29 | 04/14/20 15:21 | 1 | | |

Client Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp_F

Date Collected: 04/10/20 12:50

Lab Sample ID: 440-264517-3

Matrix: Water

Job ID: 440-264517-1

| Date | Received: | 04/10/20 | 16:45 |
|------|-----------|----------|-------|
| | | | |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|-------------------------------|-----------------|-------------|----------|--------|------|---|----------------|-------------------------|--------|
| 4,4'-DDD | ND | | 0.0052 | 0.0042 | ug/L | | 04/13/20 05:29 | 04/14/20 15:21 | |
| 4,4'-DDE | ND | | 0.0052 | 0.0031 | ug/L | | 04/13/20 05:29 | 04/14/20 15:21 | |
| 4,4'-DDT | ND | | 0.010 | 0.0042 | ug/L | | 04/13/20 05:29 | 04/14/20 15:21 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| Tetrachloro-m-xylene | 47 | | 10 - 104 | | | | 04/13/20 05:29 | 04/14/20 15:21 | |
| Method: 608.3 - Polychlorin | ated Bipheny | ls (PCBs) (| (GC) | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Aroclor 1016 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Aroclor 1221 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Aroclor 1232 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Aroclor 1242 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Aroclor 1248 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Aroclor 1254 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Aroclor 1260 | ND | | 0.52 | 0.26 | ug/L | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| DCB Decachlorobiphenyl (Surr) | | | 18 - 134 | | | | 04/13/20 05:29 | 04/13/20 15:56 | |
| Method: 200.7 Rev 4.4 - Met | als (ICP) - Dis | solved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| Zinc | 74 | | 20 | 12 | ug/L | | 04/13/20 14:57 | 04/13/20 19:16 | |
| Aluminum | 250 | | 100 | 50 | ug/L | | 04/13/20 14:57 | 04/13/20 19:16 | |
| Method: 200.8 - Metals (ICP | /MS) - Dissolv | ed | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | | D | Prepared | Analyzed | Dil Fa |
| Cadmium | ND | | 1.0 | 0.25 | - | | 04/13/20 15:01 | 04/13/20 15:32 | |
| Copper | 2.0 | | 2.0 | 0.50 | - | | 04/13/20 15:01 | 04/13/20 15:32 | |
| Lead | ND | | 1.0 | 0.50 | - | | 04/13/20 15:01 | 04/13/20 15:32 | |
| Selenium | 0.66 | J,DX | 2.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:32 | |
| Method: 245.1 - Mercury (C) | | | | | | | | | |
| Analyte | | Qualifier | | MDL | | D | Prepared | Analyzed 04/13/20 19:59 | Dil Fa |
| Mercury | ND | | | 0.10 | | | 04/13/20 16:56 | | |

Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Method **Method Description** Laboratory **Protocol** 625.1 Semivolatile Organic Compounds (GC/MS) 40CFR136A TAL IRV 608.3 Organochlorine Pesticides in Water 40CFR136A TAL IRV 608.3 Polychlorinated Biphenyls (PCBs) (GC) 40CFR136A TAL IRV 300.0 Anions, Ion Chromatography MCAWW TAL IRV 314.0 Perchlorate (IC) **EPA** TAL IRV NO3NO2 Calc Nitrogen, Nitrate-Nitrite **EPA** TAL IRV Dioxins and Furans (HRGC/HRMS) 1613B EPA TAL SAC 200.7 Rev 4.4 Metals (ICP) **EPA** TAL IRV 200.8 Metals (ICP/MS) **EPA** TAL IRV EPA 245.1 Mercury (CVAA) TAL IRV SM 2340B Total Hardness (as CaCO3) by calculation SM TAL IRV 180.1 Turbidity, Nephelometric **MCAWW** TAL IRV SM 2540C Solids, Total Dissolved (TDS) SM TAL IRV Solids, Total Suspended (TSS) SM 2540D SM TAL IRV SM 4500 CN E Cyanide, Total (Low Level) SM TAL IRV SM 4500 NH3 G Ammonia SM TAL IRV TAL IRV SM 5540C Methylene Blue Active Substances (MBAS) SM SM5210B BOD, 5 Day SM TAL IRV 1613B Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans EPA TAL SAC 200.2 Preparation, Total Recoverable Metals TAL IRV **EPA** 245.1 TAL IRV Preparation, Mercury **EPA** 608 Liquid-Liquid Extraction (Separatory Funnel) 40CFR136A TAL IRV 625 Liquid-Liquid Extraction 40CFR136A TAL IRV Distill/CN Distillation, Cyanide None TAL IRV **FILTRATION** Sample Filtration None TAL IRV

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:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 440-264517-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp

Date Collected: 04/10/20 12:50 Date Received: 04/10/20 16:45

Lab Sample ID: 440-264517-1

Matrix: Water

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|---------------|-----|--------|---------|---------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 625 | | | 935 mL | 2.0 mL | 604752 | 04/13/20 08:58 | NAM | TAL IRV |
| Total/NA | Analysis | 625.1 | | 1 | | | 605078 | 04/15/20 10:29 | L1B | TAL IRV |
| Total/NA | Prep | 608 | | | 960 mL | 2 mL | 604707 | 04/13/20 05:29 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604824 | 04/14/20 14:36 | D1D | TAL IRV |
| Total/NA | Analysis | 300.0 | | 1 | | | 604533 | 04/10/20 22:40 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | DL | 5 | | | 604533 | 04/10/20 23:09 | NTN | TAL IRV |
| Total/NA | Analysis | 300.0 | DL | 5 | | | 604534 | 04/10/20 23:09 | NTN | TAL IRV |
| Total/NA | Analysis | 314.0 | | 1 | | | 604895 | 04/14/20 10:35 | PS | TAL IRV |
| Total/NA | Analysis | NO3NO2 Calc | | 1 | | | 604964 | 04/14/20 12:16 | TLN | TAL IRV |
| Total/NA | Prep | 1613B | | | 960 mL | 20.0 uL | 372899 | 04/16/20 12:05 | NR | TAL SAC |
| Total/NA | Analysis | 1613B | | 1 | | | 373674 | 04/20/20 18:57 | ALM | TAL SAC |
| Total/NA | Prep | 1613B | RA | | 960 mL | 20.0 uL | 372899 | 04/16/20 12:05 | NR | TAL SAC |
| Total/NA | Analysis | 1613B | RA | 1 | | | 373924 | 04/21/20 15:01 | ALM | TAL SAC |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604822 | 04/14/20 09:09 | M1G | TAL IRV |
| Total Recoverable | Analysis | 200.7 Rev 4.4 | | 1 | | | 605180 | 04/15/20 12:42 | TQN | TAL IRV |
| Total Recoverable | Prep | 200.2 | | | 25 mL | 25 mL | 604821 | 04/13/20 16:07 | M1G | TAL IRV |
| Total Recoverable | Analysis | 200.8 | | 1 | | | 604923 | 04/13/20 20:43 | B1H | TAL IRV |
| Total/NA | Prep | 245.1 | | | 20 mL | 20 mL | 604651 | 04/13/20 13:07 | DB | TAL IRV |
| Total/NA | Analysis | 245.1 | | 1 | | | 604855 | 04/13/20 17:12 | MEM | TAL IRV |
| Total Recoverable | Analysis | SM 2340B | | 1 | | | 606179 | 04/23/20 23:29 | P1R | TAL IRV |
| Total/NA | Analysis | 180.1 | | 1 | | | 604643 | 04/10/20 19:22 | HZ | TAL IRV |
| Total/NA | Analysis | SM 2540C | | 1 | 100 mL | 100 mL | 605340 | 04/16/20 10:34 | XL | TAL IRV |
| Total/NA | Analysis | SM 2540D | | 1 | 1000 mL | 1000 mL | 605370 | 04/16/20 12:59 | XL | TAL IRV |
| Total/NA | Prep | Distill/CN | | | 50 mL | 50 mL | 605119 | 04/15/20 09:51 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 CN E | | 1 | | | 605374 | 04/16/20 13:39 | KMY | TAL IRV |
| Total/NA | Analysis | SM 4500 NH3 G | | 1 | 0.8 mL | 8.0 mL | 605752 | 04/20/20 13:31 | KMY | TAL IRV |
| Total/NA | Analysis | SM 5540C | | 1 | 100 mL | 100 mL | 604672 | 04/11/20 11:05 | KMY | TAL IRV |
| Total/NA | Analysis | SM5210B | | 1 | 300 mL | 300 mL | 604686 | 04/12/20 08:14 | KYP | TAL IRV |

Client Sample ID: Outfall018_20200410_Comp_F

Date Collected: 04/10/20 12:50

Date Received: 04/10/20 16:45

| Lab Sample | ID: | 440-264517-3 |
|------------|-----|---------------|
| | | Matrix: Water |

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|---------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 608 | | | 960 mL | 2 mL | 604707 | 04/13/20 05:29 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604824 | 04/14/20 15:21 | D1D | TAL IRV |
| Total/NA | Prep | 608 | | | 960 mL | 2 mL | 604707 | 04/13/20 05:29 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604795 | 04/13/20 15:56 | JM | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604667 | 04/11/20 10:07 | A1S | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604811 | 04/13/20 14:57 | M1G | TAL IRV |
| Dissolved | Analysis | 200.7 Rev 4.4 | | 1 | | | 604849 | 04/13/20 19:16 | P1R | TAL IRV |

Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp_F

Lab Sample ID: 440-264517-3 Date Collected: 04/10/20 12:50 **Matrix: Water**

Date Received: 04/10/20 16:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|------------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Dissolved | Filtration | FILTRATION | | | 150 mL | 150 mL | 604667 | 04/11/20 10:07 | A1S | TAL IRV |
| Dissolved | Prep | 200.2 | | | 25 mL | 25 mL | 604812 | 04/13/20 15:01 | M1G | TAL IRV |
| Dissolved | Analysis | 200.8 | | 1 | | | 604819 | 04/13/20 15:32 | MQP | TAL IRV |
| Dissolved | Filtration | FILTRATION | | | 80 mL | 80 mL | 604794 | 04/13/20 12:41 | M1G | TAL IRV |
| Dissolved | Prep | 245.1 | | | 20 mL | 20 mL | 604830 | 04/13/20 16:56 | DB | TAL IRV |
| Dissolved | Analysis | 245.1 | | 1 | | | 604853 | 04/13/20 19:59 | MEM | TAL IRV |

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 440-264517-1 Project/Site: Quarterly Outfall 018 Comp

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

Lab Sample ID: MB 440-604752/1-A

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604752

| | IVID | IVID | | | | | | | |
|-----------------------------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,4,6-Trichlorophenol | ND | | 6.0 | 0.10 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Bis(2-ethylhexyl) phthalate | ND | | 5.0 | 2.0 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| N-Nitrosodimethylamine | ND | | 5.0 | 0.30 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Pentachlorophenol | ND | | 5.0 | 1.0 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| 2,4-Dinitrotoluene | ND | | 5.0 | 2.0 | ug/L | | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| | | | | | | | | | |

| | MB | MB | | | | |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 2,4,6-Tribromophenol | 80 | | 60 - 120 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| 2-Fluorobiphenyl | 73 | | 51 - 120 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| 2-Fluorophenol | 89 | | 43 - 120 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Nitrobenzene-d5 | 85 | | 53 - 150 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Terphenyl-d14 | 116 | | 12 - 142 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| Phenol-d5 | 83 | | 45 - 150 | 04/13/20 08:58 | 04/15/20 09:40 | 1 |
| | | | | | | |

Lab Sample ID: LCS 440-604752/2-A

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 604752

| | Spike | LCS | LCS | | | %Rec. |
|-----------------------------|-------|--------|-----------|------|--------|----------|
| Analyte | Added | Result | Qualifier | Unit | D %Rec | Limits |
| 2,4,6-Trichlorophenol | 15.0 | 12.3 | | ug/L | 82 | 52 - 129 |
| Bis(2-ethylhexyl) phthalate | 15.0 | 14.5 | | ug/L | 97 | 29 - 137 |
| N-Nitrosodimethylamine | 15.0 | 13.4 | | ug/L | 89 | 60 - 140 |
| Pentachlorophenol | 30.0 | 27.3 | | ug/L | 91 | 38 - 152 |

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 88 | | 60 - 120 |
| 2-Fluorobiphenyl | 74 | | 51 - 120 |
| 2-Fluorophenol | 89 | | 43 - 120 |
| Nitrobenzene-d5 | 91 | | 53 - 150 |
| Terphenyl-d14 | 113 | | 12 - 142 |
| Phenol-d5 | 82 | | 45 - 150 |

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA

Prep Batch: 604752

| Analysis Batch: 605078 | | | | | | | | | Prep Ba | atch: 604752 |
|-----------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--------------|
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 2,4,6-Trichlorophenol | ND | | 16.0 | 13.0 | | ug/L | | 81 | 37 - 144 | |
| Bis(2-ethylhexyl) phthalate | ND | | 16.0 | 15.4 | | ug/L | | 96 | 8 - 158 | |
| N-Nitrosodimethylamine | ND | | 16.0 | 13.2 | | ug/L | | 82 | 60 - 140 | |
| Pentachlorophenol | ND | | 32.1 | 31.7 | | ug/L | | 99 | 14 - 176 | |

| MS | MS |
|----|----|

| Surrogate | %Recovery | Qualifier | Limits |
|----------------------|-----------|-----------|----------|
| 2,4,6-Tribromophenol | 83 | | 60 - 120 |
| 2-Fluorobiphenyl | 67 | | 51 - 120 |
| 2-Fluorophenol | 81 | | 43 - 120 |
| Nitrobenzene-d5 | 85 | | 53 - 150 |

Job ID: 440-264517-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

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

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA

Prep Batch: 604752

MS MS Surrogate Limits %Recovery Qualifier Terphenyl-d14 12 - 142 108 Phenol-d5 74 45 - 150

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Batch: 605078

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA

Prep Batch: 604752

Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Result Qualifier Limits RPD Limit Added Unit D %Rec 2,4,6-Trichlorophenol ND 16.0 13.6 37 - 144 5 58 ug/L 85 Bis(2-ethylhexyl) phthalate ND 16.0 16.0 ug/L 100 8 - 158 3 82 N-Nitrosodimethylamine ND 16.0 14.3 ug/L 89 60 - 140 8 35 ND 32.1 33.4 104 14 - 176 86 Pentachlorophenol ug/L

MSD MSD

| Surrogate %Recovery | Qualifier | Limits |
|-------------------------|-----------|----------|
| 2,4,6-Tribromophenol 87 | | 60 - 120 |
| 2-Fluorobiphenyl 69 | | 51 - 120 |
| 2-Fluorophenol 82 | | 43 - 120 |
| Nitrobenzene-d5 87 | | 53 - 150 |
| Terphenyl-d14 114 | | 12 - 142 |
| Phenol-d5 71 | | 45 - 150 |

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-604707/1-A

Matrix: Water

Analysis Batch: 604824

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604707

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac alpha-BHC ND 0.0050 0.0025 ug/L 04/13/20 05:29 04/14/20 13:36 Chlordane (technical) ND 0.10 0.080 ug/L 04/13/20 05:29 04/14/20 13:36 Dieldrin ND 0.0050 0.0020 ug/L 04/13/20 05:29 04/14/20 13:36 ND 0.24 ug/L Toxaphene 0.50 04/13/20 05:29 04/14/20 13:36 4.4'-DDD ND 0.0050 0.0040 ug/L 04/13/20 05:29 04/14/20 13:36 04/13/20 05:29 04/14/20 13:36 4,4'-DDE ND 0.0050 0.0030 ug/L 4,4'-DDT ND 0.010 0.0040 ug/L 04/13/20 05:29 04/14/20 13:36

MB MB

| Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-------------------------------|---------------------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 89 | 18 - 134 | 04/13/20 05:29 | 04/14/20 13:36 | 1 |
| Tetrachloro-m-xylene | 64 | 10 - 104 | 04/13/20 05:29 | 04/14/20 13:36 | 1 |

Lab Sample ID: LCS 440-604707/2-A

Matrix: Water

Analysis Batch: 604824

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

Prep Batch: 604707

| - | Spike | LCS | LCS | | | | %Rec. |
|-----------|-------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aldrin | 0.400 | 0.281 | | ug/L | | 70 | 42 - 140 |
| alpha-BHC | 0.400 | 0.254 | | ug/L | | 64 | 37 - 140 |
| beta-BHC | 0.400 | 0.271 | | ug/L | | 68 | 17 - 147 |

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 440-604707/2-A

Matrix: Water

Analysis Batch: 604824

Client Sample ID: Lab Control Sample

| Prep Type: Total/NA |
|---------------------------|
| Prep Batch: 604707 |
| %Rec |

| 7 man y 0.0 = 0.0 m 0.0 m 1.0 m | Spike | LCS | LCS | | | | %Rec. |
|--|-------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| delta-BHC | 0.400 | 0.275 | | ug/L | | 69 | 19 - 140 |
| Dieldrin | 0.400 | 0.293 | | ug/L | | 73 | 36 - 146 |
| Endosulfan I | 0.400 | 0.276 | | ug/L | | 69 | 45 - 153 |
| Endosulfan II | 0.400 | 0.292 | | ug/L | | 73 | 10 - 202 |
| Endosulfan sulfate | 0.400 | 0.290 | | ug/L | | 73 | 26 - 144 |
| Endrin | 0.400 | 0.272 | | ug/L | | 68 | 30 - 147 |
| Endrin aldehyde | 0.400 | 0.276 | | ug/L | | 69 | 60 - 140 |
| gamma-BHC (Lindane) | 0.400 | 0.274 | | ug/L | | 69 | 32 - 140 |
| Heptachlor | 0.400 | 0.269 | | ug/L | | 67 | 34 - 140 |
| Heptachlor epoxide | 0.400 | 0.281 | | ug/L | | 70 | 37 - 142 |
| 4,4'-DDD | 0.400 | 0.322 | | ug/L | | 80 | 31 - 141 |
| 4,4'-DDE | 0.400 | 0.298 | | ug/L | | 75 | 30 - 145 |
| 4,4'-DDT | 0.400 | 0.310 | | ug/L | | 78 | 25 - 160 |

LCS LCS

| Surrogate | %Recovery Qualifier | Limits |
|-------------------------------|---------------------|----------|
| DCB Decachlorobiphenyl (Surr) | 96 | 18 - 134 |
| Tetrachloro-m-xylene | 72 | 10 - 104 |

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analysis Batch: 604824

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA Prep Batch: 604707

Spike MS MS Sample Sample %Rec. Result Qualifier Added Result Qualifier Limits **Analyte** Unit D %Rec alpha-BHC ND 0.408 0.233 ug/L 57 37 - 140

| | MS | MS | |
|-------------------------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| Tetrachloro-m-xylene | 67 | | 10 - 104 |
| DCB Decachlorobiphenyl (Surr) | 89 | | 18 - 134 |

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Batch: 604824

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA Prep Batch: 604707

MSD MSD Sample Sample Spike %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit alpha-BHC ND 0.415 0.242 ug/L 58 37 - 140

MSD MSD Surrogate Qualifier I imits %Recovery Tetrachloro-m-xylene 68 10 - 104 DCB Decachlorobiphenyl (Surr) 90 18 - 134

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

Lab Sample ID: MB 440-604707/1-A

Matrix: Water

Analyte

Aroclor 1016

Analysis Batch: 604795

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 604707

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac $\overline{\mathsf{ND}}$ 0.50 0.25 ug/L 04/13/20 05:29 04/13/20 14:46

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

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

Lab Sample ID: MB 440-604707/1-A

Matrix: Water

Analysis Batch: 604795

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 604707

| | MB N | ИB | | | | | | | |
|--------------|----------|-----------|------|------|------|---|----------------|----------------|---------|
| Analyte | Result 0 | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aroclor 1221 | ND ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1232 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1242 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1248 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1254 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| Aroclor 1260 | ND | | 0.50 | 0.25 | ug/L | | 04/13/20 05:29 | 04/13/20 14:46 | 1 |
| | | | | | | | | | |

MB MB

Limits Dil Fac Surrogate %Recovery Qualifier Prepared Analyzed DCB Decachlorobiphenyl (Surr) 18 - 134 04/13/20 05:29 04/13/20 14:46 80

LCS LCS

3.02

3.33

Result Qualifier

Unit

ug/L

ug/L

Spike

Added

Limits

18 - 134

4.00

4.00

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 604707

%Rec.

%Rec Limits 75

50 - 140 83 8 - 140

Lab Sample ID: LCSD 440-604707/6-A

Lab Sample ID: LCS 440-604707/5-A

Matrix: Water

Matrix: Water

Analyte

Aroclor 1016

Aroclor 1260

Surrogate

Analysis Batch: 604795

Analysis Batch: 604795

DCB Decachlorobiphenyl (Surr)

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA Prep Batch: 604707

| - | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
|--------------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Aroclor 1016 | 4.00 | 2.96 | | ug/L | | 74 | 50 - 140 | 2 | 36 |
| Aroclor 1260 | 4.00 | 3.27 | | ug/L | | 82 | 8 - 140 | 2 | 38 |

LCSD LCSD

LCS LCS

%Recovery Qualifier

97

Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl (Surr) 18 - 134

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-604533/6

Matrix: Water

Analysis Batch: 604533

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

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Nitrate as N ND 0.11 0.055 mg/L 04/10/20 10:00 Nitrite as N ND 0.15 0.025 mg/L 04/10/20 10:00

Lab Sample ID: LCS 440-604533/5

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604533

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Nitrate as N 1.13 1.07 mg/L 95 90 - 110

Job ID: 440-264517-1

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Outfall018_20200410_Comp

Client Sample ID: Outfall018_20200410_Comp

Client Sample ID: Outfall018_20200410_Comp

Client Sample ID: Outfall018 20200410 Comp

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-604533/5

Matrix: Water

Analysis Batch: 604533

LCS LCS Spike %Rec. Added Result Qualifier Unit Analyte D %Rec Limits Nitrite as N 1.52 1.51 ma/L

Lab Sample ID: MB 440-604534/6

Matrix: Water

Analysis Batch: 604534

| | MB | MB | | | | | | | |
|----------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chloride | ND | | 0.50 | 0.25 | mg/L | | | 04/10/20 10:00 | 1 |
| Sulfate | ND | | 0.50 | 0.25 | mg/L | | | 04/10/20 10:00 | 1 |

Lab Sample ID: LCS 440-604534/5

Matrix: Water

Analysis Batch: 604534

| | Spike | LCS | LCS | | | | %Rec. | |
|----------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 5.00 | 4.78 | | mg/L | | 96 | 90 - 110 | |
| Sulfate | 5.00 | 4.97 | | mg/L | | 99 | 90 - 110 | |

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

| Analysis Batch: 604534 | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloride | 5.9 | | 25.0 | 28.8 | | mg/L | | 92 | 80 - 120 | 0 | 20 |
| Sulfate | 88 | | 25.0 | 115 | | mg/L | | 110 | 80 - 120 | 0 | 20 |

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analysis Batch: 604533

| 7 maryolo Batom 00-1000 | Sample | Sample | Spike | MS | MS | | | | %Rec. | | |
|-------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | | |
| Nitrate as N - DL | ND | | 5.65 | 5.34 | | mg/L | | 95 | 80 - 120 | | |
| Nitrite as N - DL | ND | | 7.61 | 7.03 | | mg/L | | 92 | 80 - 120 | | |

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Batch: 604533

| Analysis Baten: 004000 | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Nitrate as N - DL | ND | | 5.65 | 5.33 | | mg/L | | 94 | 80 - 120 | 0 | 20 |
| Nitrite as N - DL | ND | | 7.61 | 7.01 | | mg/L | | 92 | 80 - 120 | 0 | 20 |

Lab Sample ID: 440-264517-1 MS

Matrix: Water

| Analysis Batch: 604534 | | | | | | | | | | |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| - | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride - DL | 5.9 | | 25.0 | 28.9 | - | mg/L | | 92 | 80 - 120 | |

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Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

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

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018_20200410_Comp Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604534

Client: Haley & Aldrich, Inc.

Sample Sample Spike MS MS %Rec. Result Qualifier Result Qualifier Analyte Added Unit D %Rec Limits Sulfate - DL 88 25.0 115 mg/L 110 80 - 120

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-604895/6 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604895

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 4.0 04/14/20 09:39 Perchlorate $\overline{\mathsf{ND}}$ 0.95 ua/L

Lab Sample ID: LCS 440-604895/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604895

LCS LCS Spike %Rec. %Rec Analyte Added Result Qualifier Unit Limits Perchlorate 10.0 9.37 ug/L 85 - 115

Lab Sample ID: MRL 440-604895/4 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604895

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit %Rec Limits Perchlorate 1.00 1.01 J,DX 101 75 - 125 ug/L

Lab Sample ID: MRL 440-604895/8

Matrix: Water

Analysis Batch: 604895

Spike MRL MRL %Rec. Added Result Qualifier Analyte Unit %Rec Limits 4.00 3.74 J,DX 93 Perchlorate ug/L 75 - 125

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018_20200410_Comp

Matrix: Water

Analysis Batch: 604895

MS MS %Rec. Sample Sample Spike Result Qualifier Added Analyte Result Qualifier Limits Unit D %Rec Perchlorate ND 10.0 9.76 ug/L 98 80 - 120

Client Sample ID: Outfall018_20200410_Comp Lab Sample ID: 440-264517-1 MSD Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604895

Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Perchlorate ND 10.0 9.83 ug/L 98 80 - 120

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Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

QC Sample Results

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

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

Lab Sample ID: MB 320-372899/1-A

Client Sample ID: Method Blank **Matrix: Water Prep Type: Total/NA**

| Analysis Batch: 373674 | | | | | | | | Prep Batch: | 372899 |
|------------------------|-----------------|-----------------|----------------------|----------------|------|---|----------------|----------------------------------|---------|
| Analyte | | MB Qualifier | RL | FDI | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,3,7,8-TCDD | — ND | - Guanner | 0.000010 | 0.0000003 | | | • | 04/20/20 16:41 | 1 |
| 1,2,3,7,8-PeCDD | 0.000000862 | J.DX | 0.000050 | 8 0.0000004 | - | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8-PeCDF | ND | , | 0.000050 | 3 0.0000004 | - | | | 04/20/20 16:41 | 1 |
| | | | | 4 | | | | | |
| 2,3,4,7,8-PeCDF | ND | | 0.000050 | 0.0000004 1 | ug/L | | | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8-HxCDD | 0.00000189 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,6,7,8-HxCDD | ND | | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8,9-HxCDD | 0.000000710 | J,DX q | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8-HxCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,6,7,8-HxCDF | ND | | 0.000050 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,7,8,9-HxCDF | 0.000000893 | J,DX | 0.000050 | 9 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 2,3,4,6,7,8-HxCDF | ND | | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,6,7,8-HpCDD | 0.00000730 | J,DX | 0.000050 | 3 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,6,7,8-HpCDF | 0.00000720 | J,DX | 0.000050 | 0.0000005 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 1,2,3,4,7,8,9-HpCDF | ND | | 0.000050 | 1 0.0000006 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| OCDD | 0.0000663 | J,DX | 0.00010 | 0 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| OCDF | 0.0000257 | J,DX | 0.00010 | 0.0000007 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDD | ND | | 0.000010 | 2 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total TCDF | 0.000000636 | J,DX | 0.000010 | 8 0.0000003 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDD | 0.000000862 | J,DX | 0.000050 | 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total PeCDF | ND | | 0.000050 | 3 0.0000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HxCDD | 0.00000260 | J,DX q | 0.000050 | 1 0.000004 | ug/L | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HxCDF | 0.000000893 | J,DX | 0.000050 | 5 0.0000005 | | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HpCDD | 0.0000130 | JDX | 0.000050 | 0.0000004 | - | | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| Total HpCDF | 0.0000152 | | 0.000050 | 6 0.0000005 | - | | | 04/20/20 16:41 | 1 |
| Total Tipobi | | | 0.000000 | 1 | ug/L | | 04/10/20 12:00 | 04/20/20 10:41 | • |
| Isotope Dilution | ив %Recovery | MB Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C-2,3,7,8-TCDD | | - Qualifier | 25 - 164 | | | | | 04/20/20 16:41 | DII Fac |
| | 76 72 | | | | | | | 04/20/20 16:41 | |
| 13C-2,3,7,8-TCDF | | | 24 - 169 25 - 181 | | | | | | 1 |
| 13C-1,2,3,7,8-PeCDD | 65 64 | | 25 - 181 24 - 185 | | | | | 04/20/20 16:41 04/20/20 16:41 | 1 |

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

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

MB MB

Lab Sample ID: MB 320-372899/1-A

Matrix: Water

Analysis Batch: 373674

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

Job ID: 440-264517-1

Prep Batch: 372899

| Isotope Dilution | %Recovery G | Qualifier Limits | Prepared | Analyzed | Dil Fac |
|-------------------------|-------------|------------------|----------------|----------------|---------|
| 13C-2,3,4,7,8-PeCDF | 72 | 21 - 178 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDD | 70 | 32 - 141 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDD | 70 | 28 - 130 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8-HxCDF | 72 | 26 - 152 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,6,7,8-HxCDF | 69 | 26 - 123 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,7,8,9-HxCDF | 68 | 29 - 147 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-2,3,4,6,7,8-HxCDF | 67 | 28 - 136 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDD | 72 | 23 - 140 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,6,7,8-HpCDF | 72 | 28 - 143 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-1,2,3,4,7,8,9-HpCDF | 79 | 26 - 138 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| 13C-OCDD | 73 | 17 - 157 | 04/16/20 12:05 | 04/20/20 16:41 | 1 |
| | | | | | |

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 37CI4-2,3,7,8-TCDD 86 35 - 197 04/16/20 12:05 04/20/20 16:41

| Lab Sample ID: LCS 320-372899/2-A | | | | Cli | ient Sai | nple ID | : Lab Control Sample |
|-----------------------------------|--------------|----------|-----------|------|----------|---------|---------------------------|
| Matrix: Water | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 373674 | | | | | | | Prep Batch: 372899 |
| • | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 2,3,7,8-TCDD | 0.000200 | 0.000199 | | ug/L | | 99 | 67 - 158 |
| 2,3,7,8-TCDF | 0.000200 | 0.000207 | MB | ug/L | | 104 | 75 - 158 |

| ı | 2,3,7,0-1000 | 0.000200 | 0.000199 | | ug/L | 99 | 07 - 130 | |
|---|---------------------|----------|----------|----|------|-----|----------|--|
| | 2,3,7,8-TCDF | 0.000200 | 0.000207 | MB | ug/L | 104 | 75 - 158 | |
| | 1,2,3,7,8-PeCDD | 0.00100 | 0.00105 | MB | ug/L | 105 | 70 - 142 | |
| | 1,2,3,7,8-PeCDF | 0.00100 | 0.00106 | | ug/L | 106 | 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 | 0.000959 | MB | ug/L | 96 | 70 - 164 | |
| | 1,2,3,6,7,8-HxCDD | 0.00100 | 0.00107 | | ug/L | 107 | 76 - 134 | |
| | 1,2,3,7,8,9-HxCDD | 0.00100 | 0.00104 | MB | ug/L | 104 | 64 - 162 | |
| | 1,2,3,4,7,8-HxCDF | 0.00100 | 0.000915 | | ug/L | 91 | 72 - 134 | |
| | 1,2,3,6,7,8-HxCDF | 0.00100 | 0.00101 | | ug/L | 101 | 84 - 130 | |
| | 1,2,3,7,8,9-HxCDF | 0.00100 | 0.00103 | MB | ug/L | 103 | 78 - 130 | |
| | 2,3,4,6,7,8-HxCDF | 0.00100 | 0.00102 | | ug/L | 102 | 70 - 156 | |
| | 1,2,3,4,6,7,8-HpCDD | 0.00100 | 0.00101 | MB | ug/L | 101 | 70 - 140 | |
| | 1,2,3,4,6,7,8-HpCDF | 0.00100 | 0.00104 | MB | ug/L | 104 | 82 - 122 | |
| | 1,2,3,4,7,8,9-HpCDF | 0.00100 | 0.000964 | | ug/L | 96 | 78 - 138 | |
| | OCDD | 0.00200 | 0.00199 | MB | ug/L | 100 | 78 - 144 | |
| | OCDF | 0.00200 | 0.00217 | MB | ug/L | 108 | 63 - 170 | |
| | | | | | | | | |

| LCS L | .cs |
|-------|-----|
|-------|-----|

| Isotope Dilution | %Recovery | Qualifier | Limits |
|-----------------------|-----------|-----------|----------|
| 13C-2,3,7,8-TCDD | 69 | | 20 - 175 |
| 13C-2,3,7,8-TCDF | 64 | | 22 - 152 |
| 13C-1,2,3,7,8-PeCDD | 59 | | 21 - 227 |
| 13C-1,2,3,7,8-PeCDF | 60 | | 21 - 192 |
| 13C-2,3,4,7,8-PeCDF | 64 | | 13 - 328 |
| 13C-1,2,3,4,7,8-HxCDD | 62 | | 21 - 193 |
| 13C-1,2,3,6,7,8-HxCDD | 63 | | 25 - 163 |
| 13C-1,2,3,4,7,8-HxCDF | 64 | | 19 - 202 |
| 13C-1,2,3,6,7,8-HxCDF | 61 | | 21 - 159 |
| | | | |

Client: Haley & Aldrich, Inc. Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

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

Lab Sample ID: LCS 320-372899/2-A **Matrix: Water**

Analysis Batch: 373674

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

Prep Batch: 372899

LCS LCS Isotope Dilution %Recovery Qualifier Limits 13C-1.2.3.7.8.9-HxCDF 63 17 - 205 13C-2,3,4,6,7,8-HxCDF 22 - 176 63 13C-1,2,3,4,6,7,8-HpCDD 68 26 - 166 66 13C-1,2,3,4,6,7,8-HpCDF 21 - 158 20 - 186 13C-1,2,3,4,7,8,9-HpCDF 75 13 - 199 13C-OCDD 67

LCS LCS

%Recovery Qualifier Surrogate Limits 37CI4-2,3,7,8-TCDD 31 - 191 84

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

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 372899

Analyte Result Qualifier RL **EDL Unit** D Prepared Analyzed Dil Fac 2,3,7,8-TCDF - RA $\overline{\mathsf{ND}}$ 0.000010 0.0000007 04/16/20 12:05 04/21/20 13:45 ug/L

MB MB

Isotope Dilution %Recovery Qualifier I imits Prepared Analyzed Dil Fac 13C-2,3,7,8-TCDF - RA 67 24 - 169 04/16/20 12:05 04/21/20 13:45

MB MB

MR MR

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 37CI4-2,3,7,8-TCDD - RA 85 35 - 197 04/16/20 12:05 04/21/20 13:45

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-604822/1-A

Lab Sample ID: MB 320-372899/1-A

Matrix: Water

Matrix: Water

Analysis Batch: 373924

Analysis Batch: 605180

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 604822

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Zinc ND 20 12 ug/L 04/14/20 09:09 04/15/20 12:37 Aluminum ND 100 50 ug/L 04/14/20 09:09 04/15/20 12:37

Lab Sample ID: LCS 440-604822/2-A

Matrix: Water

Analysis Batch: 605180

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 604822

| | Spike | LCS | LCS | | | | %Rec. | |
|----------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Zinc | 500 | 513 | | ug/L | | 103 | 85 - 115 | |
| Aluminum | 500 | 491 | | ug/L | | 98 | 85 - 115 | |

Aluminum

Job ID: 440-264517-1

3

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

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018_20200410_Comp **Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 605180 Prep Batch: 604822

| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------|--------|-----------|--------------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Zinc | ND | | 500 | 518 | | ug/L | | 104 | 70 - 130 | |
| Aluminum | 520 | | 500 | 1030 | | ug/L | | 102 | 70 - 130 | |

Client Sample ID: Outfall018_20200410_Comp Lab Sample ID: 440-264517-1 MSD **Prep Type: Total Recoverable Matrix: Water Analysis Batch: 605180 Prep Batch: 604822** Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit Analyte Unit D %Rec Zinc ND 500 538 108 70 - 130 20 ug/L Aluminum 520 500 1050 ug/L 107 70 - 130 20

Lab Sample ID: MB 440-604667/1-B **Client Sample ID: Method Blank Matrix: Water Prep Type: Dissolved** Analysis Batch: 604849 Prep Batch: 604811 MB MB

Result Qualifier RL **MDL** Unit D Analyte Prepared Analyzed Dil Fac 20 Zinc 12 ug/L ND 04/13/20 14:57 04/13/20 19:10 ND 100 04/13/20 14:57 04/13/20 19:10 Aluminum 50 ua/L

Lab Sample ID: LCS 440-604667/2-B Client Sample ID: Lab Control Sample **Prep Type: Dissolved Matrix: Water** Analysis Batch: 604849 Prep Batch: 604811 LCS LCS Spike %Rec. Analyte Added Result Qualifier %Rec Unit Limits Zinc 500 494 99 85 - 115 ug/L Aluminum 500 488 ug/L 98 85 - 115

Lab Sample ID: 440-264517-3 MS Client Sample ID: Outfall018_20200410_Comp_F **Matrix: Water Prep Type: Dissolved** Prep Batch: 604811 **Analysis Batch: 604849** Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec Zinc 74 500 503 86 70 - 130 ug/L

745

ug/L

98

70 - 130

500

250

Lab Sample ID: 440-264517-3 MSD Client Sample ID: Outfall018_20200410_Comp_F **Matrix: Water Prep Type: Dissolved** Analysis Batch: 604849 **Prep Batch: 604811** MSD MSD Sample Sample Spike %Rec. **RPD** Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Zinc 74 500 497 ug/L 85 70 - 130 20 250 500 744 98 20 Aluminum ug/L 70 - 130

Client: Haley & Aldrich, Inc.

Job ID: 440-264517-1 Project/Site: Quarterly Outfall 018 Comp

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-604821/1-A

Matrix: Water

Analysis Batch: 604923

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 604821

| | MB | MB | | | | | | | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | _ | 04/13/20 16:07 | 04/13/20 20:39 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/13/20 16:07 | 04/13/20 20:39 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/13/20 16:07 | 04/13/20 20:39 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/13/20 16:07 | 04/13/20 20:39 | 1 |
| | | | | | | | | | |

Lab Sample ID: LCS 440-604821/2-A

Matrix: Water

Analysis Batch: 604923

Client Sample ID: Lab Control Sample **Prep Type: Total Recoverable**

Prep Batch: 604821

| 7 maryolo Batom 664626 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|-------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cadmium | 80.0 | 72.6 | | ug/L | | 91 | 85 - 115 |
| Copper | 80.0 | 74.9 | | ug/L | | 94 | 85 - 115 |
| Lead | 80.0 | 74.5 | | ug/L | | 93 | 85 - 115 |
| Selenium | 80.0 | 73.1 | | ug/L | | 91 | 85 - 115 |

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analysis Batch: 604923

Client Sample ID: Outfall018_20200410_Comp **Prep Type: Total Recoverable**

Prep Batch: 604821

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Cadmium ND 80.0 72.3 ug/L 90 70 - 130 Copper 2.1 80.0 77.6 ug/L 94 70 - 130 ND 80.0 Lead 74.7 ug/L 93 70 - 130 Selenium 0.55 J,DX 80.0 71.1 ug/L 70 - 130

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Ratch: 604923

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total Recoverable Pron Batch: 604821

| Analysis Batch: 604923 | | | | | | | | | Ргер ва | tcn: 60 | 14821 |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|---------|-------|
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cadmium | ND | | 80.0 | 72.5 | | ug/L | | 91 | 70 - 130 | 0 | 20 |
| Copper | 2.1 | | 80.0 | 78.1 | | ug/L | | 95 | 70 - 130 | 1 | 20 |
| Lead | ND | | 80.0 | 75.0 | | ug/L | | 94 | 70 - 130 | 0 | 20 |
| Selenium | 0.55 | J,DX | 80.0 | 71.4 | | ug/L | | 89 | 70 - 130 | 0 | 20 |

Lab Sample ID: MB 440-604667/1-C

Matrix: Water

Analysis Batch: 604819

Client Sample ID: Method Blank Prep Type: Dissolved

Prep Batch: 604812

| | MB | МВ | | | | | | • | |
|----------|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium | ND | | 1.0 | 0.25 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| Copper | ND | | 2.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| Lead | ND | | 1.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |
| Selenium | ND | | 2.0 | 0.50 | ug/L | | 04/13/20 15:01 | 04/13/20 15:27 | 1 |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

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

Lab Sample ID: LCS 440-604667/2-C

Matrix: Water

Analysis Batch: 604819

Client Sample ID: Lab Control Sample

Prep Type: Dissolved Prep Batch: 604812

| 7, 6.0 2 60 | Spike | LCS | LCS | | | | %Rec. | |
|-------------|-------|--------|-----------|------|---|------|----------|------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cadmium | 80.0 | 71.5 | | ug/L | | 89 | 85 - 115 | |
| Copper | 80.0 | 72.5 | | ug/L | | 91 | 85 - 115 | |
| Lead | 80.0 | 71.8 | | ug/L | | 90 | 85 - 115 | |
| Selenium | 80.0 | 70.3 | | ug/L | | 88 | 85 - 115 | |

Lab Sample ID: 440-264517-3 MS

Matrix: Water

Analysis Ratch: 604940

Client Sample ID: Outfall018_20200410_Comp_F

Prep Type: Dissolved

Pren Batch: 604812

| Analysis Balcii. 004019 | Sample | Sample | Spike | MS | MS | | | | %Rec. |
|-------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cadmium | ND | | 80.0 | 70.0 | | ug/L | | 88 | 70 - 130 |
| Copper | 2.0 | | 80.0 | 74.4 | | ug/L | | 91 | 70 - 130 |
| Lead | ND | | 80.0 | 71.4 | | ug/L | | 89 | 70 - 130 |
| Selenium | 0.66 | J,DX | 80.0 | 72.2 | | ug/L | | 89 | 70 - 130 |

Lab Sample ID: 440-264517-3 MSD

Matrix: Water

Analysis Batch: 604819

Client Sample ID: Outfall018_20200410_Comp_F

Prep Type: Dissolved

Prep Batch: 604812

MSD MSD Sample Sample Spike %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Cadmium ND 80.0 68.1 ug/L 85 70 - 130 3 20 2.0 80.0 72.1 88 70 - 130 20 Copper ug/L 3 ND Lead 80.0 69.9 87 70 - 130 20 ug/L 2 0.66 J,DX 80.0 65.8 20 Selenium ug/L 70 - 130

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-604651/1-A

Matrix: Water

Analysis Batch: 604855

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

Prep Batch: 604651

| | 1110 1110 | | | | | |
|---------|------------------|------|-----------|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
| Mercury | ND — | 0.20 | 0.10 ug/L | 04/13/20 13:07 | 04/13/20 17:07 | 1 |

Lab Sample ID: LCS 440-604651/2-A

Matrix: Water

Analysis Batch: 604855

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 604651**

%Rec.

LCS LCS Spike Added **Analyte** Result Qualifier Unit %Rec Limits Mercury 4.00 3.82 ug/L 95 85 - 115

MR MR

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analysis Batch: 604855

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA **Prep Batch: 604651**

MS MS Spike Sample Sample %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits ND Mercury 4.00 3.89 ug/L 75 - 125

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20

75 - 125

100

95

75 - 125

Job ID: 440-264517-1

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Comp

Mercury

Mercury

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-264517-1 MSD Client Sample ID: Outfall018_20200410_Comp **Matrix: Water** Prep Type: Total/NA Analysis Batch: 604855 **Prep Batch: 604651** Sample Sample Spike MSD MSD **RPD** %Rec. Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit %Rec

Lab Sample ID: MB 440-604794/1-B Client Sample ID: Method Blank **Matrix: Water Prep Type: Dissolved Analysis Batch: 604853 Prep Batch: 604830**

4.01

ug/L

ug/L

4.00

MB MB

ND

ND

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.10 ug/L 0.20 Mercury ND 04/13/20 16:56 04/13/20 19:55

Lab Sample ID: LCS 440-604794/2-B **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Dissolved Analysis Batch: 604853** Prep Batch: 604830 Spike LCS LCS %Rec. **Analyte** Added Result Qualifier Unit Limits %Rec 4.00 94 85 - 115 Mercury 3.78 ug/L

Lab Sample ID: 440-264517-3 MS Client Sample ID: Outfall018_20200410_Comp_F **Matrix: Water Prep Type: Dissolved Analysis Batch: 604853** Prep Batch: 604830 Spike MS MS %Rec. Sample Sample Added Result Qualifier Result Qualifier Limits Analyte Unit D %Rec

3.81

4.00

Client Sample ID: Outfall018_20200410_Comp_F Lab Sample ID: 440-264517-3 MSD **Matrix: Water Prep Type: Dissolved** Analysis Batch: 604853 Prep Batch: 604830 Sample Sample Spike MSD MSD %Rec. RPD Result Qualifier **Analyte** Added Result Qualifier Unit %Rec Limits **RPD** Limit ND 4.00 3.68 Mercury ug/L 75 - 125

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-604643/5 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604643

MB MB **Analyte** Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.10 0.040 NTU Turbidity $\overline{\mathsf{ND}}$ 04/10/20 19:22

Lab Sample ID: 440-264517-1 DU Client Sample ID: Outfall018 20200410 Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604643

DU DU RPD Sample Sample Analyte Result Qualifier Result Qualifier **RPD** Unit Limit **Turbidity** 0.71 0.730 NTU 20

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Job ID: 440-264517-1

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: Quarterly Outfall 018 Comp

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

Lab Sample ID: MB 440-605340/1 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 605340

Client: Haley & Aldrich, Inc.

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared Total Dissolved Solids 10 5.0 mg/L 04/16/20 10:34 $\overline{\mathsf{ND}}$

Lab Sample ID: LCS 440-605340/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605340

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

90 - 110 Total Dissolved Solids 1000 1000 mg/L 100

Lab Sample ID: 440-264517-1 DU Client Sample ID: Outfall018 20200410 Comp

Matrix: Water

Analysis Batch: 605340

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit ח RPD Limit Total Dissolved Solids 270 5 257 mg/L

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

Lab Sample ID: MB 440-605370/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605370

MB MB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac 1.0 **Total Suspended Solids** ND 0.50 mg/L 04/16/20 12:59

Lab Sample ID: LCS 440-605370/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605370

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier Unit %Rec **Total Suspended Solids** 1000 981 mg/L 98 85 - 115

Lab Sample ID: 440-264754-A-1 DU **Client Sample ID: Duplicate** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 605370

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit D **RPD** Limit **Total Suspended Solids** 2.5 2.40 mg/L

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

Lab Sample ID: MB 440-605119/1-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 605374

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 5.0 04/15/20 09:51 04/16/20 13:39 Cyanide, Total $\overline{\mathsf{ND}}$ 2.5 ua/L

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Prep Type: Total/NA

Prep Batch: 605119

Client: Haley & Aldrich, Inc. Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

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

Lab Sample ID: LCS 440-605119/2-A Client Sample ID: Lab Control Sample Prep Type: Total/NA **Matrix: Water** Analysis Batch: 605374 **Prep Batch: 605119** Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit %Rec Limits Cyanide, Total 100 101 80 - 120 101 ug/L

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018_20200410_Comp **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605374 Prep Batch: 605119** MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 100 Cyanide, Total ND 69.3 LN ug/L 69 75 - 125

Lab Sample ID: 440-264517-1 MSD Client Sample ID: Outfall018_20200410_Comp **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 605374 Prep Batch: 605119** Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit Limits RPD Limit D %Rec 68.5 LN 20 Cyanide, Total ND 100 ug/L 69 75 - 125

Method: SM 4500 NH3 G - Ammonia

Lab Sample ID: MB 440-605752/10 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

MB MB Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac 0.200 Ammonia (as N) $\overline{\mathsf{ND}}$ 0.100 mg/L 04/20/20 13:20

Lab Sample ID: LCS 440-605752/11 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Ammonia (as N) 5.00 4.980 mg/L 100 90 - 110

Lab Sample ID: MRL 440-605752/9 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

Spike MRL MRL %Rec. Added Analyte Result Qualifier Unit %Rec Limits Ammonia (as N) 0.200 0.1720 J,DX mg/L 86 50 - 150

Client Sample ID: Outfall018 20200410 Comp Lab Sample ID: 440-264517-1 MS **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 605752

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Limits Unit %Rec Ammonia (as N) ND 5.00 5.270 mg/L 105 90 - 110

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Job ID: 440-264517-1

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Method: SM 4500 NH3 G - Ammonia (Continued)

Lab Sample ID: 440-264517-1 MSD

Client Sample ID: Outfall018_20200410_Comp Prep Type: Total/NA

Matrix: Water Analysis Batch: 605752

Spike MSD MSD **RPD** Sample Sample %Rec. Result Qualifier Added Result Qualifier %Rec RPD Analyte Unit Limits Limit

Ammonia (as N) ND 5.00 109 90 - 110 5.450 mg/L 15

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

MR MR

Lab Sample ID: MB 440-604672/4 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 604672

Prep Type: Total/NA

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.10 Methylene Blue Active Substances $\overline{\mathsf{ND}}$ 0.050 mg/L 04/11/20 11:04

Lab Sample ID: LCS 440-604672/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604672

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits

0.250 0.263 mg/L 105 90 - 110 Methylene Blue Active

Substances

Lab Sample ID: MRL 440-604672/3 **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 604672

Spike MRL MRL %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.100 0.122 mg/L 122 50 - 150 Methylene Blue Active

Substances

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018 20200410 Comp Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604672

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Analyte 0.250 Methylene Blue Active 0.086 J,DX 0.349 mg/L 105 50 - 125

Substances

Client Sample ID: Outfall018 20200410 Comp Lab Sample ID: 440-264517-1 MSD Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604672

Sample Sample Spike MSD MSD %Rec **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit 0.250 0.320 94 0.086 J,DX mg/L 50 - 125 20 Methylene Blue Active

Substances

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-604686/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 604686

USB USB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 2.0 mg/L **Biochemical Oxygen Demand** ND 20 04/12/20 08:14

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Prep Type: Total/NA

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

Lab Sample ID: LCS 440-604686/7

Matrix: Water

Method: SM5210B - BOD, 5 Day (Continued)

| Client Sample ID | : La | ab (| Contro | I Sam | ple |
|-------------------------|------|------|--------|-------|------|
| | Pi | ran | Type: | Total | /N A |

Analysis Batch: 604686 LCS LCS Spike %Rec. Analyte Added Result Qualifier %Rec Limits Unit Biochemical Oxygen Demand 199 97 85 - 115 193

mg/L Lab Sample ID: LCSD 440-604686/8 Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA Analysis Batch: 604686

RPD Spike LCSD LCSD %Rec. Added Result Qualifier Unit D %Rec Limits RPD Limit 199 198 **Biochemical Oxygen Demand** mg/L 100 85 - 115 3

Lab Sample ID: LCSD 440-604686/9 Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA Analysis Batch: 604686 Spike LCSD LCSD %Rec. **RPD** Analyte Added Result Qualifier Unit Limits RPD Limit %Rec Biochemical Oxygen Demand 199 203 85 - 115 mg/L 102

Lab Sample ID: 440-264510-O-1 DU **Client Sample ID: Duplicate Matrix: Water** Prep Type: Total/NA

Analysis Batch: 604686

Sample Sample DU DU

RPD Result Qualifier Limit Analyte Result Qualifier D RPD Unit **Biochemical Oxygen Demand** ND $\overline{\mathsf{ND}}$ NC mg/L

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

GC/MS Semi VOA

Prep Batch: 604752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 625 | |
| MB 440-604752/1-A | Method Blank | Total/NA | Water | 625 | |
| LCS 440-604752/2-A | Lab Control Sample | Total/NA | Water | 625 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 625 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 625 | |

Analysis Batch: 605078

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 625.1 | 604752 |
| MB 440-604752/1-A | Method Blank | Total/NA | Water | 625.1 | 604752 |
| LCS 440-604752/2-A | Lab Control Sample | Total/NA | Water | 625.1 | 604752 |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 625.1 | 604752 |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 625.1 | 604752 |

GC Semi VOA

Prep Batch: 604707

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batcl |
|---------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 608 | _ |
| 440-264517-3 | Outfall018_20200410_Comp_F | Total/NA | Water | 608 | |
| MB 440-604707/1-A | Method Blank | Total/NA | Water | 608 | |
| LCS 440-604707/2-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCS 440-604707/5-A | Lab Control Sample | Total/NA | Water | 608 | |
| LCSD 440-604707/6-A | Lab Control Sample Dup | Total/NA | Water | 608 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 608 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 608 | |

Analysis Batch: 604795

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Total/NA | Water | 608.3 | 604707 |
| MB 440-604707/1-A | Method Blank | Total/NA | Water | 608.3 | 604707 |
| LCS 440-604707/5-A | Lab Control Sample | Total/NA | Water | 608.3 | 604707 |
| LCSD 440-604707/6-A | Lab Control Sample Dup | Total/NA | Water | 608.3 | 604707 |

Analysis Batch: 604824

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 608.3 | 604707 |
| 440-264517-3 | Outfall018_20200410_Comp_F | Total/NA | Water | 608.3 | 604707 |
| MB 440-604707/1-A | Method Blank | Total/NA | Water | 608.3 | 604707 |
| LCS 440-604707/2-A | Lab Control Sample | Total/NA | Water | 608.3 | 604707 |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 608.3 | 604707 |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 608.3 | 604707 |

HPLC/IC

Analysis Batch: 604533

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |
| 440-264517-1 - DL | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |
| MB 440-604533/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604533/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264517-1 MS - DL | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |

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Client: Haley & Aldrich, Inc. Job ID: 440-264517-1 Project/Site: Quarterly Outfall 018 Comp

HPLC/IC (Continued)

Analysis Batch: 604533 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 MSD - DL | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 604534

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 - DL | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |
| MB 440-604534/6 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 440-604534/5 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 440-264517-1 MS - DL | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 300.0 | |

Analysis Batch: 604895

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 314.0 | _ |
| MB 440-604895/6 | Method Blank | Total/NA | Water | 314.0 | |
| LCS 440-604895/5 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604895/4 | Lab Control Sample | Total/NA | Water | 314.0 | |
| MRL 440-604895/8 | Lab Control Sample | Total/NA | Water | 314.0 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 314.0 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 314.0 | |

Analysis Batch: 604964

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|-------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | NO3NO2 Calc | |

Specialty Organics

Prep Batch: 372899

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|--------------------------|-----------|--------|--------|-----------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 1613B | : - |
| 440-264517-1 - RA | Outfall018_20200410_Comp | Total/NA | Water | 1613B | |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | |
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | |

Analysis Batch: 373674

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 1613B | 372899 |
| MB 320-372899/1-A | Method Blank | Total/NA | Water | 1613B | 372899 |
| LCS 320-372899/2-A | Lab Control Sample | Total/NA | Water | 1613B | 372899 |

Analysis Batch: 373924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 - RA | Outfall018_20200410_Comp | Total/NA | Water | 1613B | 372899 |
| MB 320-372899/1-A - RA | Method Blank | Total/NA | Water | 1613B | 372899 |

Metals

Prep Batch: 604651

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------------------|--|----------------------|----------------|----------------|------------|
| 440-264517-1 MB 440-604651/1-A | Outfall018_20200410_Comp Method Blank | Total/NA Total/NA | Water Water | 245.1 245.1 | |
| LCS 440-604651/2-A | Lab Control Sample | Total/NA | Water | 245.1 | |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Metals (Continued)

| Prep | Batch: | 604651 | (Continued) | ١ |
|-------|--------|--------|-------------|---|
| 1 ICP | Daten. | OUTUS! | Continued | , |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 245.1 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | 245.1 | |

Filtration Batch: 604667

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604667/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| MB 440-604667/1-C | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604667/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| LCS 440-604667/2-C | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | FILTRATION | |

Filtration Batch: 604794

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|------------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | FILTRATION | |
| MB 440-604794/1-B | Method Blank | Dissolved | Water | FILTRATION | |
| LCS 440-604794/2-B | Lab Control Sample | Dissolved | Water | FILTRATION | |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | FILTRATION | |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | FILTRATION | |

Prep Batch: 604811

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |
| MB 440-604667/1-B | Method Blank | Dissolved | Water | 200.2 | 604667 |
| LCS 440-604667/2-B | Lab Control Sample | Dissolved | Water | 200.2 | 604667 |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |

Prep Batch: 604812

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |
| MB 440-604667/1-C | Method Blank | Dissolved | Water | 200.2 | 604667 |
| LCS 440-604667/2-C | Lab Control Sample | Dissolved | Water | 200.2 | 604667 |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | 200.2 | 604667 |

Analysis Batch: 604819

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | 200.8 | 604812 |
| MB 440-604667/1-C | Method Blank | Dissolved | Water | 200.8 | 604812 |
| LCS 440-604667/2-C | Lab Control Sample | Dissolved | Water | 200.8 | 604812 |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | 200.8 | 604812 |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | 200.8 | 604812 |

Prep Batch: 604821

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total Recoverable | Water | 200.2 | |
| MB 440-604821/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604821/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total Recoverable | Water | 200.2 | |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Metals (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total Recoverable | Water | 200.2 | |

Prep Batch: 604822

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total Recoverable | Water | 200.2 | <u> </u> |
| MB 440-604822/1-A | Method Blank | Total Recoverable | Water | 200.2 | |
| LCS 440-604822/2-A | Lab Control Sample | Total Recoverable | Water | 200.2 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total Recoverable | Water | 200.2 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total Recoverable | Water | 200.2 | |

Prep Batch: 604830

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | 245.1 | 604794 |
| MB 440-604794/1-B | Method Blank | Dissolved | Water | 245.1 | 604794 |
| LCS 440-604794/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604794 |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | 245.1 | 604794 |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | 245.1 | 604794 |

Analysis Batch: 604849

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|---------------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| MB 440-604667/1-B | Method Blank | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| LCS 440-604667/2-B | Lab Control Sample | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604811 |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | 200.7 Rev 4.4 | 604811 |

Analysis Batch: 604853

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|----------------------------|-----------|--------|--------|------------|
| 440-264517-3 | Outfall018_20200410_Comp_F | Dissolved | Water | 245.1 | 604830 |
| MB 440-604794/1-B | Method Blank | Dissolved | Water | 245.1 | 604830 |
| LCS 440-604794/2-B | Lab Control Sample | Dissolved | Water | 245.1 | 604830 |
| 440-264517-3 MS | Outfall018_20200410_Comp_F | Dissolved | Water | 245.1 | 604830 |
| 440-264517-3 MSD | Outfall018_20200410_Comp_F | Dissolved | Water | 245.1 | 604830 |

Analysis Batch: 604855

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 245.1 | 604651 |
| MB 440-604651/1-A | Method Blank | Total/NA | Water | 245.1 | 604651 |
| LCS 440-604651/2-A | Lab Control Sample | Total/NA | Water | 245.1 | 604651 |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | 245.1 | 604651 |
| 440-264517-1 MSD | Outfall018 20200410 Comp | Total/NA | Water | 245.1 | 604651 |

Analysis Batch: 604923

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total Recoverable | Water | 200.8 | 604821 |
| MB 440-604821/1-A | Method Blank | Total Recoverable | Water | 200.8 | 604821 |
| LCS 440-604821/2-A | Lab Control Sample | Total Recoverable | Water | 200.8 | 604821 |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total Recoverable | Water | 200.8 | 604821 |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total Recoverable | Water | 200.8 | 604821 |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Metals

Analysis Batch: 605180

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-------------------|--------|---------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| MB 440-604822/1-A | Method Blank | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| LCS 440-604822/2-A | Lab Control Sample | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total Recoverable | Water | 200.7 Rev 4.4 | 604822 |

Analysis Batch: 606179

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-------------------|--------|----------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total Recoverable | Water | SM 2340B | |

General Chemistry

Analysis Batch: 604643

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------|--------------------------|-----------|--------|--------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | 180.1 | |
| MB 440-604643/5 | Method Blank | Total/NA | Water | 180.1 | |
| 440-264517-1 DU | Outfall018_20200410_Comp | Total/NA | Water | 180.1 | |

Analysis Batch: 604672

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|----------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | SM 5540C | |
| MB 440-604672/4 | Method Blank | Total/NA | Water | SM 5540C | |
| LCS 440-604672/5 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| MRL 440-604672/3 | Lab Control Sample | Total/NA | Water | SM 5540C | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | SM 5540C | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | SM 5540C | |

Analysis Batch: 604686

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | SM5210B | |
| USB 440-604686/3 | Method Blank | Total/NA | Water | SM5210B | |
| LCS 440-604686/7 | Lab Control Sample | Total/NA | Water | SM5210B | |
| LCSD 440-604686/8 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| LCSD 440-604686/9 | Lab Control Sample Dup | Total/NA | Water | SM5210B | |
| 440-264510-O-1 DU | Duplicate | Total/NA | Water | SM5210B | |

Prep Batch: 605119

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batc |
|--------------------|--------------------------|-----------|--------|------------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | Distill/CN |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | Distill/CN |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | Distill/CN |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | Distill/CN |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | Distill/CN |

Analysis Batch: 605340

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------------|-----------|--------|----------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | SM 2540C | |
| MB 440-605340/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 440-605340/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 440-264517-1 DU | Outfall018_20200410_Comp | Total/NA | Water | SM 2540C | |

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Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

General Chemistry

Analysis Batch: 605370

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | SM 2540D | |
| MB 440-605370/1 | Method Blank | Total/NA | Water | SM 2540D | |
| LCS 440-605370/2 | Lab Control Sample | Total/NA | Water | SM 2540D | |
| 440-264754-A-1 DU | Duplicate | Total/NA | Water | SM 2540D | |

Analysis Batch: 605374

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | SM 4500 CN E | 605119 |
| MB 440-605119/1-A | Method Blank | Total/NA | Water | SM 4500 CN E | 605119 |
| LCS 440-605119/2-A | Lab Control Sample | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | SM 4500 CN E | 605119 |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | SM 4500 CN E | 605119 |

Analysis Batch: 605752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | SM 4500 NH3 G | - |
| MB 440-605752/10 | Method Blank | Total/NA | Water | SM 4500 NH3 G | |
| LCS 440-605752/11 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| MRL 440-605752/9 | Lab Control Sample | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | SM 4500 NH3 G | |
| 440-264517-1 MSD | Outfall018 20200410 Comp | Total/NA | Water | SM 4500 NH3 G | |

Job ID: 440-264517-1

Eurofins Calscience Irvine

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264517-1

Project/Site: Quarterly Outfall 018 Comp

Qualifiers

GC/MS Semi VOA

Qualifier Qualifier Description

LG LG=Surrogate recovery below the acceptance limits

HPLC/IC

Qualifier Qualifier Description

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

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.

Metals

Qualifier Qualifier Description

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

General Chemistry

Qualifier Qualifier Description

J,DX Estimated value; value < lowest standard (MQL), but >than MDL LN MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority California | | Program State | Identification Number | Expiration Date 06-30-20 |
|-------------------------|----------------------|-------------------------------|---|--|
| , | | port, but the laboratory is r | 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 | |
| NO3NO2 Calc | | Water | Nitrate Nitrite as N | |

Laboratory: Eurofins TestAmerica, 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 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 07-01-21 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-21 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-22 |
| Michigan | State | 9947 | 01-31-22 |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Hampshire | NELAP | 2997 | 04-18-21 |
| New Jersey | NELAP | CA005 | 05-03-20 |
| New York | NELAP | 11666 | 04-01-21 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-21 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-21 |
| Virginia | NELAP | 460278 | 03-14-21 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

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 $^{{}^{\}star}\operatorname{Accreditation/Certification\ renewal\ pending\ -\ accreditation/certification\ considered\ valid}.$

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| | Project. | Boeing-SSFL NPDES Permit 2020 | idali (001, 002, 0 Outdali 018 Comp | Project Manager Katherine Miller 520,289 8606, 520,904,6944 (cell | Field Manager: Mark Dominick 978.234.5033, 818 599 0702 (cell) | Preservative | HNO3 | None | None | None | None | None | 4;80° | None | None | allow allow | None | None | None | None | - Pusad | 2 | 14 | | | 7 | 7 | |
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| | | | | | | Container Type | 500 mL Poly | 1 L Glass Amber | 1L Poly | 500 mL Poly | 500 m£ Poly | 500 ml. Poly | 500 ml. Poly | 1 L Glass Amber | 1 L Glass Amber | 1 Glass Amber | 500 mL Poly | 500 mi. Poly | 1 L Glass Amber | 1 L Glass Amber | | Company | 5661 | Company | Company | 15- E | | |
| | | | | te p | | Sample Matrix | WK | N. | Š | MW | MW | ¥. | W | * | W | . ₹ | | WAK | 700 () C / | | | | | | ŀ | . 7. | 4 | |
| | | | 8 | with the T&Cs within Bian th, Inc., its subsidiaries a | | Sampling Date/Thrie | | | | • | 4102020 | 101 | 2 | | | | | 410/2020 | //25 | (9). | | | 10-2020 | | | 40 / | 1.4/1. | |
| Library | Circin Marries Addrich Haley & Aldrich 5333 Mission Center Rd Suite 300 | 4 82108 | Eurofins Calscience Irvine Contact: Christian Bondoo 17461 Denan Ave Surte #100 Irvine CA 92614 Tel 949-260-3218 | TestAmerica's services under this CoC state be performed in accordance with the T&Cs within Battless Service Agreement 2018-22, TestAmerica's and between Maley & Adnot, Inc., its subsidiaries and services. | Smith | Sample I D | THE PROPERTY OF THE PROPERTY O | | - | | Outhall018_20200410_Comp | | | | | | • | Outfali018_20200410_Comp_Extra | | | | Date/Time | 14/ | Date/Time | Date/Tine | -)-h)) | 1269 | ty Season |
| | Haley & Aldrich 5333 Mission Ce | San Diego, CA 92108 | Eurofins Calscience 17461 Denan Ave 5 Irvine CA 92614 Tel 949-260-3218 | TestAmerica's service Service Agreements | Sampler: Dan | Sample | | | | | | | Ortigii 018 | | · · · · · · · · · · · · · · · · · · · | | | | | | | Relinquished By | Jul | Relinquished By | Relinquished By | 6/5 | | X O 2019-2020 Rainy Season |

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

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Eurofins Calscience Irvine

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| _ | | ······································ | • | Metals | SZOWOGI SZOWOGI | Tobal Dis (7 00S3) (8 00S3) | | | × | | | _ | | | | | _ | _ | | | SW=Quarte Dete/Tim | -IIV 4 | | Date/Time | |
| | | | | | | DSWSM | £ | £ | se _X | £ | 88 , | Yes | 7.98 1.08 | Yes | | 2 | | | | | outine, QRS | 区型 | 1 | The state of the s | |
| | | Ø | 311, 018 <u>]</u> | ne Miller | minick | Botte # | 190 🗸 | r 08 | 300 | 250 | 320 | 220 | 226 | 230 | | ₩ | | | | | ert Panel, R=R Receyed By | A Parent | | Received By | |
| | | Project J-SSFL NPDE ermit 2020 | all (001, 002, (buffall 018 Comp | ager Kather | 306, 520 904 6 30er Mark Do | Preservative | None | HNO | None | None | None | TO N | None | None | | | | | | | nal, EP=Expe | 7 | | | |
| | | Project Boeing-SSFL NPDES Permit 2020 | Quarterly Outf | Project Mar | 520 289 8606, 520 904 6944 (ceil) Field Manager Mark Dominick 978 244 5033 418 599 0702 (ceil) | # of Cont | - | - | m | 67 | 6 | 8 | e. | 3 | | | | | | | Legend: C≕Conditional, EP≂Expert Panel, R≒Routine, QRSW=Quarterly Receiving Water Received By | 1 | | 3 | ١ ا |
| | | | | | | Container Type | 1. Poly | 500 ml. Poly | \$ 1± | 1 L Glass Amber | borosilicate wats | S00 mL Poly | 25 Gel Cube | 1 L Glass Amber | 1 Ger Cubo | | | | | | Legenc | H | | | |
| - | | · | | reements | $\frac{1}{1}$ | Sample Matrx C | | MW | W.A. | WW 1L | A | M/W | | WM 1. | 300 | | | _ | + | | | 124 | | 1 | 7 |
| | | | | he T&Cs within Blanket Service Ag diefficies, and TestAmence Labor | | Sampling Date/Time | | | 4102020 | | | | | 4/10/2020 | Cxc | 0 6 2 7 | | | | | > \ | 10.00.01 | (mat/co | Company | 7 |
| 2000 | SSS | Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 | Eurofins Calsorence Invine Contact Chinsten Bondoc 17461 Derian Ave Suite #100 Invine CA 92614 Tel 949-280-3218 | TestAntenca's services under the CoC shall be performed in accordance with the T&Cs within Blanket Service Agreements 2019:22: FestAnnetics by and between Heley & Adelch, Inc. Its attendmens and ifficates, and TestAnnince Laboratories | nth | Sample I D | | | Outsi018_20200410_Comp_F | | | | | • | Outlati018_20200410_Comp | | | | The state of the s | | Date/Time | Z Z Z | | Detertime | |
| Charle Nome (Addition | Client Name/Add | haley & Aldrich 5333 Mission Center San Diego, CA 92108 | Eurofins Calscien 17461 Denan Aw Irvine CA 92614 Tel 949-260-321 | TestAmenca's services i. 2018-22-TestAmenica by | Sampler Dan Smith | Sample Description | | | | | %10 Page 1 | | | | | | - Company | | | | Reinquished By | July Rolling By | | N2020 | (S) S) A2019-2020 Rainy Season |

Chain of Custody Record

| Client Information (Sub Contract Lab) | Sampler: | | Bondc | Lab PM: Bondoc, Christian M | Carrier Tracking No(s) | COC No: 440-154964.1 |
|---|---|--|---|---|--|---|
| Client Contact: Shipping/Receiving | Phone: | | E-Mail. christi | ian.bondoc@testamericainc.com | State of Origin: Californía | Page: Page 1 of 1 |
| Company. TestAmerica Laboratories, Inc. | | | 4 03 | Accreditations Required (See note): State Program - California | | Job #: 440-264517-1 |
| Address: 880 Riverside Parkway, | Due Date Requested: 4/22/2020 | | | Analysis Requested | equested | Pos |
| City. West Sacramento State, Zip: | TAT Requested (days): | | | zisio1 | | m |
| CA, 95605 Phone: | PO#: | | Ī | | | F-MeOH R-Na2S203 G-Amchlor S-H2S04 |
| 916-373-5600(Tel) 916-372-1059(Fax) Email: | #OM | | | (0 | | _ |
| Project Name: | Project #: | | | N JO S | | K-EDTA L-EDA |
| Boeing NPUES SSPL outraits Site: | SSOW#: | | | eall as | | Other: |
| | | 0 | Matrix (Wwwster, 5-solid, Orwasteloll, | bel Filtered B/SM mrohe 2_8cfar\8cfa | | otal Number |
| ample identification - Cheff ID (Lab ID) | Sample Date | Preserv | ation Code: | X | | Special instructions/note: |
| | 1 | 19-50 | | | | _ |
| Outfall018_20200410_Comp (440-264517-1) | 4/10/20 Par | Pacific | Water | × | | 2 See Gras, boeling with to zero, ugit., Use Boeing glassware. |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditations are subject to change. Eurofins Calscience places the ownership of method, analyte & accreditation complicance upon out subcontract laboratory or other instructions will be provided. Any changes to accreditation status should 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. | Calscience places the ownership of me ests/matrix being analyzed, the sample current to date, return the signed Chain | athod, analyte & ac ss must be shipped of Custody attest | ccreditation compliar 3 back to the Eurofining to said complicar | nee upon out subcontract laboratories. This s Catscience laboratory or other instructions nee to Eurofins Calscience. | sample shipment is forwarded under smill be provided. Any changes to a | of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not current amplies must be shipped back to the Euroffins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Euroffins. Chain of Custody attesting to said complicance to Euroffins Calscience. |
| Possible Hazard Identification | | | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | e assessed if samples are i | retained longer than 1 month) |
| Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | ank: 2 | | Special Instructions/QC Requirements: | Disposal By Lab | Archive For Months |
| Empty Kif Relinquished by: | Date: | | | Time: | Method of Shipment: | |
| Reinquished by | Date/Time: | 1700 | Company EC- (P2) | Received by. | Date/Time: | JEb 061 |
| Refinquished by: | Date/Pime: | | Company | 0 | Date/Time: | Company |
| | Date/Time: | | Company | Received by: | Date/Time: | Company |
| Custody Seals Infact: Custody Seal No.: | | | | Cooler Temperature(s) °C and Other Remarks: | r Remarks: | |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264517-1

Login Number: 264517 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| 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 | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264517-1

List Number: 264517 List Source: Eurofins TestAmerica, Sacramento
List Number: 2 List Creation: 04/14/20 02:03 PM

Creator: Nuval, Mark-Anthony M

| Question | Answer | Comment |
|--|--------|------------------------------------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1.1C |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | 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 | |

N/A

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Residual Chlorine Checked.

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly 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) |
|------------------------|--------------------------|------------------|------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|
| <u> </u> | _ <u> </u> | _ ` | | | | | | | |
| 440-264517-1 | Outfall018_20200410_Comp | 71 | 66 | 58 | 59 | 60 | 62 | 65 | 67 |
| 440-264517-1 - RA | Outfall018_20200410_Comp | | 62 | | | | | | |
| MB 320-372899/1-A | Method Blank | 76 | 72 | 65 | 64 | 72 | 70 | 70 | 72 |
| MB 320-372899/1-A - RA | Method Blank | | 67 | | | | | | |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (26-123) | (29-147) | (28-136) | (23-140) | (28-143) | (26-138) | (17-157) | |
| 440-264517-1 | Outfall018_20200410_Comp | 65 | 69 | 66 | 78 | 72 | 85 | 76 | |
| 440-264517-1 - RA | Outfall018_20200410_Comp | | | | | | | | |
| MB 320-372899/1-A | Method Blank | 69 | 68 | 67 | 72 | 72 | 79 | 73 | |
| MB 320-372899/1-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

| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
|--------------------|--------------------|------------------|------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|
| 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 320-372899/2-A | Lab Control Sample | 69 | 64 | 59 | 60 | 64 | 62 | 63 | 64 |
| | | | Perc | ent Isotope | Dilution Re | ecovery (Ac | ceptance L | imits) | |
| | | HxDF | HxCF | 13CHxCF | HpCDD | HpCDF | HpCDF2 | OCDD | |
| Lab Sample ID | Client Sample ID | (21-159) | (17-205) | (22-176) | (26-166) | (21-158) | (20-186) | (13-199) | |
| LCS 320-372899/2-A | Lab Control Sample | 61 | 63 | 63 | 68 | 66 | 75 | 67 | |

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

Page 44 of 46

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 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

Job ID: 440-264517-1

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Environment Testing TestAmerica

Sacramento Sample Receiving Notes

| | 440-264517 Field Sheet |
|------|------------------------|
| lob: | |

| Tracking # : | 1540 | 4107 | 8033 | |
|--------------|------|------|------|--|
| | | | | |

SO / O) FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.

| Notes: | Therm. ID: Akia Corr. Factor: (+/- | | |
|--------|--|------|----|
| | lce_ ✓ Wet_ ✓ Gel Oth | ner | _ |
| | Cooler Custody Seal: | | |
| | Cooler ID: | | |
| | Temp Observed:i \ _l_°C Corrected: _ From: Temp Blank Ø Sample □ | | °C |
| | Opening/Processing The Shipment Yes Cooler compromised/tampered with? | | N/ |
| | | | |
| | Cooler Temperature is acceptable? Samples received within holding time? | | 0 |
| | Initials: Pk Date: 04/1 | 1000 | L |
| | Unpacking/Labeling The Samples Yes CoC is complete w/o discrepancies? | | N |
| | Samples compromised/tampered with? | D | |
| | Sample containers have legible labels? | 0 | |
| | Sample custody seal? | D | P |
| | Containers are not broken or leaking? | D | 0 |
| | Sample date/times are provided? | 0 | |
| | Appropriate containers are used? | | |
| | Sample bottles are completely filled? | 0 | |
| | Sample preservatives verified? | 0 | E |
| | Samples w/o discrepancies? | 0 | |
| | Zero headspace?* | D | D |
| | Alkalinity has no headspace? | D | P |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | ם | |
| | Multiphasic samples are not present? | D | |
| | Non-conformance Yes | No | NA |
| | NCM Filed? | D | P |
| | Initials: MAN Date: 04 | | |

WZOC

\|\IACORP\CORP\QA\QA_FACILITIES\\SACRAMENTO-QA\\DOCUMENT-MANAGEMENT\FORMS\\QA-812\\SAMPLE\\ RECEIVING\\NOTES\\DOC

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264517-2

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

5 June 2020







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TABLES

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- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264517-2

5 June 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES **Contract:** 40458-078 and 40458-083 **MEC^x Project No.:** 1272.003H.01

Sample Delivery Group: 440-264517-2

Project Manager: Katherine Miller

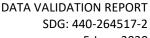
Matrix: Water QC Level: ||

No. of Samples: 2

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method |
|------------------------------|--------------------|----------------------|--------|---------------------|--|
| OUTFALL018_20200410 _COMP | 440-264517-1 | N | WM | 4/10/20 12:50 PM | E900, E901.1, E903.0, E904.0, E905.0, E906.0, A- 01-R |
| OUTFALL018_20200410 COMP | 440-264517-2 | N | WM | 4/10/20 12:50 PM | RADIUM |



5 June 2020



SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt forms and the chains-of-custody (COCs) provided by the laboratories for sample delivery group (SDG) 440-264517-2:

- The laboratories received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratories received the sample containers intact.
- The sample containers were received improperly preserved at TA-SL. The appropriate containers were preserved to pH≤2 upon receipt.
- Field and laboratory personnel signed and dated the COCs with the following exception. The COC for TA-SL was not signed and dated for receipt.
- Sample containers were transferred to TestAmerica St. Louis laboratory for all radionuclide analyses.
- Strikethroughs on the original COC were initialed but not dated.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted. The Login Sample Receipt Checklist indicated a custody seal was present upon receipt at TA-SL.

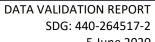






TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| Reason | | | | |
|--------|--|--|--|--|
| Code | Organic | Inorganic | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | |



| Reason Code | Organic | Inorganic | |
|----------------|--|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. | |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. | |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. | |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. | |
| ? | TIC identity or reported retention time has been changed. | Not applicable. | |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. | |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. | |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. | |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | |



III. VARIOUS EPA METHODS — RADIONUCLIDES

M. Hilchey of MEC^x reviewed the SDG on June 5, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900, 901.1, 903.0, 904.0, 905.0, 906.0 and A-01-R,* and the *National Functional Guidelines for Superfund Inorganic Method Data Review* (2017).

III.1. HOLDING TIMES:

According to the case narrative, the sample was received properly preserved (except as noted in the Sample Management section above) and holding time requirements were met.

III.2. CALIBRATION:

The detector efficiencies for gross alpha and radium-226 were less than 20%; therefore, the results for gross alpha and radium-226 were qualified as an estimated with low potential bias (J- for radium-226 and UJ for gross alpha). Please note that the detected result for radium-226 was subsequently qualified as nondetect (see Method Blanks section); therefore, the ultimate qualifier for this result is UJ. All other detector efficiencies were greater than 20% and no further qualifications were required. Carrier/tracer recoveries were within the laboratory control limits.

III.3. QUALITY CONTROL SAMPLES

III.3.1. **METHOD BLANKS**

Target isotopes were not detected in the method blanks above the MDC with the exception of radium-228. The sample result for radium-228 was nondetect and was not qualified. However, a comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 1% level of confidence for radium-226 and total uranium. The detected sample results for total uranium and radium-226 were qualified as nondetect (U). The comparison normalized absolute difference of the sample results and the method blank results indicated the method blank and the sample results were not significantly different at the 5% level of confidence for gross beta. The detected sample result for gross beta was qualified as estimated (J+).

III.3.2. LABORATORY CONTROL SAMPLES:

The recoveries were within laboratory-established control limits.

III.3.3. LABORATORY DUPLICATES:

Laboratory duplicate analyses were performed for Method 900.0. The RERs met laboratory control limits. Laboratory duplicates were not performed on the sample from this SDG for the remaining methods.

111.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE:

Matrix spike and matrix spike duplicate (MS/MSD) analyses were performed on the sample from this SDG for Methods 900.0, 904.0 and A-01-R. Recoveries were within the laboratory control limits and RERs were within laboratory control limits except for gross alpha (MSD: 57%). MS/MSD analyses were not performed on the sample from this SDG for the remaining methods.

DATA VALIDATION REPORT SDG: 440-264517-2

5 June 2020



III.4. SAMPLE RESULT VERIFICATION:

An EPA Level II review was performed on the sample in this data package. Sample results are not verified at this level of validation. Reported nondetects are valid to the MDC. The sample was prepared at a reduced aliquot due to matrix issues for Methods 903.0, 904.0 and 905. For Method 900.0, the sample had additional volume added to reach target mass and efficiency.

III.5. FIELD QC SAMPLES:

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. The following are findings associated with field QC samples:

III.5.1. FIELD BLANKS AND EQUIPMENT BLANKS:

This SDG had no identified field blank or equipment blank samples.

III.5.2. FIELD DUPLICATES:

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402645172

Analysis Method E900

Sample Name OUTFALL018 20200410 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

RLCAS No Result Total **MDC** Result Analyte Lab Validation Validation Uncert. Value Units Qualifier Qualifier Notes 0.775 *Ш Gross Alpha Analytes GROSSALPHA 1.23 3.00 2.11 pCi/L U UJ Gross Beta Analytes GROSSBETA 1.95 0.719 4.00 0.920 pCi/L J+ В

Analysis Method E901.1

Sample Name OUTFALL018_20200410_COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

MDC Analyte CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Cesium-137 10045-97-3 2.76 2.34 20.0 3.59 pCi/L U U Potassium-40 U U 13966-00-2 16.6 80.7 143 143 pCi/L

Analysis Method E903.0

Sample Name OUTFALL018 20200410 COMP Matrix Type: WM Result Type: TRO

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

Total RL**MDC** Analyte CAS No Result Result Lab Validation Validation **Oualifier** Value Uncert. Units Qualifier Notes 0.136 *Ш. В Radium-226 0.0895 1.00 0.119 pCi/L IJ 13982-63-3

Analysis Method E904.0

Sample Name OUTFALL018 20200410 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

Analyte CAS No Result Total RL**MDC** Result Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes -0.0386 Radium-228 15262-20-1 0.257 1.00 0.465 pCi/L

Friday, June 12, 2020 Page 1 of 2

Analysis Method E905.0

Sample Name OUTFALL018 20200410 COMP Result Type: TRG Matrix Type: WM

Sample Date: 4/10/2020 12:50:00 PM

Validation Level: 9

Lab Sample Name: 440-264517-1

MDC **Analyte** CAS No Result Total RLResult Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Strontium-90 10098-97-2 0.284 0.387 3.00 0.643 pCi/L

Analysis Method E906.0

Sample Name OUTFALL018 20200410 COMP Matrix Type: Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

Lab Sample Name: 440-264517-1

CAS No Result Total RLMDC **Analyte** Result Lab Validation Validation Value Uncert. Units **Oualifier** Qualifier Notes 194 Tritium 10028-17-8 178 500 283 pCi/L

HASL-300 U Mod Analysis Method

Sample Name OUTFALL018 20200410 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

440-264517-1 Lab Sample Name:

RLMDC **Analyte** CAS No Result Total Result Lab Validation Validation Value Uncert. Units Qualifier **Qualifier** Notes Total Uranium **URANIUM** 0.337 0.167 1.00 0.117 pCi/L

Analysis Method *RADIUM*

Sample Name OUTFALL018 20200410 COMP Matrix Type: WM Result Type: TRG

Sample Date: 4/10/2020 12:50:00 PM Validation Level: 9

440-264517-2 **Lab Sample Name:**

RLMDC Result Analyte CAS No Result Total Lab Validation Validation Value Uncert. Units Qualifier Qualifier Notes Radium-226 & 228 UJ *Ш, В RADIUM226228 0.465 0.272 pCi/L

Friday, June 12, 2020 Page 2 of 2

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-264517-2

Client Project/Site: Quarterly Outfall 018 Comp

For:

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

Attn: Katherine Miller

Authorized for release by: 5/12/2020 4:31:53 PM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

.....LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Project/Site: Quarterly Outfall 018 Comp

Christian Bondoc Project Manager I 5/12/2020 4:31:53 PM Laboratory Job ID: 440-264517-2

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Comp Laboratory Job ID: 440-264517-2

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|----------------------------|--------|----------------|----------------|----------|
| Lab Gample ib | Olient Gample 15 | INGUIA | Oonecteu | Received | ASSELID |
| 440-264517-1 | Outfall018 20200410 Comp | Water | 04/10/20 12:50 | 04/10/20 16:45 | |
| 770-207317-1 | Odtiailo 10_20200+10_0011p | vvalci | 04/10/20 12:50 | 04/10/20 10.43 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Job ID: 440-264517-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264517-2

Comments

No additional comments.

Receipt

The samples were received on 4/10/2020 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 1.3° C, 1.4° C, 1.7° C, 2.1° C, 2.4° C and 2.6° C.

RAD

Method 900.0: Gross Alpha/Beta Prep Batch 160-468961

The matrix spike duplicate recovery (MSD, 57%) was outside the lower control limit (60%). Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 900.0: Gross Alpha/Beta Prep Batch 160-468961

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 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]), Outfall018 20200410 Comp (440-264517-1[MSD]), (LCS 160-468961/2-A), (LCSB 160-468961/3-A), (MB 160-468961/1-A), (440-264517-R-1-N DU), (440-264517-R-1-L MSBT) and (440-264517-R-1-M MSBTD)

Method 901.1: Gamma Prep Batch 160-468154

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.

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 |
| | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Job ID: 440-264517-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

Bi-214

Outfall018 20200410 Comp (440-264517-1), (LCS 160-468154/2-A), (MB 160-468154/1-A) and (440-264517-R-1-G DU)

Method 903.0: Radium-226 Prep Batch 160-467982

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 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]), Outfall018 20200410 Comp (440-264517-1[MSD]), (LCS 160-467982/1-A) and (MB 160-467982/23-A)

Method 904.0: Radium-228 Prep Batch 160-468070

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 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]), Outfall018 20200410 Comp (440-264517-1[MSD]), (LCS 160-468070/1-A) and (MB 160-468070/23-A)

Method 905: Sr-90 Prep Batch 160-468677

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_20200410_Comp (440-264517-1), Outfall018_20200410_Comp (440-264517-1[MS]), Outfall018_20200410_Comp (440-264517-1[MSD]), (LCS 160-468677/1-A) and (MB 160-468677/22-A)

Method 906.0: Tritium Prep Batch 160-469023

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 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]), Outfall018 20200410 Comp (440-264517-1[MSD]), (LCS 160-469023/2-A), (MB 160-469023/1-A), (160-37794-B-1-A) and (160-37794-B-1-B DU)

Methods A-01-R, U-02-RC: Isotopic Uranium Prep Batch 160-468046

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 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]), Outfall018 20200410 Comp (440-264517-1[MSD]), (LCS 160-468046/2-A) and (MB 160-468046/1-A)

Method Evaporation: Gross Alpha/Beta preparation batch 160-468961 and 160-468961

The following samples had additional volume added to reach target mass and efficiency Outfall018 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]), Outfall018 20200410 Comp (440-264517-1[MSD]), (440-264517-R-1 DU), (440-264517-R-1 MSBT) and (440-264517-R-1 MSBTD). The total sample volume is reflected in the initial amount field.

Method ExtChrom: Uranium Prep Batch 160-468046:

The following samples have matrix observations: Outfall018 20200410 Comp (440-264517-1), Outfall018 20200410 Comp (440-264517-1[MS]) and Outfall018 20200410 Comp (440-264517-1[MSD]). Samples 440-263721-1, 1 MS, and 1 MSD, 550-140782-1 and 3, 440-264162-1, 1 MS, and 1 MSD, and 440-264517-1, 1 MS, and 1 MSD are pale yellow. Samples 440-264182-1, 440-264370-1, and 440-264634-1 were medium yellow. Sample 440-264510-1 is yellow with sediment and was prepared at a reduced aliquot. Sample

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Job ID: 440-264517-2 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

160-37759-4 had thick brown sediment and was prepared at a reduced aliquot. Sample 160-37794-1 was pale brown in color with a small amount of sediment. Sample 160-37794-2 was thick brown with sediment and other plant-like particulates with a sewage smell and was prepared at a reduced aliquot.

Method PrecSep_0: Radium 228 Prep Batch 160-468070:

The following samples were prepared at a reduced aliquot due to yellow discoloration: Outfall018_20200410_Comp (440-264517-1), Outfall018_20200410_Comp (440-264517-1[MS]) and Outfall018_20200410_Comp (440-264517-1[MSD])

Method PrecSep-21: Radium 226 Prep Batch 160-467982:

The following samples were prepared at a reduced aliquot due to yellow discoloration: Outfall018_20200410_Comp (440-264517-1), Outfall018_20200410_Comp (440-264517-1[MS]) and Outfall018_20200410_Comp (440-264517-1[MSD])

Method PrecSep-7: Strontium 90 Prep Batch 160-468677:

The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall018_20200410_Comp (440-264517-1), Outfall018_20200410_Comp (440-264517-1[MS]) and Outfall018_20200410_Comp (440-264517-1[MSD]). Samples 440-264370-1, 440-264510-1, 440-264517-1, 440-264517-1 MS, 440-264517-1 MSD, 440-264634-1, and 440-264783-1 all have a yellow discoloration. Sample 310-179946-1 has brown discoloration and heavy sediment.

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

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264517-2

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp

Lab Sample ID: 440-264517-1 Date Collected: 04/10/20 12:50

Matrix: Water Date Received: 04/10/20 16:45

| Method: 900.0 - 0 | Gross Alpha | and Gros | s Beta Rad | lioactivity | | | | | | |
|-------------------|-------------|-----------|------------|-------------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | 0.775 | U | 1.22 | 1.23 | 3.00 | 2.11 | pCi/L | 04/27/20 07:57 | 05/01/20 11:49 | 1 |
| Gross Beta | 1.95 | | 0.692 | 0.719 | 4.00 | 0.920 | pCi/L | 04/27/20 07:57 | 05/01/20 11:49 | 1 |

| Method: 901.1 - C | esium 137 | & Other G | amma Emi | tters (GS) | | | | | | |
|-------------------|-----------|-----------|----------|------------|------|------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Cesium-137 | 2.76 | U | 2.32 | 2.34 | 20.0 | 3.59 | pCi/L | 04/19/20 14:22 | 04/21/20 06:17 | 1 |
| Potassium-40 | 16.6 | U | 80.7 | 80.7 | | 143 | pCi/L | 04/19/20 14:22 | 04/21/20 06:17 | 1 |
| | | | | | | | | | | |

| Method: 903.0 - F | Radium-226 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-------------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.136 | | 0.0886 | 0.0895 | 1.00 | 0.119 | pCi/L | 04/16/20 13:59 | 05/12/20 06:30 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 98.5 | | 40 - 110 | | | | | 04/16/20 13:59 | 05/12/20 06:30 | 1 |

| Method: 904.0 - | Radium-228 | (GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | -0.0386 | U | 0.257 | 0.257 | 1.00 | 0.465 | pCi/L | 04/19/20 16:36 | 04/30/20 07:45 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 98.5 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:45 | 1 |
| Y Carrier | 93.5 | | 40 - 110 | | | | | 04/19/20 16:36 | 04/30/20 07:45 | 1 |

| Method: 905 - St | trontium-90 (| GFPC) | Count Uncert. | Total Uncert. | | | | | | |
|------------------|---------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.284 | Ū | 0.386 | 0.387 | 3.00 | 0.643 | pCi/L | 04/23/20 09:24 | 05/06/20 09:27 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Sr Carrier | 87.5 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:27 | 1 |
| Y Carrier | 93.1 | | 40 - 110 | | | | | 04/23/20 09:24 | 05/06/20 09:27 | 1 |

| Method: 906.0 - Tritium, Total (LSC) | | | | | | | | | | | | |
|--------------------------------------|--------|-----------|---------|---------|-----|-----|-------|----------------|----------------|---------|--|--|
| | | | Count | Total | | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac | | |
| Tritium | 194 | U | 177 | 178 | 500 | 283 | pCi/L | 04/28/20 04:41 | 04/29/20 06:07 | 1 | | |

| Method: A-01-R - | sotopic Ura | anium (Al | pha Spectr | ometry) | | | | | | |
|------------------|-------------|-----------|------------|---------|------|-------|-------|----------------|----------------|---------|
| | • | ` ' | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Total Uranium | 0.337 | | 0.165 | 0.167 | 1.00 | 0.117 | pCi/L | 04/17/20 17:03 | 04/24/20 09:34 | 1 |

Eurofins Calscience Irvine

Page 8 of 33 5/12/2020

Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264517-2

Project/Site: Quarterly Outfall 018 Comp

Client Sample ID: Outfall018_20200410_Comp Lab Sample ID: 440-264517-1

Date Collected: 04/10/20 12:50

Matrix: Water

Date Received: 04/10/20 16:45

| Tracer | %Yield Qualifier | Limits | Prepared Analyzed | Dil Fac |
|-------------|------------------|----------|-------------------------------|---------|
| Uranium-232 | 78.2 | 30 - 110 | 04/17/20 17:03 04/24/20 09:34 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Method **Method Description** Protocol Laboratory TAL SL 900.0 Gross Alpha and Gross Beta Radioactivity EPA TAL SL 901.1 Cesium 137 & Other Gamma Emitters (GS) **EPA** Radium-226 (GFPC) TAL SL 903.0 **EPA** 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 Preparation, Evaporation TAL SL Evaporation None ExtChrom Preparation, Extraction Chromatography Resin Actinide Separation None TAL SL Fill_Geo-0 Fill Geometry, No In-Growth TAL SL None LSC_Dist_Susp Distillation and Suspension (LSC) None TAL SL PrecSep_0 Preparation, Precipitate Separation None TAL SL TAL SL PrecSep-21 Preparation, Precipitate Separation (21-Day In-Growth) None 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 TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 440-264517-2

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Lab Chronicle

Client: Haley & Aldrich, Inc.

Date Received: 04/10/20 16:45

Project/Site: Quarterly Outfall 018 Comp

Lab Sample ID: 440-264517-1

04/17/20 17:03 CMM

04/24/20 09:34 KRR

Matrix: Water

Matrix: Water

Job ID: 440-264517-2

Client Sample ID: Outfall018_20200410_Comp Date Collected: 04/10/20 12:50

Prep

Analysis

ExtChrom

A-01-R

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|---------------|-----------------|-----|---------------|-------------------|-----------------|-----------------|----------------------|---------|--------|
| Total/NA | Prep | Evaporation | | | 200.54 mL | 1.0 g | 468961 | 04/27/20 07:57 | RJD | TAL SL |
| Total/NA | Analysis | 900.0 | | 1 | | ŭ | 469304 | 05/01/20 11:49 | AJD | TAL SL |
| Total/NA | Prep | Fill_Geo-0 | | | 1000 mL | 1.0 g | 468154 | 04/19/20 14:22 | MLG | TAL SL |
| Total/NA | Analysis | 901.1 | | 1 | | | 468186 | 04/21/20 06:17 | KLS | TAL SL |
| Total/NA | Prep | PrecSep-21 | | | 749.52 mL | 1.0 g | 467982 | 04/16/20 13:59 | RBR | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | | 470197 | 05/12/20 06:30 | KLS | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 749.52 mL | 1.0 g | 468070 | 04/19/20 16:36 | MNH | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | | | 469237 | 04/30/20 07:45 | KRR | TAL SL |
| Total/NA | Prep | PrecSep-7 | | | 500.22 mL | 1.0 g | 468677 | 04/23/20 09:24 | RBR | TAL SL |
| Total/NA | Analysis | 905 | | 1 | | | 469750 | 05/06/20 09:27 | CJQ | TAL SL |
| Total/NA | Prep | LSC_Dist_Susp | | | 100.4 mL | 1.0 g | 469023 | 04/28/20 04:41 | NMN | TAL SL |
| Total/NA | Analysis | 906.0 | | 1 | | | 469168 | 04/29/20 06:07 | KRR | TAL SL |

499.42 mL

1

1.0 mL

468046

468773

Laboratory References:

Total/NA

Total/NA

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

TAL SL

TAL SL

Count

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-468961/1-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 469304

Prep Type: Total/NA

Prep Batch: 468961

| | | | Count | iotai | | | | | | |
|-------------|----------|-----------|---------|---------|------|-------|-------|----------------|----------------|---------|
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Gross Alpha | -0.03693 | U | 0.429 | 0.429 | 3.00 | 0.907 | pCi/L | 04/27/20 07:57 | 05/01/20 11:47 | 1 |
| Gross Beta | -0.2609 | U | 0.442 | 0.443 | 4.00 | 0.850 | pCi/L | 04/27/20 07:57 | 05/01/20 11:47 | 1 |

Total

Lab Sample ID: LCS 160-468961/2-A **Client Sample ID: Lab Control Sample Matrix: Water**

Analysis Batch: 469304

Prep Type: Total/NA **Prep Batch: 468961**

Total LCS LCS %Rec. Spike Uncert. RL Analyte Added $(2\sigma + / -)$ **MDC** Unit Limits Result Qual %Rec Gross Alpha 49.6 39.96 6.22 3.00 1.69 pCi/L 81 75 - 125

Lab Sample ID: LCSB 160-468961/3-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 468961**

Analysis Batch: 469304

Total Spike LCSB LCSB %Rec. Uncert. Added Result Qual $(2\sigma + / -)$ RL MDC Unit Limits Analyte %Rec **Gross Beta** 84.4 4.00 75 - 125 76.62 8.19 0.852 pCi/L 91

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018_20200410_Comp

Matrix: Water

Analysis Batch: 469304

Prep Type: Total/NA

Prep Batch: 468961

Total MS MS %Rec. Sample Sample **Spike** Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Gross Alpha 0.775 U 49.4 31.18 5.42 3.00 2.19 pCi/L 62 60 - 140

Lab Sample ID: 440-264517-1 MSBT Client Sample ID: Outfall018 20200410 Comp

Matrix: Water

Analysis Batch: 469304

Prep Type: Total/NA

Prep Batch: 468961

Total MSBT MSBT %Rec. Sample Sample Spike Uncert. RL **MDC** Unit Analyte Result Qual Added Result Qual $(2\sigma + / -)$ %Rec Limits Gross Beta 1.95 84.1 80.47 8.58 4.00 0.892 pCi/L 93 60 - 140

Lab Sample ID: 440-264517-1 MSBTD Client Sample ID: Outfall018_20200410_Comp

Matrix: Water

Analysis Batch: 469304

Prep Type: Total/NA **Prep Batch: 468961**

MSBTD MSBTD %Rec. **RER** Sample Sample Spike Uncert. Added **MDC** Unit Analyte Result Qual Result Qual $(2\sigma + / -)$ RL %Rec Limits RER Limit 84.2 Gross Beta 1.95 85.21 9.05 4.00 0.965 pCi/L 99 60 - 140 0.27

Total

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Batch: 469304

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA

Prep Batch: 468961

| | | | | | | i Otai | | | | | | |
|-------------|--------|--------|-------|--------|------|---------|------|------------|------|----------|------|-------|
| | Sample | Sample | Spike | MSD | MSD | Uncert. | | | | %Rec. | | RER |
| Analyte | Result | Qual | Added | Result | Qual | (2σ+/-) | RL | MDC Unit | %Rec | Limits | RER | Limit |
| Gross Alpha | 0.775 | U | 49.5 | 29.21 | F1 | 5.12 | 3.00 | 2.13 pCi/L | 57 | 60 - 140 | 0.19 | 1 |

Lab Sample ID: 440-264517-1 DU

Matrix: Water

Analysis Batch: 469304

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA **Prep Batch: 468961**

Total Sample Sample DU DU **RER** Uncert. Result Qual Result Qual **MDC** Unit Analyte $(2\sigma + / -)$ RL RER Limit Gross Alpha 0.775 U -0.3564 U 1.20 3.00 2.47 pCi/L 0.47 Gross Beta 1.95 2.274 0.719 4.00 0.853 pCi/L 0.22

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-468154/1-A

Matrix: Water

Analysis Batch: 468184

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

Prep Batch: 468154

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Cesium-137 9.865 U 9.03 9.08 20.0 10.3 pCi/L 04/19/20 14:22 04/21/20 07:26 Potassium-40 -10.82 U 156 156 222 pCi/L 04/19/20 14:22 04/21/20 07:26

Lab Sample ID: LCS 160-468154/2-A

Matrix: Water

Analysis Batch: 468186

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468154

| | | | | Total | | | | | • |
|---------------|--------|--------|------|---------|------|------|-------|------|----------|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits |
| Americium-241 | 136000 | 126300 | | 14600 | | 415 | pCi/L | 93 | 90 - 111 |
| Cesium-137 | 43700 | 43710 | | 4380 | 20.0 | 106 | pCi/L | 100 | 90 - 111 |
| Cobalt-60 | 26200 | 25510 | | 2530 | | 64.4 | pCi/L | 97 | 89 - 110 |

Lab Sample ID: 440-264517-1 DU

Matrix: Water

Analysis Batch: 468183

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA

Prep Batch: 468154

Total DU DU Sample Sample Uncert. **RER** Result Qual Analyte Result Qual $(2\sigma + / -)$ RL**MDC** Unit RER Limit Cesium-137 2.76 U 2.790 U 5.70 20.0 7.42 pCi/L 0 Potassium-40 16.6 U -35.24 U 175 pCi/L 119 0.26 1

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5/12/2020

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467982/23-A

Matrix: Water

Matrix: Water

Analysis Batch: 470197

Analysis Batch: 470197

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467982

| | MB | MB | Uncert. | Uncert. | | | | | |
|------------|---------|-----------|---------|---------|------|-------------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.05167 | U | 0.0787 | 0.0788 | 1.00 | 0.135 pCi/L | 04/16/20 13:59 | 05/12/20 06:30 | 1 |

Total

Count

MB MB

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 87.2

Prepared Analyzed Dil Fac 04/16/20 13:59 05/12/20 06:30

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 467982

Total Spike LCS LCS Uncert. %Rec. Added RLAnalyte Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits Radium-226 10.36 1.07 1.00 0.101 pCi/L 75 ₋ 125 11.3 91

LCS LCS Carrier %Yield Qualifier I imits Ba Carrier 97.0 40 - 110

Lab Sample ID: LCS 160-467982/1-A

Client Sample ID: Outfall018_20200410_Comp

Lab Sample ID: 440-264517-1 MS **Matrix: Water**

Analysis Batch: 470197

Prep Type: Total/NA

Prep Batch: 467982

Total Spike Sample Sample MS MS Uncert. %Rec. Analyte Result Qual Added $(2\sigma + / -)$ RL**MDC** Unit %Rec Limits Result Qual Radium-226 0.136 15.1 14.73 1.53 1.00 0.124 pCi/L 96 75 - 138

MS MS Carrier %Yield Qualifier Limits Ba Carrier 82.3 40 - 110

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Batch: 470197

Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA **Prep Batch: 467982**

Total MSD MSD %Rec. Sample Sample Spike Uncert. **RER** Analyte RL **MDC** Unit %Rec Result Qual Added Result Qual $(2\sigma + / -)$ Limits RER Limit Radium-226 0.136 15.1 14.06 1.45 1.00 0.101 pCi/L 92 75 - 138 0.22

MSD MSD

Carrier %Yield Qualifier Limits 95.4 Ba Carrier 40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-468070/23-A

Matrix: Water

Analysis Batch: 469237

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

Prep Batch: 468070

Count Total MB MB Uncert. Uncert. $(2\sigma + / -)$ Analyte Result Qualifier $(2\sigma + / -)$ RL **MDC** Unit Prepared Dil Fac Analyzed 0.242 0.244 04/19/20 16:36 04/30/20 07:45 Radium-228 0.3732 1.00 0.372 pCi/L

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Job ID: 440-264517-2

Prep Type: Total/NA **Prep Batch: 468070**

Prep Type: Total/NA **Prep Batch: 468070**

Client Sample ID: Lab Control Sample

%Rec

100

Client Sample ID: Outfall018_20200410_Comp

%Rec

103

MDC Unit

0.383 pCi/L

MDC Unit

0.503 pCi/L

MDC Unit

0.505 pCi/L

%Rec.

Limits

75 - 125

%Rec.

Limits

45 - 150

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Comp

Method: 904.0 - Radium-228 (GFPC) (Continued)

| | MB | MB | | | | |
|------------|--------|-----------|----------|-------------------------|-------|---------|
| Carrier | %Yield | Qualifier | Limits | Prepared Analy | zed | Dil Fac |
| Ba Carrier | 87.2 | | 40 - 110 | 04/19/20 16:36 04/30/20 | 07:45 | 1 |
| Y Carrier | 91.2 | | 40 - 110 | 04/19/20 16:36 04/30/20 | 07:45 | 1 |

 $(2\sigma + / -)$

 $(2\sigma + / -)$

1.44

Total

Uncert.

 $(2\sigma + / -)$

1.49

1.03

RL

RL

1.00

RL

1.00

1.00

Lab Sample ID: LCS 160-468070/1-A

Analyte

| viatrix: vvater | |
|------------------------|----|
| Analysis Batch: 469238 | |
| - | To |

Total Spike LCS LCS Uncert.

Added

Added

Spike

Added

Result Qual

Result Qual

MSD MSD

Result Qual

12.99

12.22

8.918

| Radium-228 | | | 8.88 |
|------------|--------|-----------|--------|
| | LCS | LCS | |
| Carrier | %Yield | Qualifier | Limits |

Ba Carrier 97.0 40 - 110 Y Carrier 93.5 40 - 110

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analyte

| Analysis Batch: 469237 | | | | | | | | | | |
|------------------------|-------|-------|---------|--|--|--|--|--|--|--|
| - | | | Total | | | | | | | |
| Sample Sample | Spike | MS MS | Uncert. | | | | | | | |

Radium-228 -0.0386 U 11.8 MS MS Carrier %Yield Qualifier Limits

Result Qual

Ba Carrier 82.3 40 - 110 Y Carrier 92.0 40 - 110

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analyte

Analysis Batch: 469237

| Radium-228 | -0.0386 U | 11.8 |
|------------|------------------|--------|
| | MSD MSD | |
| Carrier | %Yield Qualifier | Limits |

Sample Sample

Result Qual

Ba Carrier 95.4 40 - 110 Y Carrier 85.6 40 - 110

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

| Analysis Batch: 469 | 9763 | | | | | | | | Prep Batch: 4 | 468677 |
|---------------------|--------|-----------|---------|---------|------|---------|------|----------------|----------------|---------|
| - | | | Count | Total | | | | | | |
| | MB | MB | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC U | nit | Prepared | Analyzed | Dil Fac |
| Strontium-90 | 0.2727 | U | 0.395 | 0.395 | 3.00 | 0.660 p | Ci/L | 04/23/20 09:24 | 05/06/20 09:25 | 1 |

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Client Sample ID: Outfall018_20200410_Comp

Prep Type: Total/NA **Prep Batch: 468070**

%Rec. **RER**

%Rec Limits RER Limit 110 45 - 150 0.26

Client Sample ID: Method Blank

Prep Type: Total/NA

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: MB 160-468677/22-A

Matrix: Water

Analysis Batch: 469763

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 468677**

MB MB

Carrier Qualifier %Yield Limits Sr Carrier 93.4 40 - 110 Y Carrier 92.0 40 - 110

Prepared Dil Fac Analyzed 04/23/20 09:24 05/06/20 09:25 04/23/20 09:24 05/06/20 09:25

%Rec.

Limits

75 - 125

Lab Sample ID: LCS 160-468677/1-A

Matrix: Water

Matrix: Water

Analysis Batch: 469750

Analysis Batch: 469750

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 468677

Total **Spike** LCS LCS Uncert. Added Analyte Result Qual $(2\sigma + / -)$ RL

Strontium-90 16.9 16.93 LCS LCS

Carrier %Yield Qualifier Limits Sr Carrier 91.7 40 - 110 Y Carrier 85.6 40 - 110

Lab Sample ID: 440-264517-1 MS

Client Sample ID: Outfall018_20200410_Comp

%Rec

100

Prep Type: Total/NA

MDC Unit

0.626 pCi/L

Prep Batch: 468677

Total Sample Sample Spike MS MS Uncert. %Rec. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Strontium-90 0.284 U 16.9 3.00 16.73 1.77 0.633 pCi/L 19 - 150

1.79

3.00

MS MS Carrier %Yield Qualifier I imits Sr Carrier 88.8 40 - 110 Y Carrier 90.8 40 - 110

Lab Sample ID: 440-264517-1 MSD

Matrix: Water

Analysis Batch: 469750

Client Sample ID: Outfall018 20200410 Comp

Prep Type: Total/NA **Prep Batch: 468677**

Total Sample Sample Spike MSD MSD Uncert. %Rec. **RER** %Rec Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit Limits RER Limit Strontium-90 0.284 U 16.9 15.70 1.68 3.00 0.641 pCi/L 91 19 - 150 0.30

MSD MSD Carrier %Yield Qualifier Limits Sr Carrier 87.6 40 - 110 Y Carrier 92.7 40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-469023/1-A

Matrix: Water

Analysis Batch: 469168

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

Prep Batch: 469023 Count Total

MR MR Uncert. Uncert. Result Qualifier Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL MDC Unit Prepared Analyzed Dil Fac Tritium -32.88 U 154 154 500 285 pCi/L 04/28/20 04:41 04/29/20 02:20

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: LCS 160-469023/2-A

Matrix: Water

Analysis Batch: 469168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 469023

Prep Batch: 469023

Prep Type: Total/NA

Prep Batch: 469023

Total %Rec. Uncert.

Added **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RL %Rec Limits 283 pCi/L 75 - 114 Tritium 2450 2379 391 500 97

Lab Sample ID: 440-264517-1 MS Client Sample ID: Outfall018_20200410_Comp

LCS LCS

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

Prep Batch: 469023 Analysis Batch: 469168

Total Sample Sample MS MS %Rec. Spike Uncert. Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Tritium 194 U 2460 2681 432 500 308 pCi/L 101 67 - 130

Lab Sample ID: 440-264517-1 MSD Client Sample ID: Outfall018_20200410_Comp **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 469168

Spike

Total Spike MSD MSD Uncert. %Rec. Sample Sample **RER** Added Analyte Result Qual Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit Tritium 194 U 2450 2654 424 500 297 pCi/L 100 67 ₋ 130 0.03

Lab Sample ID: 160-37794-B-1-B DU Client Sample ID: Duplicate

Matrix: Water Analysis Batch: 469168

Total

Sample Sample DU DU Uncert. **RER** Result Qual RL **MDC** Unit Analyte Result Qual $(2\sigma + / -)$ RER Limit Tritium 10.8 U 77.48 U 166 500 284 pCi/L 0.21

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-468046/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468749 Prep Batch: 468046 Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac

04/17/20 17:03 04/24/20 09:34 **Total Uranium** 0.03978 Ū 0.1101 0.1102 1.00 0.152 pCi/L MB MB **%Yield Qualifier** Limits Tracer Prepared Analyzed Dil Fac

Uranium-232 92.6 30 - 110 04/17/20 17:03 04/24/20 09:34

Lab Sample ID: LCS 160-468046/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 468752 Prep Batch: 468046

| | | | | Total | | | | | | |
|-------------|-------|--------|------|---------|------|--------|-------|------|----------|--|
| | Spike | LCS | LCS | Uncert. | | | | | %Rec. | |
| Analyte | Added | Result | Qual | (2σ+/-) | RL | MDC | Unit | %Rec | Limits | |
| Uranium-234 | 12.7 | 13.10 | | 1.50 | 1.00 | 0.150 | pCi/L | 103 | 75 - 125 | |
| Uranium-238 | 13.0 | 13.96 | | 1.58 | 1.00 | 0.0962 | pCi/L | 107 | 75 - 125 | |

QC Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264517-2

Project/Site: Quarterly Outfall 018 Comp

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-468046/2-A

Matrix: Water

Analysis Batch: 468752

LCS LCS

Tracer **%Yield Qualifier** Limits Uranium-232 81.2 30 - 110

Lab Sample ID: 440-264517-1 MS

Matrix: Water

Analysis Batch: 468774

Client Sample ID: Outfall018_20200410_Comp

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA **Prep Batch: 468046**

Prep Batch: 468046

Total Sample Sample Spike MS MS Uncert. %Rec. RL **MDC** Unit Analyte Result Qual Added Limits Result Qual $(2\sigma + / -)$ %Rec Uranium-234 0.0879 U 12.8 12.53 1.45 1.00 0.141 pCi/L 98 65 - 146 Uranium-238 0.233 13.0 12.60 1.46 1.00 0.111 pCi/L 95 68 - 143 MS MS

Tracer %Yield Qualifier Limits Uranium-232 69.9 30 - 110

Lab Sample ID: 440-264517-1 MSD Client Sample ID: Outfall018_20200410_Comp

Matrix: Water

Analysis Batch: 468775

Prep Type: Total/NA

Prep Batch: 468046

Total Sample Sample **Spike** MSD MSD Uncert. %Rec. **RER** Analyte Result Qual Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits RER Limit 0.182 pCi/L Uranium-234 0.0879 U 1.00 65 - 146 12.7 11.98 1.37 93 0.20 Uranium-238 0.233 13.0 13.16 1.47 1.00 68 - 143 0.186 pCi/L 99 0.19 1

MSD MSD %Yield Qualifier Tracer Limits 78.1 30 - 110 Uranium-232

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Rad

| _ | | |
|------|-------|----------|
| Prep | Batch | : 467982 |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | PrecSep-21 | |
| MB 160-467982/23-A | Method Blank | Total/NA | Water | PrecSep-21 | |
| LCS 160-467982/1-A | Lab Control Sample | Total/NA | Water | PrecSep-21 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | PrecSep-21 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | PrecSep-21 | |

Prep Batch: 468046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|----------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | ExtChrom | |
| MB 160-468046/1-A | Method Blank | Total/NA | Water | ExtChrom | |
| LCS 160-468046/2-A | Lab Control Sample | Total/NA | Water | ExtChrom | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | ExtChrom | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | ExtChrom | |

Prep Batch: 468070

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|-----------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | PrecSep_0 | |
| MB 160-468070/23-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-468070/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | PrecSep_0 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | PrecSep_0 | |

Prep Batch: 468154

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | Fill_Geo-0 | |
| MB 160-468154/1-A | Method Blank | Total/NA | Water | Fill_Geo-0 | |
| LCS 160-468154/2-A | Lab Control Sample | Total/NA | Water | Fill_Geo-0 | |
| 440-264517-1 DU | Outfall018_20200410_Comp | Total/NA | Water | Fill_Geo-0 | |

Prep Batch: 468677

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep | Batch |
|--------------------|--------------------------|-----------|--------|-------------|-------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | PrecSep-7 | |
| MB 160-468677/22-A | Method Blank | Total/NA | Water | PrecSep-7 | |
| LCS 160-468677/1-A | Lab Control Sample | Total/NA | Water | PrecSep-7 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | PrecSep-7 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | PrecSep-7 | |

Prep Batch: 468961

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|-------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | Evaporation | |
| MB 160-468961/1-A | Method Blank | Total/NA | Water | Evaporation | |
| LCS 160-468961/2-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| LCSB 160-468961/3-A | Lab Control Sample | Total/NA | Water | Evaporation | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | Evaporation | |
| 440-264517-1 MSBT | Outfall018_20200410_Comp | Total/NA | Water | Evaporation | |
| 440-264517-1 MSBTD | Outfall018_20200410_Comp | Total/NA | Water | Evaporation | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | Evaporation | |
| 440-264517-1 DU | Outfall018 20200410 Comp | Total/NA | Water | Evaporation | |

Eurofins Calscience Irvine

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Job ID: 440-264517-2

QC Association Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Outfall 018 Comp Job ID: 440-264517-2

Rad

Prep Batch: 469023

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|---------------|------------|
| 440-264517-1 | Outfall018_20200410_Comp | Total/NA | Water | LSC_Dist_Susp | |
| MB 160-469023/1-A | Method Blank | Total/NA | Water | LSC_Dist_Susp | |
| LCS 160-469023/2-A | Lab Control Sample | Total/NA | Water | LSC_Dist_Susp | |
| 440-264517-1 MS | Outfall018_20200410_Comp | Total/NA | Water | LSC_Dist_Susp | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | Total/NA | Water | LSC_Dist_Susp | |
| 160-37794-B-1-B DU | Duplicate | Total/NA | Water | LSC_Dist_Susp | |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264517-2

Project/Site: Quarterly Outfall 018 Comp

Qualifiers

| Qualitier | Qualitier Description |
|-----------|-----------------------|
| | |

F1 MS and/or MSD recovery exceeds control limits.
U Result is less than the sample detection limit.

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|---|
| | |

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

5/12/2020

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3

2

7

8

10

11

14

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Job ID: 440-264517-2

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|-----------------|
| California | State | 2706 | 06-30-20 |

Laboratory: Eurofins TestAmerica, St. LouisAll 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 | 12-08-20 |
| California | Los Angeles County Sanitation Districts | 10259 | 06-30-20 |
| California | State | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| HI - RadChem Recognition | State | n/a | 06-30-20 |
| Illinois | NELAP | 004553 | 11-30-20 |
| Iowa | State | 373 | 09-17-20 |
| Kansas | NELAP | E-10236 | 10-31-20 |
| Kentucky (DW) | State | KY90125 | 12-31-20 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | State | LA011 | 12-31-20 |
| Maryland | State | 310 | 09-30-20 |
| MI - RadChem Recognition | State | 9005 | 06-30-20 |
| Missouri | State | 780 | 06-30-22 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 04-01-21 |
| North Dakota | State | R-207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-21 |
| South Carolina | State | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-17-00028 | 03-11-23 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 10310 | 06-14-20 |
| Washington | State | C592 | 08-30-20 |
| West Virginia DEP | State | 381 | 10-31-20 |

| Turn-around time (Check) Sample integrity (Check) Sample integrity (Check) Sample integrity (Check) Normal Normal Sample integrity (Check) Normal Sample integrity (Check) Normal Normal Sample integrity (Check) Normal Norm | 1 1 1 1 | | | | | | | | | - | | | | ANA | ANAI VCIC RECLIBED | N (IPED | | | | | |
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| Consection Contract Original States Contra | 5333 Miss San Diego | non Center Rd Suite 300 , CA 92108 | | | | Boel | Project. ng-SSFL NPDE Permit 2020 | 92 | | | · · · · · · · · · · · · · · · · · · · | | 'N | | | · | | | | | |
| Continue | Eurofins C 17461 Dei Irvine CA § Tel 949-2 | zilscience inme Contact: Christian Boi nen Ave Suite #100 22814 60-3218 | ondoc | | | Quarterly O | rifall (001, 002, Outfall 018 Comp | 011, 018] | | ə | | M2240CVE4S2 1) | ····· | | | -S)eiB ,eneuk | | | | ain of Custody | |
| The control of the | TestAmerica's Service Agreen affiliates, and T | services under this CoC state be participand in accordar nevit 2019-22-TestAminos by and between Halay & A estAmental Laboratories inc | fance with the T&Cs within Blan. Aktnoh, Inc , its subsidiades an | is p | | Project M 520,289 & | | ine Miller 944 (cell) | | p' Cq' & | | S) (SAE | (00) | ····· | | | | | | | |
| | Sampler: L | Dan Smith | | | | Field Ma 978.234.5 | nager: Mark D 33, 818 599 0 | ominick 702 (cell) | | Zu P | | IM) str | E3) ete | | | | | | | | |
| Value Control Value Va | Sample Description | | Sampling Date/Time | Sample | 1 | # of Cont. | Preservative | Bottle # | MSMASD | (E200 8) | _ | Surfacta | Siolitizia9 | | | | | | | | |
| 1200040_Comp | | | | W.K | 500 mL Poly | e | HNO3 | 6 | , kee | × | | | | | | | | | | , | 2 |
| Company | | | | ¥ | 1 L Glass Amber | 2 | None | 110 | Š | | × | | - | - | | - | _ | | | | |
| Company Comp | | | | N/A | 1L Poly | | None | 115 | Š | | * | | \vdash | - | | - | - | | _ | | 1 |
| Company Comp | | | , | W | 500 mt. Poly | g , | None | 120 | Yes | | | × | | L | | _ | - | | | | |
| The first control of the control o | | | 41072020 | W | 500 mt. Poly | 9 | None | 130 | Yea | | | | × | | | | | | 4 | hours Holding Time NO ₃ & NO ₂ | |
| Part Company Part | | | 1.2.7 | | 500 ml. Poly | - | None | 55 | £ | | | | | × | | | | | 37 | s hours Holding Time for Furbidify | |
| War 1 Clear Andre 6 Norm 150 Ver Norm | Outfall 018 | | 787 | L | 500 ml. Poly | 8 | K-SO ₂ | 160 | Yes | | | | - | - | × | _ | - | | | | |
| Variable order 6 Notes 150 No. | | | * | × | 1 L Glass Amber | 8 | None | 07† | , Yes | | - | | ┢ | _ | | × | <u> </u> | | | | |
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| 1 1 1 1 1 1 1 1 1 1 | | | | \$ | 1L Pody | - | None | 185 | £ | | | | - | × | | | - | | | | |
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| 1 1 1 1 1 1 1 1 1 1 | | | | ¥ | 500 mL Poly | 2 | Kone | Š | £ | | - | Ξ | - | | | - | | | Ĩ | Po | |
| 12 10 10 10 10 10 10 10 | | Outfali018_20200410_Comp_Extra | 410/2020 | W | 500 mL Poly | 2 | None | ŝ | N. | | - | | Ξ | | | | | | Ĩ | Þic | |
| 10 10 10 10 10 10 10 10 | | | 20/ | * | | 8 | None | ŧ. | <u>S</u> | | | | | | | τ | _ | | Ī | D/o | |
| Deserting Company C | | | (3) | MA. | | 2 | None | 180 | £ | | | | | | | H | | | Ī | pjq | |
| Deserting Company C | | | | | | | | | | | | | | | | | | | | | 1 |
| Deserting | | | | | | | Legend: | C=Conditions | a, EP=Expert | Panel, Ref | Routine | | | | | | | | | | |
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| 019-2020 Rainy Season ersion 5 | | , — | | 丁 | ***** | 1. | 1 | to | 1.0 | è | 4 | | ુ જ | 17. | | 1 | 0. | 4/2. | | 2.2/c & | ١ |
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Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Page t of 2

22/01) h 775

| Project Mar Project Mar 1 | Constitution Cons | Description Page | Charge C | 1. Construction 1. Constru | Client Name/Ad | Client Name/Address | | | | | | | | | | A | ANALYSIS REQUIRED | QUIRED | | | | |
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| Sumpling Designing Main 1 Pay | Sumpling Districtions Sump | Sumpley Dissuring Sumple Compiler Type st of Cont Preservative Stope st of Cont Preservative st of Cont St of Cont Preservative st of Cont | Columnia Company Columnia Company Columnia | Common C | 1,51 | nth | | \prod | | Field M. | Sous, 520 904 anager Mark I | Jorninick | | υZ | pha(E9 +3) (E9 4 Radio | E901 0 | bavice | T ,nnbl | 1554. | | | |
| 410,000 M | 4/10/2009 WM 11, Pay 1 Norm 190 - No Norm 100 - No | WM | 04_200040_0_cmm_s** (4100000) (404 11_0000) (404 11_00000) | COLUMNIA CONTROL CONTR | 1 | Sample i | | Sample | Container Type | 978 Z34 | Presentative | C/UZ (Cell) | SWSD | (Z 00ZE | ilA azoné 4) mudin eniômo0 |) 751-20 1) 751-20 | el listo | e+Cl_(TCl) | ān Hafo | <u> </u> | | |
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| WM 1. Caless Anther 2 None 2%0 · No No WM botosilicatie valid 3 None 320 Yees X WM 2.5 Gel Cube 3 None 220 Yees X VM 1. Caleste Anther 3 None 230 Yees X VM 1. Caleste Anther 6 None 230 Yees X | VMM 11 Glass Amber 2 None 250 r No VMM broodicate walk 3 None 320 Yes X VMM 2 Scar Cube 3 None 220 Yes X VMM 1 LGats Amber 3 None 230 Yes X (M.) 1 LGats Amber 3 None 230 Yes X | 4/10.0000 WM 11.0 Gass Ariber 2 Nove 200 Yes X X X X X X X X X X X X X X X X X X X | ### 1. Class Arthor 2 Now 20 Yes X X X X X X X X X X X X X X X X X X X | Company Comp | | Outfall/18_20200410_Comp_F | 4/10/2020 | AV. | :1 Pot | ĸ | None | 300 | Yes | × | | | | | | | | 10.0 |
| VMM boroelicate wells 3 None 320 Yes X VMM 500 mL Pey 3 NeOH 220 Yes X VMM 2 5 Gel Cube 3 Nane 220 Yes X VMM 1 Call Dube 6 Nane 230 Yes X | VMM borositicate wells 3 None 320 Yes X VVM 2.5 Get Cube 3 None 220 Yes X V/M 1. Calibrita 6 None 230 Yes X V/M 1. Calibrita 6 None 230 Yes X | VMM Dorosicrate with 3 Nove 320 Yee X X X X X X X X X | WM Document Social Ches 3 Nove 250 Ves X X X X X X X X X | ### SOON 15 Pay 3 Nove 320 Yes X X X X X X X X X X X X X X X X X X X | | | 2827 | | 1 L Glass Amber | 2 | None | | £ | | | | | × | | | | Chlordere, DDD, DDE, DDT, deldrn, PCBs, toxaphere et OF001, 002,011, or 018 |
| WM S00 nil Poly 3 NeOH 220 Yes X VM 2 5 Gal Cube 3 None 225 Yes V/Y VM 1 Class Amber 3 None 230 Yes Image: Class Amber 3 None 230 Yes Yes | 4/10/2020 VVM 1.C.Glass Ambor 3 4/10/2020 VVM 1.C.Glass Ambor 3 (V. V. O VVM 1.C.Glass Ambor 3 | 4/10/2020 WM 11 Glass Amber 3 Name 220 Yes X X X You 25 Cal Cube 3 Name 230 Yes X X You 11 Glass Amber 3 Name 230 Yes X X You 11 Glass Amber 3 Name 230 Yes X X YOU WAY 1 Legend: C=Conditional, EP-Expert Panel, Resourting, QRSW=Quarterly Receiving Water Turn-around time 24 Hour 220 YYS 24 Hour 24 Hour 24 Hour 250 YYS 24 Hour 24 Hour 250 YYS 24 Hour 24 Hour 250 YYS 24 Hour 24 Hour 250 YYS 250 YYS | ### \$2004-10_Comp VMM \$2506-0Cae 3 Name 220 Yea X X | 1 | | | | | borosilicate vals | 6 | None | eg Eg | 98 ₇ | | | | × | | | | | Sample receiving DO NOT OPEN BAG. Bag to be opered in Mercury Prep using clean procedures |
| 4/10/2020 VVM 1.1 Claus Amber 3 None 225 Ves 4/10/2020 VVM 1.1 Claus Amber 3 None 230 Ves (1.15.7) VVM 1.1 Claus Amber 3 None 230 Ves | 4/10/2020 VVM 11 Cleas Amber 3 (V. V. V VVM 11 Cleas Amber 3 (V. V. V VVM 10 Cleas Amber 3 | (N. 2) VM 11. Cleas Amber 3 None 220 Ves X (N. 11. Cleas Amber 3 None 230 Ves X (N. 1. Cleas Amber 3 No | ### 25 Get Care 3 None 220 Yes X ### 1 Class Arriver 3 None 220 Yes X #### 1 Class Arriver 3 None 220 Yes X ################################### | 1 1 2 6 1 1 2 2 2 2 2 2 2 2 | | | | ¥ | 500 mL Poly | 3 | NeOH | 220 | sø, | | × | | | _ | - | | ╁ | |
| (1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 4/10/2020 WM 11.Class Amber 3 | (\(\forall \subset \) \(\text{VM} \) \(\text{Legend: C=Conditional, EP=Expert Panel, Receiving Water} \) | ### 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring 200 vin 11 Class Aring Aring Aring Aring Aring 200 vin 11 Class Aring A | ### 11 Cases Area | | | • ,,, | ¥ | 25 Gel Cube | 8 | None | 226 | 7,98 | | , | | | | | | - | Unfiltered and unpreserved analysis |
| (15 T WM (100 CAL) | and the second s | Legend: C=Conditional, EP=Expert Panel, Recovering Water -[0-2022] (4 4 | ### CONTROLL COMPANY CONTROLL | Designation of the company of the co | | | 4110/2020 | | 1 L Glass Amber | 8 | None | 230 | Yes | | < | | | | | | | Analyze dup |
| | | Legend: C=Conditional, EP=Expert Pane, ReFoutine, QRSW=Quarterly Receiving Water | Company Legend: C-Conditional, EP-Expert Panel, Recoulting, ORSW-Clusterly Receiving Water Turn-account time Check) Account of Accounting Water Turn-account time Check Table Tabl | Constitute Company Legend: C-Conditional, EP-Expert Panel, Recouring Without Turn-around time (Check) Turn-around time (Check) A C - Logany Constitute Company A - Logand: C-Conditional, EP-Expert Panel, Receiving Without Turn-around time (Check) State of the Constitution of the | | Outratio18_20200410_Comp | 0m/ | * | 100 000 | | evo. | Sec. | è | | | 1 | | | | | $\neg \neg$ | Orly lest I list to second terrevelle of pa |
| | | Legend: C=Conditional, EP=Expert Panel, ReRoutine, QRSW=Quarterly Receiving Water Company Turn-around time 7-10-2020/14 45 49 Hour | Describes Legend: Carconditional, EP-Expert Pane, ReRoutine, QRSWindusterly Receiving Water Company Carconditional, EP-Expert Pane, Received By Carconditional, EP-Expert Pane, Received By Carconditional, EP-Expert Pane, Received By Carconditional, Check) Carconditional, Check | Constitue Company Co | | | | | | | | | | | | | | | | | + | |
| | The state of the s | Conpany Conpany | Consorting Contesting Checkly Contesting Checkly Checkly Checkly Contesting Contesting Checkly Che | Describes Company C | 1 | | | | | | | | | | | | | | | | \vdash | |
| | The state of the s | Legend: C=Conditional, EP=Expert Panel, R=Routine, QRSW=Quarterly Receiving Water Company | Disprime Company Com | Detertine Company Legend: C=Conditional, EP=Expert Panel, Refoutine, QRSW=Quarterly Receiving Writer Turn-anound time (Check) Turn-anound time (C | 1 | | | | | | | | | | | | | + | - | | 十 | |
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| Client Information (Sub Contract Lab) | Sampler | | | Lab | Lab PM: Bondoc Christian M | rictian | 2 | | | | Ö | Carrier Tracking No(s) | king No | (s) | | COC No: | | |
|---|---|--------------------------------|---|--|---|----------------------------|---------------------------------------|--------------------|----------------|----------------|--|------------------------|--------------------|------------|---------|--|-------------------------------|--|
| Client Contact: | Phone: | | | E-Mail: | ail | | | | | W | ĭŏ | State of Origin | ju. | ı | | Page: | | |
| Shipping/Receiving | 0 | | | chr | christian.bondoc@testamericainc.com | ndoc | gtesta | meric | ainc.c | mo | S | California | | | | Page 1 of 1 | 22 | |
| Company TestAmerica Laboratories, Inc. | | | | | Accreditations Required (See note): State Program - California | Progra | Require m - C | d (See raliform | ia ia | | | | | | | Job #: 440-264517-1 | 1-1 | |
| Address: 13715 Rider Trail North, | Due Date Requested 4/22/2020 | :pa | | | | | | ⋖ | Analysis | sis F | Sedu | Requested | | | | Preservation Codes: | des: | |
| City. Earth City State, Zip: MO, 63045 | TAT Requested (days): | ays): | | | | | | | | | | | | | | B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 | | M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 |
| Phone. 314-298-8566(Tel) 314-298-8757(Fax) | # Od | | | | (| ⊺£1- m | - | | | | | | - | | | G - Amchlor | | a2S203 2S04 |
| Email. | WO#: | | | | | UiseO | | | | 06-u | | | | | | | | U - Acetone V - MCAA |
| Project Name: Boeing NPDES SSFL outfalls | Project #: 44009879 | | | | | bns 04-) | | | 822-mu | nuitnorté | multhT | | | | | | N-F | W - pH 4-5 Z - other (specify) |
| Site: | SSOW#. | | | | | 4 0 ⁻ 09 | | | ibeA 0 | Z_de | dsng | | | | | of coi | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (w=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered : Perform MS/M | 901.1_Cs/Fill_G | A01R_U/ExtChri | 903.0/PrecSep_ | 904.0/PrecSep_ | 805_S190/PrecS | 1eid_DSJ/0.a09 | | | | | Total Number | ial Instruc | Special Instructions/Note |
| | | X | Preserva | Preservation Code: | X | | | | | | F | | | | | | Å | |
| Outfall018_20200410_Comp (440-264517-1) | 4/10/20 | 12:50 Pacific | | Water | | × | × | × | × | × | × | | | | | 2 Boeing SSFL, DO NO | DO NOT | Boeing SSFL; DO NOT FILTER; use prep |
| Outfall018_20200410_Comp (440-264517-1MS) | 4/10/20 | 12:50 Pacific | MS | Water | | × | × | × | × | × | × | | - | | | Boeing SSFL | DO NOT | Boeing SSFL: DO NOT FILTER; use prep |
| Outfall018_20200410_Comp (440-264517-1MSD) | 4/10/20 | 12:50 | MSD | Water | | × | × | × | × | × | × | L | | | | Boeing SSFL | DO NOT | Boeing SSFL, DO NOT FILTER; use prep |
| | | Lacilic | | | | | +- | - | | | | | | | | date from preservation | servation | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Note: Since laboratory accreditations are subject to change. Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out sumaintain accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience la attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience. | cience places the ownership fratrix being analyzed, the se eturn the signed Chain of Cu | of method, an amples must b | alyte & accredi e shipped back to said compli | tation compliar to the Eurofin cance to Eurof | ce upon or s Calscieni ins Calscie | ut subc ce labo nce. | atory or | aborato other i | ries. T | his sar | nple shi | pment is f | orwarde y chang | d under | chain-o | method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently ples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience by attesting to said complicance to Eurofins Calscience. | iboratory doe e brought to | method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently tiples must be shipped back to the Euroffins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Euroffins Calscience ody attesting to said complicance to Euroffins Calscience. |
| Possible Hazard Identification | | | | | San | Jajor [| ispos | al (A | fee n | ay b | e ass | ssed if | samp | les ar | e refai | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | an 1 mont | (h) |
| Unconfirmed | | | | | - | Rei | Return To Client | Clier | 1 | 4 | Dist | Disposal By Lab | Lab | | An | Archive For | M | Months |
| Deliverable Requested: I, II, IV, Other (specify) | Primary Deliverable Rank: | | 2 | | Spe | cial In | Special Instructions/QC Requirements: | ons/Q | C Re | quirer | nents. | | | | | | | |
| Empty Kit Relinquished by: | | Date: | | | Time: | | | | | | | Method | Method of Shipment | ment | | | | |
| Relinquished by: 7 - Keruck | Date/Time | 101 | 760 | Company | KL | Received by | d by: | | | | | | Dat | Date/Time: | | | Company | any |
| Relinquished by: | Date/Time/ | | 000 | Company | | Received by | d by: | | | | | | Dat | Date/Time: | | | Company | апу |
| Relinquished by. | Date/Time: | | | Company | | Received by | d by | | | | | | Dat | Date/Time: | L | | Company | any |
| Custody Seals Intact: Custody Seal No.: | | | | | | Cooler | remper | ature(s) | °C and | Other | Cooler Temperature(s) ^o C and Other Remarks | (S) | 1 | | | | | |

eurofins Galsolenzo

Chain of Custody Record

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

CONDITION UPON RECEIPT FORM

| Client: | ETA | Irvine | |
|---------|-----|--------|--|
| | | | |

Initiated by: LAM

Time: 09:19

Shipper: Fed Ex

Package Quantity:

**Sample must be received at < 6°- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid; Rad tests- Liquid or Solids If samples are from West Virginia, temperature of EVERY SAMPLE that is temperature critical must be recorded on the COC.

| Shipping #(s):* | Thermometer #: | Package Temp:** | Document #: |
|-------------------|----------------|-----------------|-------------|
| 1. 1540 4167 7910 | 192152620 | 0.1 | |
| 2. 1540 4107 7909 | 192152631 | 6,7 | |
| 3. 1546 4107 7920 | 181311317 | 0.5 | |
| 4. 1540 4107 7894 | 181311325 | 0,2 | |
| 5. 1540 4107 7931 | 181311317 | 0.3 | |
| 6. | | | |
| 7. | | | |

| Co | ndition (Circle "Y | " for yes, "N" for no and "N/A" for not applicable): | | | |
|----|--------------------|--|-----|-----------|---|
| 1. | (V) N | Are there custody seals present on the cooler? | 8. | Y | 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. | O N | Were contents of cooler frisked after opening, but before unpacking? | 10. | (V) N/A | Was sample received with proper pH¹? (If not, make note below) pH strip lot #: HC904495 |
| 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. | YN | 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? |

For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, Oil & Grease, Rn-222 and soils.

Notes:

pitainers were recid improperly

pH Adjustment (if needed) Date/Time of Preservation: 4 Initial pH and pH strip lot#: Preservative and lot#: HN Final pH and pH strip lot#: Amount of Preservative: Um

Sample Labels Applied By:

Labels 2nd Reviewed By:

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM



CONDITION UPON RECEIPT FORM

| 1. 1702 (2. 3. 4. 5. | 0188 9699 | 192152 | | | T DE GARDO E | e Temp:** | Document #: |
|-----------------------------|---|--------------------|-------------|------|--------------|---|---|
| 3. | | 116132 | 631 | | | 1.7 | |
| 4. | | | | | | | |
| | | | | - | | | |
| ٥. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| | | | | | | | |
| ondition (Circl | e "Y" for yes, "N" for no and "N/A" for not Are there custody seals presen cooler? | | 8. | Y | N | Are there custo | dy seals present on bottle |
| Y N | A Do custody seals on cooler app tampered with? | pear to be | 9. | Y (| N/A | Do custody sea tampered with? | ls on bottles appear to be |
| . Ø N | Were contents of cooler frisker opening, but before unpacking | C. Marine | 10. | Y | N(N/A) | Was sample red (If not, make note pH strip lot #: | ceived with proper pH ¹ ? below) |
| . Ø N | Sample received with Chain of | f Custody? | 11. | Y | N (N/A) | | Rn-222, C-14, Cl-36, H-3 ed with "Do Not Preserv |
| . (Y) N N | A Does the Chain of Custody ma ID's on the container(s)? | tch sample | 12. | Y | N | Sample receive | d in proper containers? |
| YN | Was sample received broken? | | 13. | Y | N/A | Headspace in V samples? (>6n (If Yes, note samp | |
| . (Y) N | Is sample volume sufficient for | | 14. | Y | | Soil containers 129/131 market | for C-14, H-3,Tc-99 & Id with "Do Not Dry" labe |
| or DOE-AL (Pante otes: | x, LANL, Sandia) sites, pH of ALL containe | rs received must b | e verified, | EXCE | EPT VOA, O | il & Grease, Rn-222 | and soils. |
| | | | | | | | |
| | | | | | | | |
| | nt (if needed) | | | | | ervation: | |
| nal pH and p | pH strip lot#: | | | | ve and l | | |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264517-2

Login Number: 264517 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator. Escalatile, Maria I | | |
|---|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a surve meter.</td <td>y True</td> <td></td> | y True | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| 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 | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-264517-2

Login Number: 264517 List Number: 3

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis List Creation: 04/14/20 07:38 PM

| Question | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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 | |
| | | |

N/A

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Residual Chlorine Checked.

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Yield (Acceptance Limits) |
|------------------------|--------------------------|------------------------|-----------------------------------|
| Lab Sample ID | Client Sample ID | Ba Carrier (40-110) | |
| 440-264517-1 | Outfall018 20200410 Comp | 98.5 | |
| 440-264517-1 MS | Outfall018 20200410 Comp | 82.3 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | 95.4 | |
| LCS 160-467982/1-A | Lab Control Sample | 97.0 | |
| MB 160-467982/23-A | Method Blank | 87.2 | |
| Tracer/Carrier Legen | d | | |
| Ba Carrier = Ba Carrie | r | | |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | 1 31 |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| - | | Ba Carrier | Y Carrier | Percent Yield (Acceptance Limits) |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264517-1 | Outfall018_20200410_Comp | 98.5 | 93.5 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | 82.3 | 92.0 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | 95.4 | 85.6 | |
| LCS 160-468070/1-A | Lab Control Sample | 97.0 | 93.5 | |
| MB 160-468070/23-A | Method Blank | 87.2 | 91.2 | |
| Tracer/Carrier Legend | | | | |
| Ba Carrier = Ba Carrier | | | | |
| Y Carrier = Y Carrier | | | | |
| | | | | |

Method: 905 - Strontium-90 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-------------------------|--------------------------|------------|-----------|-----------------------------------|
| | | Sr Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 440-264517-1 | Outfall018_20200410_Comp | 87.5 | 93.1 | |
| 440-264517-1 MS | Outfall018_20200410_Comp | 88.8 | 90.8 | |
| 440-264517-1 MSD | Outfall018_20200410_Comp | 87.6 | 92.7 | |
| LCS 160-468677/1-A | Lab Control Sample | 91.7 | 85.6 | |
| MB 160-468677/22-A | Method Blank | 93.4 | 92.0 | |
| Tracer/Carrier Legend | I | | | |
| Sr Carrier = Sr Carrier | | | | |
| Y Carrier = Y Carrier | | | | |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water Prep Type: Total/NA

| _ | | |
|--------------------|--------------------------|-----------|
| | | ranium-23 |
| Lab Sample ID | Client Sample ID | (30-110) |
| 440-264517-1 | Outfall018_20200410_Comp | 78.2 |
| 440-264517-1 MS | Outfall018_20200410_Comp | 69.9 |
| 440-264517-1 MSD | Outfall018_20200410_Comp | 78.1 |
| LCS 160-468046/2-A | Lab Control Sample | 81.2 |
| MB 160-468046/1-A | Method Blank | 92.6 |

Eurofins Calscience Irvine

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Job ID: 440-264517-2

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Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Outfall 018 Comp

Tracer/Carrier Legend

Uranium-232 = Uranium-232

Job ID: 440-264517-2

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Environment Testing TestAmerica

Sacramento Sample Receiving Notes

| | 1 |
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| | 440-264517 Field Sheet |
|------|------------------------|
| Job: | |

| Tracking # : | 1540 | 4107 | 8033 | |
|--------------|------|------|------|--|
| _ | | | | |

SO / O) FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC

| otes: | Therm. ID: AKIA Corr. Factor: (+/- | -)_0 | _°C |
|-------|---|-------|-----|
| | lce_✓ Wet_✓ Gel Ot | her | |
| | Cooler Custody Seal: | | |
| | Cooler ID: | | |
| | Cooler ID: | | _ |
| | Temp Observed:i \ _l °C Corrected: _ From: Temp Blank \(\overline{D} \) Sample \(\overline{D} \) | | _°C |
| | Opening/Processing The Shipment Yes | No No | NA |
| | Cooler compromised/tampered with? | Ø | |
| | Cooler Temperature is acceptable? | | |
| | Samples received within holding time? | 0 | D |
| | Initials: Pk Date: 04/ | 4/20 |) |
| | Unpacking/Labeling The Samples Yes | / | NA |
| | CoC is complete w/o discrepancies? | - | |
| | Samples compromised/tampered with? | B | |
| | Sample containers have legible labels? | | |
| | Sample custody seal? | | P |
| | Containers are not broken or leaking? | > 1 | D |
| | Sample date/times are provided? | | |
| | Appropriate containers are used? | | |
| | Sample bottles are completely filled? | | |
| | Sample preservatives verified? | | P |
| | Samples w/o discrepancies? | | |
| | Zero headspace?* | _ | D |
| | Alkalinity has no headspace? | | Ø |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | D | Ø |
| | Multiphasic samples are not present? | D | |
| | Non-conformance Yes | No. | NA |
| | NCM Filed? | D | P |
| | Initials: MAN Date: 04 | 14/20 | |

WZOC

\|\IACORP\CORP\QA\QA_FACILITIES\\SACRAMENTO-QA\\DOCUMENT-MANAGEMENT\FORMS\\QA-812\\SAMPLE\\ RECEIVING\\NOTES\\DOC

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1 1

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-264079-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

28 May 2020







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- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference

DATA VALIDATION REPORT SDG: 440-264079-1

28 May 2020



INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-264079-1

Project Manager: Katherine Miller

Matrix: Water

QC Level: II

No. of Samples: 1

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Sub Lab Sample ID | Matrix | Collection | Method | Validation Level |
|-------------------------------|--------------------|----------------------|--------|-------------------|--------|---------------------|
| ARROYO_SIMI_20200406 _GRAB | 440-264079-1 | N | WM | 4/6/20 8:35 AM | SM2340 | II |

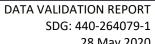
DATA VALIDATION REPORT SDG: 440-264079-1 28 May 2020



II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklist and the chain-of-custody (COC) provided by the laboratory for sample delivery group (SDG) 440-264079-1:

- The laboratory received the sample in this SDG on ice and within the temperature limits of ≤6 degrees Celsius (°C) and >0°C.
- The laboratory received the sample containers intact and properly preserved, as applicable.
- Field and/or laboratory personnel signed and dated the COC.
- According to the Login Sample Receipt Checklist, custody seals were absent on the coolers upon receipt at TA-Irvine. No evidence of tampering was noted.
- Strikethroughs on the COC were initialed but not dated.



28 May 2020



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics | | |
|-----------|--|--|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. | | |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | | |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. | | |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. | | |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | | |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. | | |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. | | |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | | |



TABLE 3 - REASON CODE REFERENCE

| Reason | TABLE 3 - REASON CODE | |
|--------|--|--|
| Code | Organic | Inorganic |
| Н | Holding time was exceeded. | Holding time was exceeded. |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. |
| Е | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. |
| А | Not applicable. | Serial dilution %D was outside control limits. |
| M | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. |
| Т | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



METHODS SM2340B—HARDNESS

M. Hilchey of MEC^X reviewed the SDG on May 28, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 2), EPA Methods 200.7, Standard Methods for the Examination of Water and Wastewater 2340B and the National Functional Guidelines for Inorganic Method Data Review (2017).

III.1. HOLDING TIMES

The analytical holding time, six months for metals, was met.

III.2. CALIBRATION

Calibration criteria were not evaluated for Stage II validation. CRQL recoveries were within the laboratory control limits of 50-150%. Initial calibration verification recoveries were within QAPP control limits of 95-105% for ICP-AES. Continuing calibration verification recoveries were within QAPP control limits of 90-110%.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

There were no target analyte detections in the method blank or calibration blanks of sufficient concentration to warrant qualification of associated site sample results.

III.3.2. INTERFERENCE CHECK SAMPLES:

ICSAB recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. As the target analytes were also ICS spike analytes, interference was not evaluated.

III.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries were within the QAPP control limits of 85-115%.

III.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analyses were not performed on the sample in this SDG.

111.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on not performed on the sample in this SDG.

III.3.6. SERIAL DILUTION

Serial dilution analyses were not performed.

III.4. INTERNAL STANDARDS PERFORMANCE

Internal standard review is not applicable to these methods.

III.5. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Analyte quantification is not evaluated for Stage II validation. Nondetects are valid to the MDL.

DATA VALIDATION REPORT SDG: 440-264079-1

28 May 2020



III.6. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

III.6.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

III.6.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402640791

Analysis Method SM2340

Sample Name ARROYO_SIMI_20200406_GRAB Matrix Type: WM Result Type:

Sample Date: 4/6/2020 8:35:00 AM Validation Level: 9

Lab Sample Name: 440-264079-1

| Analyte | Fraction: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|----------|------------------|-----------------|------|------|-----------------|------------------|-------------------------|---------------------|
| Hardness | HARDNESSCA | 45 | 0.33 | 0.17 | mg/L | | | |

Wednesday, July 15, 2020 Page 1 of 1



ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

Laboratory Job ID: 440-264079-1

Client Project/Site: Quarterly Arroyo Simi-Frontier Park

Revision: 1

For:

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

Attn: Katherine Miller

Authorized for release by: 4/23/2020 4:56:21 PM

Christian Bondoc, Project Manager I

(949)260-3218

christian.bondoc@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Project/Site: Quarterly Arroyo Simi-Frontier Park

Christian Bondoc Project Manager I 4/23/2020 4:56:21 PM Laboratory Job ID: 440-264079-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

4/23/2020 (Rev. 1)

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Quarterly Arroyo Simi-Frontier Park

Job ID: 440-264079-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|---------------------------|--------|----------------|----------------|----------|
| 440-264079-1 | Arroyo_Simi_20200406_Grab | Water | 04/06/20 08:35 | 04/06/20 14:40 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Arroyo Simi-Frontier Park

Job ID: 440-264079-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-264079-1

Comments

No additional comments.

Receipt

The samples were received on 4/6/2020 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

GC Semi VOA

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

Metals

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 440-604343 contained Magnesium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Subcontract non-Sister

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

Organic Prep

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

Job ID: 440-264079-1

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Client Sample Results

Client: Haley & Aldrich, Inc. Job ID: 440-264079-1

Project/Site: Quarterly Arroyo Simi-Frontier Park

Client Sample ID: Arroyo_Simi_20200406_Grab Lab Sample ID: 440-264079-1

Date Collected: 04/06/20 08:35 Matrix: Water

Date Received: 04/06/20 14:40

| Method: 608.3 - Organo | chlorine Pesticides in Wat | ter | | | | | | |
|------------------------|----------------------------|----------|--------|------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chlordane (technical) | ND ND | 0.10 | 0.082 | ug/L | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |
| Dieldrin | ND | 0.0052 | 0.0021 | ug/L | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |
| Toxaphene | ND | 0.52 | 0.25 | ug/L | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |
| 4,4'-DDD | ND | 0.0052 | 0.0041 | ug/L | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |
| 4,4'-DDE | ND | 0.0052 | 0.0031 | ug/L | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |
| 4,4'-DDT | ND | 0.010 | 0.0041 | ug/L | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |
| Surrogate | %Recovery Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| Tetrachloro-m-xylene | 55 | 10 - 104 | | | | 04/08/20 07:20 | 04/08/20 15:19 | 1 |

| Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable | | | | | | | | | |
|---|--------|-----------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Hardness, as CaCO3 | 45 | | 0.33 | 0.17 | mg/L | | | 04/08/20 18:04 | 1 |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Arroyo Simi-Frontier Park

Method **Method Description** Protocol Laboratory 40CFR136A TAL IRV 608.3 Organochlorine Pesticides in Water TAL IRV SM 2340B Total Hardness (as CaCO3) by calculation SM **ELLE** Subcontract 608 LL-PCB- Lancaster Labs None Subcontract Weck-525.2-Diazinon and Chlorpyrifos None Weck Lab 608 Liquid-Liquid Extraction (Separatory Funnel) 40CFR136A TAL IRV

Protocol References:

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"

Laboratory References:

ELLE = Eurofins Lancaster Laboratories, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300 TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

Job ID: 440-264079-1

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Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 440-264079-1

Project/Site: Quarterly Arroyo Simi-Frontier Park

Client Sample ID: Arroyo_Simi_20200406_Grab Lab Sample ID: 440-264079-1

Date Collected: 04/06/20 08:35

Date Received: 04/06/20 14:40

Matrix: Water

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-------------------|----------|----------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 608 | | | 970 mL | 2 mL | 604144 | 04/08/20 07:20 | L1H | TAL IRV |
| Total/NA | Analysis | 608.3 | | 1 | | | 604226 | 04/08/20 15:19 | D1D | TAL IRV |
| Total Recoverable | Analysis | SM 2340B | | 1 | | | 604285 | 04/08/20 18:04 | P1R | TAL IRV |

Laboratory References:

ELLE = Eurofins Lancaster Laboratories, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300 TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022 Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745

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Client: Haley & Aldrich, Inc. Job ID: 440-264079-1

Project/Site: Quarterly Arroyo Simi-Frontier Park

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-604144/1-A

Matrix: Water

Analysis Batch: 604226

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 604144

| | IVID IVII | Ь | | | | | | |
|-----------------------|-----------|-------------|--------|------|---|----------------|----------------|---------|
| Analyte | Result Qu | ualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chlordane (technical) | ND | 0.10 | 0.080 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Dieldrin | ND | 0.0050 | 0.0020 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| Toxaphene | ND | 0.50 | 0.24 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| 4,4'-DDD | ND | 0.0050 | 0.0040 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| 4,4'-DDE | ND | 0.0050 | 0.0030 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| 4,4'-DDT | ND | 0.010 | 0.0040 | ug/L | | 04/08/20 07:20 | 04/08/20 13:49 | 1 |
| | | _ | | | | | | |

MR MR

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 10 - 104 04/08/20 07:20 04/08/20 13:49 Tetrachloro-m-xylene 70

Spike

Added

0.400

0.400

0.400

0.400

Spike

Added

0.404

0.404

0.404

0.404

LCS LCS

MS MS

0.273

0.295

0.267

0.263

Result Qualifier

0.318

0.353

0.318

0.304

Result Qualifier

Unit

ug/L

ug/L

ug/L

ug/L

Unit

ug/L

ug/L

ug/L

ug/L

D

D

80

76

Lab Sample ID: LCS 440-604144/2-A

Matrix: Water

Analyte

Dieldrin

4,4'-DDD

4,4'-DDE

4,4'-DDT

Analyte

Dieldrin

4,4'-DDD

4,4'-DDE

4,4'-DDT

Analysis Batch: 604226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 604144

%Rec.

30 - 145

25 - 160

Limits %Rec 80 36 - 146 88 31 - 141

LCS LCS

Sample Sample

ND

ND

ND

ND

Result Qualifier

Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 76 10 - 104

Lab Sample ID: 440-264162-F-1-A MS

Matrix: Water

Analysis Batch: 604226

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

Prep Batch: 604144

%Rec. %Rec Limits 36 - 146 68 73 31 - 14166 30 - 145

25 - 160

| | MS MS | |
|----------------------|-------------------|-----------|
| Surrogate | %Recovery Qualifi | er Limits |
| Tetrachloro-m-xylene | 71 | 10 - 104 |

Lab Sample ID: 440-264162-F-1-B MSD

Matrix: Water

Analysis Batch: 604226

Client Sample ID: Matrix Spike Duplicate

65

Prep Type: Total/NA Prep Batch: 604144

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Limits RPD Limit Analyte Result Qualifier Unit D %Rec Dieldrin ND 0.421 0.279 ug/L 66 36 - 146 2 49 4,4'-DDD ND 0.421 0.305 72 31 - 141 39 ug/L 3 4,4'-DDE ND 0.421 0.273 ug/L 65 30 - 145 2 35 4,4'-DDT ND 0.421 0.271 ug/L 25 - 160 42

Eurofins Calscience Irvine

QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 440-264079-1

Project/Site: Quarterly Arroyo Simi-Frontier Park

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: 440-264162-F-1-B MSD Matrix: Water

Analysis Batch: 604226

MSD MSD

 Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 604144

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QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Quarterly Arroyo Simi-Frontier Park

Job ID: 440-264079-1

GC Semi VOA

Prep Batch: 604144

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|---------------------------|-----------|--------|--------|------------|
| 440-264079-1 | Arroyo_Simi_20200406_Grab | Total/NA | Water | 608 | |
| MB 440-604144/1-A | Method Blank | Total/NA | Water | 608 | |
| LCS 440-604144/2-A | Lab Control Sample | Total/NA | Water | 608 | |
| 440-264162-F-1-A MS | Matrix Spike | Total/NA | Water | 608 | |
| 440-264162-F-1-B MSD | Matrix Spike Duplicate | Total/NA | Water | 608 | |

Analysis Batch: 604226

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|---------------------------|-----------|--------|--------|------------|
| 440-264079-1 | Arroyo_Simi_20200406_Grab | Total/NA | Water | 608.3 | 604144 |
| MB 440-604144/1-A | Method Blank | Total/NA | Water | 608.3 | 604144 |
| LCS 440-604144/2-A | Lab Control Sample | Total/NA | Water | 608.3 | 604144 |
| 440-264162-F-1-A MS | Matrix Spike | Total/NA | Water | 608.3 | 604144 |
| 440-264162-F-1-B MSD | Matrix Spike Duplicate | Total/NA | Water | 608.3 | 604144 |

Metals

Analysis Batch: 604285

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|---------------------------|-------------------|--------|----------|------------|
| 440-264079-1 | Arroyo_Simi_20200406_Grab | Total Recoverable | Water | SM 2340B | |

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Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-264079-1

Project/Site: Quarterly Arroyo Simi-Frontier Park

Glossary

| Abbreviation | on 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 | | | | | |
| 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)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

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)

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 440-264079-1

Project/Site: Quarterly Arroyo Simi-Frontier Park

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|------------------------|
| California | State | 2706 | 06-30-20 |

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Certificate of Analysis

FINAL REPORT

Work Orders: 0D06075

Project: [none]

Report Date: 4/09/2020

Received Date: 4/6/2020

Turnaround Time: 1 workday

Phones: (949) 261-1022

Fax: (949) 260-3297

P.O. #:

Billing Code:

Attn: TestAmerica, Irvine

Client: Eurofins Calscience - Irvine

17461 Derian Ave, Suite 100

Irvine, CA 92614

Dear TestAmerica, Irvine,

Enclosed are the results of analyses for samples received 4/06/20 with the Chain-of-Custody document. The samples were received in good condition, at 4.2 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

XX

Sample Results

| / BUZINI | | | | | | | | | |
|--------------|---------------------------|-------------------|---------------|-----|-------------|---------------|-----|--------------------|---------------|
| Sample: | Arroyo_Simi_20200406_Grab | | | | | | S | ampled: 04/06/20 8 | :35 by Client |
| | 0D06075-01 (Water) | | | | | | | | |
| Analyte | | | Result | MDL | MRL | Units | Dil | Analyzed | Qualifier |
| Method: EPA | 525.2M | Batch ID: W0D0223 | Instr: GCMS13 | | Prepared: 0 | 4/06/20 17:30 | | Analyst: EFC | |
| Chlorpyrifo | S | | ND | 6.9 | 10 | ng/l | 1 | 04/08/20 | |
| Diazinon | | | ND | 5.2 | 10 | ng/l | 1 | 04/08/20 | |
| Surrogate(s) | | | | | | | | | |
| 1,3-Dimeth | yl-2-nitrobenzene | | 85% | | 76-128 | Conc: | 426 | 04/08/20 | |
| Triphenyl p | hosphate | | 191% | | 40-163 | Conc: | 957 | 04/08/20 | S-GC |
| | | | | | | | | | |

Page 1 of 3 14859 Clark Avenue, City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634

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Certificate of Analysis

| ١ | Quality | Control | Results |
|---|---------|----------|-----------|
| | Quality | Continui | i (Couito |

| | | | | | Spike | Source | | %REC | | RPD | |
|--|--------|-------------|-----|-------|------------------|----------------|----------|--------|-----|-------|----------|
| Analyte | Result | MDL | MRL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifie |
| Blank (W0D0223-BLK1) | | | | P | repared: 04/06/2 | 20 Analyzed: (| 04/09/20 | | | | |
| Chlorpyrifos | ND | 6.9 | 10 | ng/l | | | | | | | |
| Diazinon | 2 | 5.2 | 10 | ng/l | | | | | | | |
| Surrogate(s) 1,3-Dimethyl-2-nitrobenzene | 496 | | | ng/l | 500 | | 99 | 76-128 | | | |
| Triphenyl phosphate | 644 | | | ng/l | 500 | | 129 | 40-163 | | | |
| LCS (W0D0223-BS1) | | | | Р | repared: 04/06/2 | 20 Analyzed: (| 04/08/20 | | | | |
| Chlorpyrifos | 63.4 | 6.9 | 10 | ng/l | 50.0 | | 127 | 37-169 | | | |
| Diazinon | | 5.2 | 10 | ng/l | 50.0 | | 86 | 43-152 | | | |
| Surrogate(s) 1,3-Dimethyl-2-nitrobenzene | 466 | | | ng/l | 500 | | 93 | 76-128 | | | |
| Triphenyl phosphate | 615 | | | ng/l | 500 | | 123 | 40-163 | | | |
| Matrix Spike (W0D0223-MS1) | Source | : 0D06075-0 |)1 | Р | repared: 04/06/2 | 20 Analyzed: (| 04/08/20 | | | | |
| Chlorpyrifos | 81.1 | 6.9 | 10 | ng/l | 50.0 | ND | 162 | 37-168 | | | |
| Diazinon | 02.7 | 5.2 | 10 | ng/l | 50.0 | ND | 125 | 36-153 | | | |
| Surrogate(s) 1,3-Dimethyl-2-nitrobenzene | 411 | | | ng/l | 500 | | 82 | 76-128 | | | |
| Triphenyl phosphate | 1020 | | | ng/l | 500 | | 205 | 40-163 | | | S-GC |
| Matrix Spike Dup (W0D0223-MSD1) | Source | : 0D06075-0 |)1 | P | repared: 04/06/2 | 20 Analyzed: (| 04/08/20 | | | | |
| Chlorpyrifos | 81.5 | 6.9 | 10 | ng/l | 50.0 | ND | 163 | 37-168 | 0.5 | 30 | |
| Diazinon | 00 | 5.2 | 10 | ng/l | 50.0 | ND | 122 | 36-153 | 3 | 30 | |
| Surrogate(s) 1,3-Dimethyl-2-nitrobenzene | 465 | | | ng/l | 500 | | 93 | 76-128 | | | |
| Triphenyl phosphate | 917 | | | ng/l | 500 | | 183 | 40-163 | | | S-G0 |

Page 2 of 3



Definition

Certificate of Analysis

FINAL REPORT

| M | Notes and | Definitions |
|---|-----------|-------------|
| | notes and | Definitions |

| S-GC | Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate. |
|-----------|---|
| % Rec | Percent Recovery |
| Dil | Dilution |
| dry | Sample results reported on a dry weight basis |
| MDA | Minimum Detectable Activity |
| MDL | Method Detection Limit |
| MRL ND | 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) 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. |
| NR | Not Reportable |
| RPD | Relative Percent Difference |
| Source | Sample that was matrix spiked or duplicated. |
| TIC | Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown. |

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

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

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:







Regina M. Giancola **Project Manager**

> ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO17025 ANAB #L2457.01 • 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.

Page 3 of 3 14859 Clark Avenue, City of Industry CA, 91745 | Phone: (626) 336-2139 | Fax: (626) 336-2634





2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 TestAmerica North Canton 4101 Shuffel Street NW North Canton OH 44720

Report Date: April 14, 2020 20:40

Project: Quarterly Arroyo Simi-Frontier Park

Account #: 41440 Group Number: 2095275 SDG: SSF18

PO Number: 440-264079-1 State of Sample Origin: CA

Electronic Copy To TestAmerica Irvine Attn: Christian Bondoc

Respectfully Submitted,

Kay Mour

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/. Historical copies may be requested through your project manager.

Lancaster Laboratories Environmental

Arroyo_Simi_20200406_Grab (440-264079-1)







2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

SAMPLE INFORMATION

Client Sample Description

Sample Collection Date/Time 04/06/2020 08:35

ELLE#

1294371

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Analysis Report

Sample Description: Arroyo_Simi_20200406_Grab (440-264079-1)

Quarterly Arroyo Simi-Frontier Park

Quarterly Arroyo Simi-Frontier Park

11096-82-5

1336-36-3

Submittal Date/Time: 04/08/2020 10:04 Collection Date/Time: 04/06/2020 08:35 SDG#: SSF18-01

Project Name:

14188

14188

TestAmerica North Canton ELLE Sample #: WW 1294371 **ELLE Group #:** 2095275

Matrix: Water

0.500

0.500

0.500

Method I imit of CAT Dilution **Analysis Name CAS Number Detection Limit*** Quantitation No. Result Factor **PCBs** EPA 608.3 Dec. 2016 ug/l ug/l ug/l 14188 PCB-1016 12674-11-2 N.D. D1 0.100 0.500 1 PCB-1221 14188 11104-28-2 N.D. D1 0.100 0.500 14188 PCB-1232 11141-16-5 N.D. D1 0.100 0.500 14188 PCB-1242 N.D. D1 53469-21-9 0.100 0.500 14188 PCB-1248 0.500 12672-29-6 N.D. D1 0.100 14188 PCB-1254 11097-69-1 N.D. D1

N.D. D1

N.D.

Sample Comments

Laboratory Cample Analysis Decord

0.100

0.100

0.0740

CA ELAP Lab Certification No. 2792

PCB-1260

Total PCBs

| Laboratory Sample Analysis Record | | | | | | | | | |
|-----------------------------------|---------------------------|---------------------|--------|------------|---------------------------|-----------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14188 | PCB (608.3) 250 ml | EPA 608.3 Dec. 2016 | 1 | 201000003A | 04/13/2020 19:40 | Covenant Mutuku | 1 | | |
| 11960 | Method 608 PCB Water Ext. | EPA 608.3 Dec. 2016 | 1 | 201000003A | 04/09/2020 17:55 | Laura Duquette | 1 | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

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Quality Control Summary

Client Name: TestAmerica North Canton Group Number: 2095275

Reported: 04/14/2020 20:40

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | MDL** | LOQ |
|--------------------------|-------------|-----------------|-------|
| | ug/l | ug/l | ug/l |
| Batch number: 201000003A | Sample numl | ber(s): 1294371 | |
| PCB-1016 | N.D. | 0.0740 | 0.500 |
| PCB-1221 | N.D. | 0.0740 | 0.500 |
| PCB-1232 | N.D. | 0.0740 | 0.500 |
| PCB-1242 | N.D. | 0.0740 | 0.500 |
| PCB-1248 | N.D. | 0.0740 | 0.500 |
| PCB-1254 | N.D. | 0.0740 | 0.500 |
| PCB-1260 | N.D. | 0.0740 | 0.500 |
| Total PCBs | N.D. | 0.0740 | 0.500 |

LCS/LCSD

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 201000003A | Sample number(| s): 1294371 | | | | | | | |
| PCB-1016 | 5.01 | 3.91 | 5.01 | 4.14 | 78 | 83 | 50-140 | 6 | 36 |
| PCB-1260 | 5.01 | 2.51 | 5.01 | 3.70 | 50 | 74 | 10-140 | 38 | 38 |

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PCB (608.3) 250 ml Batch number: 201000003A

| | Tetrachloro-m-xylene-D1 | Decachlorobiphenyl-D1 | Tetrachloro-m-xylene-D2 | Decachlorobiphenyl-D2 |
|---------|-------------------------|-----------------------|-------------------------|-----------------------|
| 1294371 | 76 | 59 | 74 | 63 |
| Blank | 60 | 59 | 58 | 61 |
| LCS | 53 | 30 | 52 | 31 |
| LCSD | 50 | 32 | 52 | 36 |
| Limits: | 18-115 | 10-127 | 18-115 | 10-127 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.



Analysis Report

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Quality Control Summary

Client Name: TestAmerica North Canton Group Number: 2095275

Reported: 04/14/2020 20:40

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

Eurofins Calscience Irvine

17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

UIMO 2095275 Chain of Custody Record 129437 1-72



💸 eurofins

Calscience

| Client Information (Sub Contract Lab) | Sampler: | Lab PM: Bondoc, Cl | | | Chri | | | | | | | | | | COC No: 440-154791,1 | | | | | |
|--|----------------------------------|-----------------------|------------------------|---------------------|----------|--|----------|-------------|---------------------|------------------------|-----------------------|--------------------|---------------------|------------------|-------------------------|---------------------|---------------|---|--|----------|
| Client Contact: Shipping/Receiving | Phone: | | | E-Mai chris | | ,bon | doc@ | testame | ericai | nc.cor | n | | e of Or lifornia | | | | | Page: Page 1 of 1 | | |
| Company: Eurofins Lancaster Laboratories Env LLC | 1 | | | | Acc | ccreditations Required (See note): ctate Program - California | | | | Job #: 440-264079-1 | | | **** | | | | | | | |
| Address: | Due Date Requested | : | | | 0.0 | 1011 | rogran | ii Odiii | | | - D- | | -41 | | | | | Preservation Code | e: | _ |
| 2425 New Holland Pike, , City: | 4/16/2020 TAT Requested (days | s): | | | | | | Т | An | alysi | SRE | que | stea | | Т | | 1000 | A - HCL B - NaOH | M - Hexane N - None | |
| Lancaster State, Zip: | | | | | | ģ | 9 | | | | | | | | | | | C - Zn Acetate | O - AsNaO2 P - Na2O4S | |
| PA, 17601 | | | | | | 19 | | | | | | | | | ĺ | | | E - NaHSO4 | Q - Na2SO3 R - Na2S2O3 | |
| Phone: 717-656-2300(Tel) | PO#: | | | | | 808 | g' | | ļ | | | | | | | | | G - Amchlor | S - H2SO4 T - TSP Dodecahydrate | a. |
| Email: | WO #: | | | | ž | - Special | ans | | | | | | | | | | | I - Ice | U - Acetone V - MCAA | |
| Project Name: | Project #: | | | | Yes | or No) | 200 | | | | | | | | | | iners | K - EDTA | W - pH 4-5 Z - other (specify) | |
| Quarterly Arroyro Simi-Frontier Park Site: | 44009879 ssow#: | | | | iple. | (Yes | | | | Ì | | | | İ | | | containe | Other: | , | |
| MACA CONTRACTOR OF THE CONTRAC | | | | | Sam | MS/MSD (| اي د | | | | | | | | | | ঠ | | | _ |
| | | | Out the | Matrix (w≂water, | Filtered | MS/ | i Lat | | | | | | | | | | Number | | | |
| | | Sample | | Connelled | ld Fi | Perform SUB (608 | caster | | | | | | | | | | tal N | | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Time | G=grab) _{BT=} | | Field | S P | Lanc | | -24 | Visite 1 | | 2 2 1 2 | _ | | _ | - | Total | Special Ins | tructions/Note: | _ |
| Arroyo_Simi_20200406_Grab (440-264079-1) | 4/6/20 | 08:35 | | Water | H | 4 | _ | | - | 2.4 | | | | | | | K | Level IV package ne | eded | = |
| | 4/6/20 | Pacific | | vvalei | Н | | <u> </u> | | - | - | | +- | | _ | - | + | | | | _ |
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| | | | | | Н | + | _ | +-+ | | | + | \vdash | | | | | 333 | | | \dashv |
| Note Of a plan and a p | | | | | LL | | | | | <u></u> | Ш. | <u></u> | Ш | | | | | L | | |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience p maintain accreditation in the State of Origin listed above for analysis/tests/matrix b attention immediately. If all requested accreditations are current to date, return the | eing analyzed, the sam | ples must be | shipped back to the | ne Eurofins | Calso | clence | labora | tory or oth | oratorio ner ins | truction | s sampl s will b | e shipi e provi | nent is ded. A | forwar ny cha | ded und nges to | er chair accredi | n-of-cotation | ustody. If the laborators status should be broug | / does not currently ht to Eurofins Calsciend | :e |
| Possible Hazard Identification | | -, | | - 10 | | | | enneal | (A f | oo ma | v he | 1000 | eed i | fean | nlee: | ro ro | taine | ed longer than 1 n | nonth) | 4 |
| Unconfirmed | | | | | ľ | | 1 | rn To C | | ce ma | | Dispo | sal B | v Lab | ipies (| | | ive For | Months | |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverabl | le Rank: 2 | | | 1 | Speci | ial Ins | truction | s/QC | Requ | ireme | nts: | | | | | | | | ┨ |
| Empty Kit Relinquished by: | Da | ate: | | | Tim | e: | | | | | | | Metho | d of Si | nipment | | | | | ᅦ |
| Relinquished by: A. Karulla | Date/Time: | , 17 | (10 Gon | pany (| 2 1 | Re | eceivec | by: | | | | | | E | ate/Tim | e: | manento co | and a second and the | Company | ᅦ |
| Relinquished by: | Date/Time: | | | pany | V | Re | eceived | l by: | and the second | | and the second second | | | C | ate/Tim | e: | | ſ | Company | \dashv |
| Relinquished by: | Date/Time: | | Con | pany | | Re | eceived | by: | R.I | | 1,11 | / | | C | ate/Tim | e: f. | , | | Company | \dashv |
| Custody Seals Intact: Custody Seal No.: | | | | | | Co | ooler Te | emperatu | re(s) % | C and O | Mer R | marks | - ^ | 11 | -4 | 2/20 | 1 | osoH | ELLE | \dashv |
| Δ Yes Δ No | *** | | | | | _L | | | | | | | \mathcal{L} | 4 | | | | | | |

Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 281228 Group Number(s): 209 5775

Client: EUROFINS CALSCIENCE IRVINE

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Date:

04/08/2020

Number of Packages:

1

Number of Projects:

2

State/Province of Origin:

CA

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

Yes

Total Trip Blank Qty:

0

Samples Chilled:

Yes

Air Quality Samples Present:

No

Paperwork Enclosed:

Yes

Samples Intact:

Yes

Missing Samples:

No

Extra Samples:

Yes

Discrepancy in Container Qty on COC:

No

Unpacked by Julissa Rivera-Santa

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler # Thermometer ID

Corrected Temp

46730060WS

Therm. Type

Ice Type

Ice Present?

Ice Container

Elevated Temp?

0.4

IR

Wet

Loose

N

Sample ID on Label Number of Extra Containers

Extra Sample Details Date on Label

4/06/2020 08:35

Comments

Arroyo_Simi_20200406 Grab Extra (440-264079-2)

Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

millilitar(a)

The following defines common symbols and abbreviations used in reporting technical data:

Rolaw Minimum Quantitation Lavel

| BMQL | Below Minimum Quantitation Level | mL | milliliter(s) |
|----------|----------------------------------|----------|---|
| С | degrees Celsius | MPN | Most Probable Number |
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | | • • | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight |

ppb

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight Dry weight basis

very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is less than the LOQ |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is less than the LOQ |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is less than the LOQ |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is less than the LOQ |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| P^ | Concentration difference between the primary and confirmation column > 40%. The higher result is reported |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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| Client Name/Address. Haley & Aldrich | ne/Address. Mdrich | | _ | | Boeing | Project: Boeing-SSFL NPDES | ES | | - | ANALYS | ANALYSIS REQUIRED | RED | Field Readings | Meter serial # |
|--|--|--|--------------------|----------------|--------------------------|--|--------------------------|---------------|-----------------|--|-------------------|--------------|--|--------------------|
| 5333 Missi San Diego, | 5333 Mission Center Rd Suite 300 San Diego, CA 92108 | | | Quai | P. terly Arro | Cuarterly Arroyo Simi-Frontier Park | ontler Park | | · | ,Tod | | | Fleid Readings: (Include units) | ائر ۔ |
| Test America Conta 17461 Derian Ave Irvine CA 92614 Tel: 949-260-3218 | Test America Contact: Christian Bondoc 17461 Derien Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218 | | | | 5 | | | | | D, 4,4-DDE, 4,4 | | | PH 8.10 PH UNR | |
| TestAmenca's a Agreement# 20 TestAmenca Lat | TestAmerica's services under this CoC shall be performed in accordance with the TACS within Blanket Service Transmitted 2019-22-1 east/unertra by and between Haley & Addrich, Inc., its subadiantee and affiliaties, and TestAmerica Laboratories inc | nce with the TACs within Blanki nc , to subsidiaries and efflietes | t Service , and | - P. S. | oject Mana 1,289.8606 | Project Manager: Katherine Miller 520,289,8606, 520,904 6944 (cell) | ine Miller 944 (cell) | | on (ES255 | OO 4,4 On | | | Velocityfrisec | |
| Sampler: Dan Smrth | ian Smith | The state of the s | | 176 | ield Mana 3.234.5033 | Field Manager: Mark Dominick 978.234.5033, 818 599 0702 (cell) | ominick 702 (cell) | | niseiO , zoliny | l sbs. in ingeni desr Chlords n, Toxapheni | | | Checked by W. DaterTime: 11. (12) | الم الم |
| Sample | Semple I D | Sampling Date/Time | Sample | Container Type | # of Cont | Preservative | Battle # | QSW/SW | Chlorp | Pestic | | | Con | Comments |
| | | | ws | 250 mL Poly | - | HNO3 | 11 | Ş | × | | | | | |
| Pá | Arroyo_Simi_20200408_Grab | 4/62020 / mg 3/ | ws | 1t Glass Amber | 7 | 2000 | 275 | 2 : | + |]; | 1 | 1 | 1 10 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 | المحت وإدارا الاست |
| Anoyo Simi | | 1301 | SM | 1L Glass Amber | 2 | None | | 2 | + | × | 1 | | electric desired and the second secon | |
| | Arroyo Simi 20200406 Grab Extra | 446/2020 / | SW | 1L Gass Amper | 7 | 200 | C/7 | 2 | 1 | + | | | LIDIO | |
| 26 of | | 10% | sw | 1L Glass Amber | 2 | None | 286 | 2 | | ± | | | HON | |
| 27 | | | | | | | | | \prod | | - | | | |
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| | | | | | | | | | | | | 440-264079 (| 440-264079 Chain of Custody | |
| | | | | | | | | | + | | \parallel | | | |
| Relinquished By | By Date/Time | lime | 0 | Company* | | | Received By | | | Date/Time | | | nd time: (| |
| 7 | | 4.6-2010 | | 7.11 | | _ | 111/3 | Willian River | ž Ž | 4/6 | /2 | 5/// | 24 Hour, 72 Hour. 48 Hour, 5 Day | 10 Day. |
| Relinquished By | Date/T | Time / HWO | | ompany C | | | Received By | | | Date/Time | | | egrity: (C | j - |
| Relinquished By | X 0@ & | ime | | Company | | | | 100 | l'ine | Date/Time. | 16/ | 1 #10 1410 | Citore samples for 6 months. Data Requirements: (Check) No Level IV: | All Level IV |
| 1/1 | | 19.0 | 6.6. | 1.0.1 | .0. | 1.80 10.1 | 10.0 | 484 | ٠,٠ | | | | | |
| 23/20 | | CC 11/11/20 | 12 7/1 | | | 8 | 02/9/17 00 | , 20 | | | | | | |
| 02 | |) |) 2 | ` | | | • | | | | | | | |

Page 1 of 1

CHAIN OF CUSTODY FORM

Test America

05 (L Version 2 (Version 2)

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-264079-1

Login Number: 264079 List Source: Eurofins Irvine

List Number: 1

Creator: Escalante, Maria I

| Creator: Escalante, Maria I | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-266381-1

Prepared for

Haley & Aldrich, Inc.
600 South Meyer Avenue, Suite 100
Tucson, Arizona 85701

22 June 2020

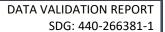






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TABLES

- 1 Sample Identification
- 2 Data Qualifier Reference
- 3 Reason Code Reference



INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-266381-1

Project Manager: Katherine Miller

Matrix: Sediment

QC Level: II

No. of Samples: 1

No. of Reanalyses/Dilutions: 0 **Laboratory:** TestAmerica-Irvine

TABLE 1 - SAMPLE IDENTIFICATION

| Sample Name | Lab Sample Name | Matrix | Collection | Method |
|------------------------------|--------------------|--------|-------------------------|--|
| ARROYO_SIMI- SED_20200521 | 440-266381-1 | SE | 5/21/2020 8:30:00 AM | 8082*, EPA/600/R- 94/025, EPA/600/R- 95/136, SM4500-NH3D, SW8081A, SW9060 |

^{*}The laboratory EDD states Method 608; however, the sample was analyzed by SW-846 Method 8082.

DATA VALIDATION REPORT SDG: 440-266381-1





II. SAMPLE MANAGEMENT

According to the case narrative, Login Sample Receipt Checklists, and the chains-of-custody (COC) provided by the laboratories for sample delivery group (SDG) 440-266381-1:

- TA-Irvine, TA-Seattle and Lancaster received the sample in this SDG on ice and within the temperature limits of <6 degrees Celsius (°C) and >0°C. A Login Sample Receipt Checklist was not provided for Aquatic Bioassay Consultants (ABC) laboratory; therefore, the condition of the sample upon receipt is unknown.
- The sample was submitted to ABC for analysis of Methods EPA/600/R-94/025 and EPA/600/R-95/136, to TA-Seattle for analysis of Method 9060 and to Lancaster for analysis of Method 8081A (PCBs).
- According to the Login Sample Receipt Checklist for TA-Irvine, custody seals were absent on the
 coolers; however, no evidence of tampering was noted. Custody seals were present upon receipt at
 TA-Seattle and Lancaster. A Login Sample Receipt Checklist was not provided for ABC laboratory;
 therefore, the presence of custody seals is unknown.



TABLE 2 - DATA QUALIFIER REFERENCE

| Qualifier | Organics | Inorganics |
|-----------|--|--|
| U | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit. | The analyte was analyzed for but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. | Not applicable. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. | The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. |



TABLE 3 - REASON CODE REFERENCE

| | TABLE 3 - REASON CODE REFERENCE | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|
| Reason Code | Organic | Inorganic | | | | | | | | |
| Н | Holding time was exceeded. | Holding time was exceeded. | | | | | | | | |
| S | Surrogate recovery was outside control limits. | The sequence or number of standards used for the calibration was incorrect. | | | | | | | | |
| С | Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r²) was <0.990. | Correlation coefficient (r) was <0.995. | | | | | | | | |
| R | Calibration relative response factor (RRF) was <0.05. | Percent recovery (%R) for calibration was outside control limits. | | | | | | | | |
| В | The analyte was detected in an associated blank as well as in the sample. | The analyte was detected in an associated blank as well as in the sample. | | | | | | | | |
| L | Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits. | LCS or LCSD %R was outside the control limits. | | | | | | | | |
| L1 | LCS/LCSD relative percent difference (RPD) was outside the control limit. | LCS/LCSD RPD was outside the control limit. | | | | | | | | |
| Q | Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits. | MS or MSD %R was outside the control limit. | | | | | | | | |
| Q1 | MS/MSD RPD was outside the control limit. | MS/MSD RPD was outside the control limit. | | | | | | | | |
| E | Result was reported as an estimated maximum possible concentration (EMPC). | Laboratory duplicate RPD was outside the control limit. | | | | | | | | |
| I | Internal standard recovery was outside control limits. | Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits. | | | | | | | | |
| I1 | Not applicable. | ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits. | | | | | | | | |
| А | Not applicable. | Serial dilution %D was outside control limits. | | | | | | | | |
| М | Tuning (BFB or DFTPP) was not compliant. | ICPMS tune was not compliant. | | | | | | | | |
| T | The analyte was detected in an associated trip blank as well as in the sample. | Not applicable. | | | | | | | | |



| Reason Code | Organic | Inorganic |
|----------------|--|--|
| + | False positive – reported compound was not present. | False positive – reported compound was not present. |
| - | False negative – compound was present but not reported. | False negative – compound was present but not reported. |
| F | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. | The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample. |
| F1 | Field duplicate RPD was outside the control limit. | Field duplicate RPD was outside the control limit. |
| \$ | The reviewer corrected the reported result and/or other information. | The reviewer corrected the reported result and/or other information. |
| ? | TIC identity or reported retention time has been changed. | Not applicable. |
| D | The analysis was not used because another more technically sound analysis was available. | The analysis was not used because another more technically sound analysis was available. |
| Р | Instrument performance not compliant. | Post digestion spike recovery was outside of control limits. |
| DNQ | The reported result is above the method detection limit but is less than the reporting limit. | The reported result is above the method detection limit but is less than the reporting limit. |
| *11, *111 | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |



IV. EPA Methods 8081A and 8082—Pesticides and PCBs

L. Calvin of MEC^x reviewed the SDG on June 23, 2020

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 1), EPA Methods 8081A and 8082 and the National Functional Guidelines for Superfund Organic Methods Data Review (2017).

IV.1. HOLDING TIMES

Extraction and analytical holding times were met. The sample was extracted within 14 days of collection and analyzed within 40 days of extraction.

IV.2. CALIBRATION

Calibration was not evaluated at a Stage II validation level.

IV.3. QUALITY CONTROL SAMPLES

IV.3.1. METHOD BLANKS

Target compounds were not detected in the method blanks above the MDL.

IV.3.2. LABORATORY CONTROL SAMPLES

LCS/LCSD recoveries and RPDs were within the respective laboratory control limits for pesticides and PCBs.

IV.3.3. SURROGATE RECOVERY

Surrogates tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) were recovered within the respective laboratory control limits for pesticides and PCBs.

IV.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample in this SDG. MEC^x evaluated method accuracy and precision based on the LCS/LCSD results.

IV.4. FIELD QC SAMPLES

MEC^x evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

IV.4.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

IV.4.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

IV.5. COMPOUND IDENTIFICATION

Compound identification was not evaluated at a Stage II validation level. The laboratory analyzed for six pesticides by Method 8081A and seven PCBs by Method 8082.



IV.6. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was not evaluated at a Stage II validation level. The reporting limits were supported by the low point of the initial calibrations and the laboratory MDLs. Reported nondetects are valid to the reporting limit.

V. VARIOUS METHODS — GENERAL CHEMISTRY

M. Hilchey of MEC^x reviewed the SDG on June 22, 2020.

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 1), EPA Methods 600/R-95/136, 600/R-94/025 and 9060, Standard Methods for the Examination of Water and Wastewater 4500-NH3 D and the National Functional Guidelines for Inorganic Superfund Data Review (2017).

V.1. HOLDING TIMES

The analytical holding times for sediments, as listed below, were met:

- 28 days for total organic carbon (TOC)
- 28 days for ammonia
- 14 days for chronic sediment toxicity
- 14 days for 48-hour bivalve embryo toxicity

V.2. CALIBRATION

Instrument calibration review is not performed at Level II validation. All initial and continuing calibration recoveries were within 90-110%. Analytical balance calibration logs were not provided by the laboratory. For toxicity analyses, standard reference toxicant testing was performed to verify culture health and sensitivity.

V.3. QUALITY CONTROL SAMPLES

V.3.1. METHOD BLANKS

The method blanks had no detections. The chronic toxicity tests met the negative control criteria of the laboratory and method.

V.3.2. LABORATORY CONTROL SAMPLES

Laboratory control sample and laboratory control sample duplicate recoveries, as applicable, were within the laboratory control limits. The positive control criteria were met for the chronic toxicity tests.

V.3.3. LABORATORY DUPLICATES

Laboratory duplicate analyses were not performed on the sample in this SDG.

V.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample in this SDG.





V.4. SAMPLE RESULT VERIFICATION

Sample result verification is not performed at Level II validation. Reported nondetects are valid to the MDL Results reported below the RL and above the MDL were qualified as estimated (J) and coded with a DNQ to comply with the NPDES permit reporting requirements.

V.5. FIELD QC SAMPLES

MEC^x evaluated field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site sample. Findings associated with field QC samples are summarized below.

V.5.1. FIELD BLANKS AND EQUIPMENT BLANKS

Field blank or equipment blank samples were not identified for this SDG.

V.5.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

Validated Sample Result Forms: 4402663811

Analysis Method E608

Sample Name ARROYO_SIMI-SED_20200521 Matrix Type: SE Result Type: TRG

Sample Date: 5/21/2020 8:30:00 AM Validation Level: 9

Lab Sample Name: 440-266381-1

| Analyte | Fractio | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|-------------------------|---------|------------|-----------------|----|-----|-----------------|------------------|-------------------------|---------------------|
| Aroclor-1016 (PCB-1016) | N | 12674-11-2 | ND | | 4.5 | ug/kg | U, D1 | U | |
| Aroclor-1221 (PCB-1221) | N | 11104-28-2 | ND | | 5.7 | ug/kg | U, D1 | U | |
| Aroclor-1232 (PCB-1232) | N | 11141-16-5 | ND | | 9.9 | ug/kg | U, D1 | U | |
| Aroclor-1242 (PCB-1242) | N | 53469-21-9 | ND | | 4.1 | ug/kg | U, D1 | U | |
| Aroclor-1248 (PCB-1248) | N | 12672-29-6 | ND | | 4.1 | ug/kg | U, D1 | U | |
| Aroclor-1254 (PCB-1254) | N | 11097-69-1 | ND | | 4.1 | ug/kg | U, D1 | U | |
| Aroclor-1260 (PCB-1260) | N | 11096-82-5 | ND | | 6.1 | ug/kg | U, D1 | U | |

Analysis Method EPA/600/R-94/025

Sample Name ARROYO SIMI-SED 20200521 Matrix Type: SE Result Type: TRG

Sample Date: 5/21/2020 8:30:00 AM Validation Level: 9

Lab Sample Name: 440-266381-1

Analyte Fraction: CAS No Result RLMDL Result Lab Validation Validation Value Units **Qualifier** Qualifier Notes SEDTOX10DAY Sediment toxicity (chronic 10-day % SURV 100

eohaustorius estuarius toxicity)

Analysis Method EPA/600/R-95/136

Sample Name ARROYO SIMI-SED 20200521 Matrix Type: SE Result Type: TRG

Sample Date: 5/21/2020 8:30:00 AM Validation Level: 9

Lab Sample Name: 440-266381-1

Analyte Fraction: CAS No Result Value Result Units Qualifier Validation Validation Units Qualifier Value Validation Over Notes

Chronic Toxicity, Mytilus N CHRTOXMYTIL 100 % SURV

Analysis Method SM4500-NH3D

Sample Name ARROYO_SIMI-SED_20200521 Matrix Type: SE Result Type: TRG

Sample Date: 5/21/2020 8:30:00 AM Validation Level: 9

Lab Sample Name: 440-266381-1

Fraction: CAS No Result RLMDL Result Analyte Lab Validation Validation **Qualifier** Value Units Qualifier Notes Ammonia (as N) 7664-41-7N 4.86 12.8 2.55 J.DX mg/kg DNQ

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Analysis Method SW8081A

Sample Name ARROYO_SIMI-SED_20200521 Matrix Type: SE Result Type: TRG

Sample Date: 5/21/2020 8:30:00 AM Validation Level: 9

Lab Sample Name: 440-266381-1

| Analyte | Fracti | on: CAS No | Result Value | RL | MDL | Result Units | Lab Qualifier | Validation Qualifier | Validation Notes |
|-----------|--------|------------|-----------------|-----|-----|-----------------|------------------|-------------------------|---------------------|
| 4,4'-DDD | N | 72-54-8 | ND | 5.0 | 1.5 | ug/kg | U | U | |
| 4,4'-DDE | N | 72-55-9 | ND | 5.0 | 1.5 | ug/kg | U | U | |
| 4,4'-DDT | N | 50-29-3 | ND | 5.0 | 1.5 | ug/kg | U | U | |
| Chlordane | N | 57-74-9 | ND | 50 | 15 | ug/kg | U | U | |
| Dieldrin | N | 60-57-1 | ND | 5.0 | 1.5 | ug/kg | U | U | |
| Toxaphene | N | 8001-35-2 | ND | 200 | 50 | ug/kg | U | U | |

Analysis Method SW9060

Sample Name ARROYO_SIMI-SED_20200521 Matrix Type: SE Result Type: TRG

Sample Date: 5/21/2020 8:30:00 AM Validation Level: 9

Lab Sample Name: 440-266381-1

| Analyte | Fractio | on: CAS No | Result | RL | MDL | Result | Lab | Validation | Validation | |
|------------------------|---------|------------|--------|------|-----|--------|-----------|------------|------------|--|
| | | | Value | | | Units | Qualifier | Qualifier | Notes | |
| TOC Average Duplicates | N | TOCAVGD | 790 | 2000 | 97 | mg/kg | J,DX | J | DNQ | |

Tuesday, June 30, 2020 Page 2 of 2

ANALYTICAL REPORT

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817

Tel: (949)261-1022

Laboratory Job ID: 440-266381-1

Client Project/Site: Annual Sediment Arroyo

Revision: 1

For:

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

Attn: Katherine Miller

Authorized for release by: 7/15/2020 12:28:00 PM

Christian Bondoc, Project Manager I

(949)260-3218

Christian.Bondoc@Eurofinset.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Project/Site: Annual Sediment Arroyo

Laboratory Job ID: 440-266381-1

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Christian Bondoc

Project Manager I

7/15/2020 12:28:00 PM

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Client: Haley & Aldrich, Inc. Project/Site: Annual Sediment Arroyo Laboratory Job ID: 440-266381-1

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Sample Summary

Client: Haley & Aldrich, Inc. Project/Site: Annual Sediment Arroyo

Job ID: 440-266381-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|--------------------------|--------|----------------|----------------|----------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Solid | 05/21/20 08:30 | 05/21/20 17:00 | |

Case Narrative

Client: Haley & Aldrich, Inc.

Project/Site: Annual Sediment Arroyo

Job ID: 440-266381-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-266381-1

Comments

No additional comments.

Receipt

The sample was received on 5/21/2020 5:00 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

GC Semi VOA

Methods 8081A, 8081B_LL: The following samples in preparation batch 440-609935 required a copper clean-up to reduce matrix interferences caused by sulfur. The associated batch QC were also processed with the copper cleanup procedure. Arroyo_Semi-Sed_20200521 (440-266381-1).

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

General Chemistry

Methods 9060, 9060A: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 580-329193 was outside control limits. Sample matrix interference is suspected as two separate containers were provided.

Methods 9060, 9060A: Due to the high concentration of analytes TOC, TOC DUP, TOC QUAD, TOC TRIP the matrix spike (MS) for analytical batch 580-329193 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria

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

Subcontract non-Sister

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

Organic Prep

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

Subcontract Work

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

Method 8082LL- PCB- Lancaster Labs: This method was subcontracted to Eurofins Lancaster Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report.

Job ID: 440-266381-1

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Job ID: 440-266381-1

Client Sample ID: Arroyo_Semi-Sed_20200521 Date Collected: 05/21/20 08:30

Lab Sample ID: 440-266381-1 **Matrix: Solid**

Date Received: 05/21/20 17:00

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|-----------|-----------|----------|-----|-------|---|----------------|----------------|---------|
| 4,4'-DDD | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| 4,4'-DDE | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| 4,4'-DDT | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| Chlordane (technical) | ND | | 50 | 15 | ug/Kg | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| Dieldrin | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| Toxaphene | ND | | 200 | 50 | ug/Kg | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| DCB Decachlorobiphenyl (Surr) | 74 | | 21 - 117 | | | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |
| Tetrachloro-m-xylene | 91 | | 28 - 115 | | | | 05/26/20 05:41 | 05/29/20 15:32 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | [|) | Prepared | Analyzed | Dil Fac |
|--------------------------------|--------|-----------|------|-----|-------|---|---|----------|----------------|---------|
| Total Organic Carbon - Average | 790 | J,DX | 2000 | 97 | mg/Kg | | | | 05/27/20 14:52 | 1 |

Dup

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Clay(less than 0.00391 mm) | 0.10 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Coarse Sand (0.5mm to 1mm) | 36.16 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Fine Sand (0.125 to 0.25mm) | 0.77 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Gravel (greater than 2 mm) | 29.18 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Medium Sand (0.25 to 0.5 mm) | 9.21 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Silt (0.00391 to 0.0625mm) | 0.24 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Total Silt and Clay (0 to 0.0626mm) | 0.34 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Very Coarse Sand (1 to 2mm) | 24.17 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |
| Very Fine Sand (0.0625 to 0.125 mm) | 0.16 | | 0.01 | 0.01 | % | | | 06/03/20 13:14 | 1 |

Client Sample ID: Arroyo_Semi-Sed_20200521 Lab Sample ID: 440-266381-1 Date Collected: 05/21/20 08:30 **Matrix: Solid** Date Received: 05/21/20 17:00 Percent Solids: 78.3

| General Chemistry | | | | | | | | | |
|-------------------|--------|-----------|------|------|-------|--------------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Ammonia (as N) | 4.86 | J,DX | 12.8 | 2.55 | mg/Kg | \ | 05/27/20 04:00 | 05/27/20 05:30 | 1 |

V 3.0

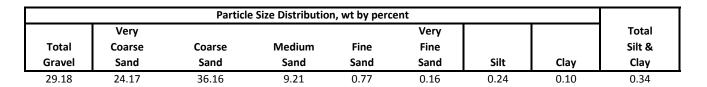
PARTICLE SIZE SUMMARY

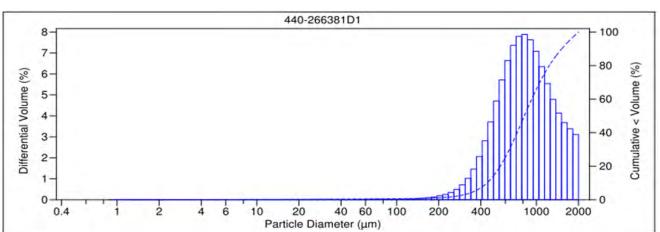
(ASTM D422 / D4464M)

| Haley & Aldrich | Date Sampled: | 05/21/20 |
|-----------------|----------------|-------------|
| | Date Received: | 05/21/20 |
| | Work Order No: | 440-266381 |
| | Date Analyzed: | 06/03/20 |
| | Method: | ASTM D4464M |

Project: Boeing-SSFL NPDES

| | Sample ID | Depth ft | Description | Mean Grain Size mm |
|---|--------------------------|-------------|------------------|--------------------------|
| _ | Arroyo_Semi-Sed_20200521 | | Very Coarse Sand | 1.774 |







File name: C:\LS13320\STD SAND_ 3 Jun 2020_13.21.36.\$ls

STD SAND_ 3 Jun 2020_13.21.36.\$ls

File ID: STD SAND
Sample ID: STD SAND
Operator: 1106
Run number: 18

Control Sample

Comment 1: ASTM D4464M , LPSA 1
Comment 2: 602396 , BATCH#029A
Optical model: Fraunhofer.rf780d

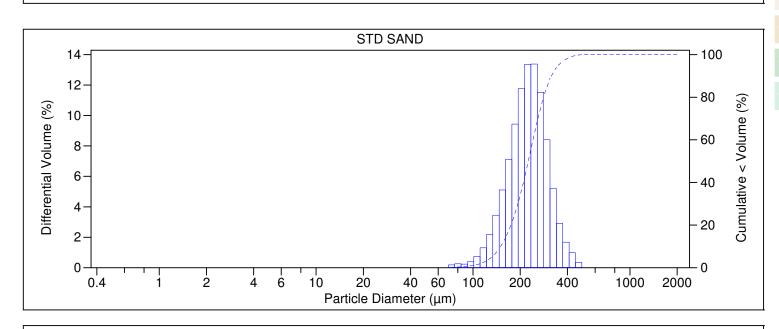
Residual: 1.71%

LS 13 320 Aqueous Liquid Module

Start time: 13:20 3 Jun 2020 Run length: 60 seconds

Pump speed: 49
Obscuration: 10%
Fluid: Water
Software: 6.01

Firmware: 4.00



Volume Statistics (Arithmetic)

STD SAND 3 Jun 2020 13.21.36.\$ls

Calculations from 0.375 μm to 2000 μm

Volume: 100%

Mean/Median ratio: 1.022 Skewness: 0.558 Right skewed Mode: 245.2 μm Kurtosis: 0.552 Leptokurtic d_{10} : 150.3 μm d_{50} : 225.4 μm d_{90} : 316.3 μm

Folk and Ward Statistics (Phi)

Mean: 2.17 Median: 2.15 Deviation: 0.42

Skewness: 0.08 Kurtosis: 1.05

<5% <16% <25% <40% <50% <75% <84% <95% 132.1 μm 165.9 μm 184.3 μm $209.7 \mu m$ 225.4 μm $270.2 \, \mu m$ 293.7 μm 350.6 µm



STD SAND_ 3 Jun 2020 Particle Diameter _13.21.36 .\$ls μm Volume 0.04 0 0 0 0 3.70 61.2 35.1 0.4 1.95 3.91 62.5 125 250 500 0 1000 2000

> μm 1660

1822

2000

%

0

| STD SAND_ | _3 Jun 2020_13.21 | .36.\$ls | | |
|--------------------------------------|----------------------|--------------------------------------|----------------------|--------------------------------------|
| Channel Diameter (Lower) µm | Diff. Volume % | Channel Diameter (Lower) µm | Diff. Volume % | Channel Diameter (Lower) µm |
| Diameter (Lower) | Volume | Diameter (Lower) | Volume | Diameter (Lower) |
| 11.83 12.99 | 0 0 | 786.9 863.9 | 0 0 | |
| 14.26 | 0 | 948.3 | 0 | |
| 15.65 | 0 | 1041 | 0 | |
| 17.18 | 0 | 1143 | 0 | |
| 18.86 | 0 | 1255 | 0 | |
| 20.71 | 0 | 1377 | 0 | |
| 22.73 | 0 | 1512 | 0 | |

| | | | 9 |
|-----------------|--|--|---|
| | | | |
| Diff. Volume | | | |



File name: C:\LS13320\STD SAND_ 3 Jun 2020_13.36.49.\$ls

STD SAND_ 3 Jun 2020_13.36.49.\$ls

File ID: STD SAND
Sample ID: STD SAND
Operator: 1106
Run number: 20

Control Sample

Comment 1: ASTM D4464M , LPSA 1
Comment 2: 602396 , BATCH#029A
Optical model: Fraunhofer.rf780d

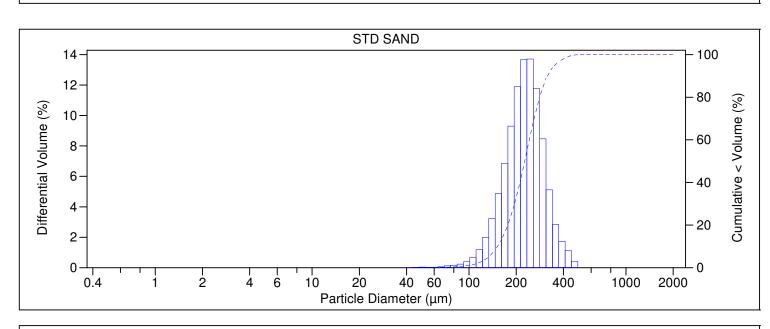
Residual: 2.36%

LS 13 320 Aqueous Liquid Module

Start time: 13:35 3 Jun 2020 Run length: 60 seconds

Pump speed: 49
Obscuration: 11%
Fluid: Water
Software: 6.01

6.01 Firmware: 4.00



Volume Statistics (Arithmetic) STD SAND_3 Jun 2020_13.36.49.\$ls

Calculations from 0.375 μm to 2000 μm

Volume: 100%

Mean/Median ratio: 1.022 Skewness: 0.570 Right skewed Mode: 245.2 μm Kurtosis: 0.695 Leptokurtic d₁₀: 152.0 μm d₅₀: 226.7 μm d₉₀: 317.0 μm

Folk and Ward Statistics (Phi)

Mean: 2.16 Median: 2.14 Deviation: 0.41

Skewness: 0.08 Kurtosis: 1.06

<5% <16% <25% <40% <50% <75% <84% <95% 133.8 µm 167.8 μm 186.3 μm 226.7 μm 294.1 μm 353.0 µm 211.4 μm 270.8 μm



BECKMAN COULTER TO

| Particle | STD SAND_ |
|----------|------------|
| Diameter | 3 Jun 2020 |
| μm | _13.36.49 |
| | \$ls |
| | Volume |
| | % |
| 0.04 | 0 |
| 0.4 | 0 |
| 1.95 | 0 |
| 3.91 | 0.14 |
| 62.5 | 3.39 |
| 125 | 60.8 |
| 250 | 35.6 |
| 500 | 0 |
| 1000 | 0 |
| 2000 | |

| STD SAND_3 | Jun 2020_13.36 | .49.\$ls | | | | | |
|----------------|----------------|----------------|--------------|----------|--------|--|--|
| Channel | Diff. | Channel | Diff. | Channel | Diff. | | |
| Diameter | Volume | Diameter | Volume | Diameter | Volume | | |
| (Lower) | % | (Lower) | % | (Lower) | % | | |
| μm | | μm | | μm | | | |
| 0.375 | 0 | 24.95 | 0 | 1660 | 0 0 | | |
| 0.412 | 0 | 27.39 | 0 | 1822 | 0 | | |
| 0.452 | 0 | 30.07 | 0 | 2000 | | | |
| 0.496 | 0 | 33.01 | 0 | | | | |
| 0.545 | 0 | 36.24 | 0 | | | | |
| 0.598 | 0 | 39.78 | 0.012 | | | | |
| 0.657 | 0 | 43.67 | 0.034 | | | | |
| 0.721 | 0 | 47.94 | 0.037 | | | | |
| 0.791 | 0 | 52.63 | 0.027 | | | | |
| 0.869 | 0 | 57.77 | 0.031 | | | | |
| 0.954 1.047 | 0 | 63.42 69.62 | 0.066 | | | | |
| 1.047 | 0 0 | 76.43 | 0.12 0.17 | | | | |
| 1.149 | 0 | 83.90 | 0.17 | | | | |
| 1.385 | 0 | 92.10 | 0.23 | | | | |
| 1.520 | 0 | 101.1 | 0.69 | | | | |
| 1.669 | 0 | 111.0 | 1.18 | | | | |
| 1.832 | Ö | 121.8 | 1.99 | | | | |
| 2.011 | Ö | 133.7 | 3.24 | | | | |
| 2.208 | 0 | 146.8 | 4.87 | | | | |
| 2.423 | 0 | 161.2 | 6.86 | | | | |
| 2.660 | 0 | 176.9 | 9.30 | | | | |
| 2.920 | 0 | 194.2 | 11.9 | | | | |
| 3.206 | 0 | 213.2 | 13.7 | | | | |
| 3.519 | 0 | 234.1 | 13.7 | | | | |
| 3.863 | 0 | 256.9 | 11.8 | | | | |
| 4.241 | 0 | 282.1 | 8.47 | | | | |
| 4.656 | 0 | 309.6 | 5.12 | | | | |
| 5.111 | 0 | 339.9 | 2.84 | | | | |
| 5.611 | 0 | 373.1 | 1.74 | | | | |
| 6.159 | 0 | 409.6 | 1.12 | | | | |
| 6.761 | 0 | 449.7 | 0.42 | | | | |
| 7.422 8.148 | 0 0 | 493.6 541.9 | 0 0 | | | | |
| 8.944 | 0 | 541.9 594.9 | 0 | | | | |
| 9.819 | 0 | 653.0 | 0 | | | | |
| 10.78 | 0 | 716.9 | 0 | | | | |
| 11.83 | 0 | 786.9 | 0 | | | | |
| 12.99 | Ö | 863.9 | Ö | | | | |
| 14.26 | Ö | 948.3 | Ö | | | | |
| 15.65 | Ö | 1041 | Ö | | | | |
| 17.18 | 0 | 1143 | Ö | | | | |
| 18.86 | 0 | 1255 | 0 | | | | |
| 20.71 | 0 | 1377 | 0 | | | | |
| 22.73 | 0 | 1512 | 0 | | | | |

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Method Summary

Client: Haley & Aldrich, Inc.

Project/Site: Annual Sediment Arroyo

| Method | Method Description | Protocol | Laboratory |
|---------------|--|----------|------------|
| 8081A | Organochlorine Pesticides (GC) | SW846 | TAL IRV |
| 9060 | Organic Carbon, Total (TOC) | SW846 | TAL SEA |
| Moisture | Percent Moisture | EPA | TAL IRV |
| SM 4500 NH3 D | Ammonia | SM | TAL IRV |
| D4464 | Particle Size Distribution of Catalytic Material (Laser light scattering) | ASTM | ECL 1 |
| Subcontract | 48-hour Bivalve Embryo toxicity | None | Aquatic |
| Subcontract | Bioassay-Chronic 10day eohaustorius | None | Aquatic |
| 3546 | Microwave Extraction | SW846 | TAL IRV |
| SM 4500 NH3 B | Distillation, Ammonia | SM | TAL IRV |

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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:

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

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

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Job ID: 440-266381-1

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Lab Chronicle

Client: Haley & Aldrich, Inc. Job ID: 440-266381-1

Project/Site: Annual Sediment Arroyo

Client Sample ID: Arroyo_Semi-Sed_20200521 Lab Sample ID: 440-266381-1

Date Collected: 05/21/20 08:30 Matrix: Solid Date Received: 05/21/20 17:00

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3546 | | | 15.07 g | 2 mL | 609935 | 05/26/20 05:41 | L1A | TAL IRV |
| Total/NA | Analysis | 8081A | | 1 | | | 610567 | 05/29/20 15:32 | D1D | TAL IRV |
| Total/NA | Analysis | 9060 | | 1 | | | 329193 | 05/27/20 14:52 | FCG | TAL SEA |
| Total/NA | Analysis | Moisture | | 1 | | | 610088 | 05/26/20 18:26 | HTL | TAL IRV |
| Total/NA | Analysis | D4464 | | 1 | | | 73145 | 06/03/20 13:14 | C4LT | ECL 1 |

Client Sample ID: Arroyo_Semi-Sed_20200521 Lab Sample ID: 440-266381-1

 Date Collected: 05/21/20 08:30
 Matrix: Solid

 Date Received: 05/21/20 17:00
 Percent Solids: 78.3

| _ | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|---------------|-----|--------|----------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | SM 4500 NH3 B | | | 2.5011 g | 50 mL | 610117 | 05/27/20 04:00 | YZ | TAL IRV |
| Total/NA | Analysis | SM 4500 NH3 D | | 1 | | | 610123 | 05/27/20 05:30 | YZ | TAL IRV |

Laboratory References:

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

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

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

7/15/2020 (Rev. 1)

Job ID: 440-266381-1

Client: Haley & Aldrich, Inc.

Project/Site: Annual Sediment Arroyo

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609935/1-A

Matrix: Solid

Analysis Batch: 610192

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 609935

| , | MB | MB | | | | | | • | |
|-----------------------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 4,4'-DDD | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| 4,4'-DDE | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| 4,4'-DDT | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| Chlordane (technical) | ND | | 50 | 15 | ug/Kg | | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| Dieldrin | ND | | 5.0 | 1.5 | ug/Kg | | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| Toxaphene | ND | | 200 | 50 | ug/Kg | | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| | | | | | | | | | |

MB MB

| Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-------------------------------|---------------------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 54 | 21 - 117 | 05/26/20 05:41 | 05/27/20 14:21 | 1 |
| Tetrachloro-m-xvlene | 72 | 28 - 115 | 05/26/20 05:41 | 05/27/20 14:21 | 1 |

LCS LCS

Lab Sample ID: LCS 440-609935/2-A

Matrix: Solid

Analysis Batch: 610192

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

Prep Batch: 609935

%Rec. Limits 59 - 118

Analyte Added Result Qualifier Unit %Rec 4,4'-DDD 26.7 23.3 ug/Kg 87 4,4'-DDE 26.7 22.9 ug/Kg 86 55 - 115 4,4'-DDT 26.7 23.5 ug/Kg 88 60 - 131 cis-Chlordane 26.7 22.5 ug/Kg 84 56 - 115 trans-Chlordane 26.7 20.3 ug/Kg 76 38 - 150 Dieldrin 26.7 22.4 ug/Kg 57 - 115

Spike

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-------------------------------|-----------|-----------|----------|
| DCB Decachlorobiphenyl (Surr) | 67 | | 21 - 117 |
| Tetrachloro-m-xylene | 84 | | 28 - 115 |

Lab Sample ID: 720-98611-A-1-B MS

Matrix: Solid

Dieldrin

Analysis Batch: 610192

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

10 - 150

82

Prep Batch: 609935

Sample Sample Spike MS MS %Rec. Analyte **Result Qualifier** Added Result Qualifier %Rec Limits Unit 4,4'-DDD ND 26.2 82 10 - 150 21.5 ug/Kg 4,4'-DDE ND 26.2 22.6 ug/Kg 86 10 - 150 4,4'-DDT ND 26.2 22.6 ug/Kg 86 13 - 141 cis-Chlordane ND 26.2 21.1 ug/Kg 81 10 - 150 trans-Chlordane ND 26.2 19.0 72 10 - 150 ug/Kg

21.4

ug/Kg

26.2

MS MS

ND

| Surrogate | %Recovery Qualifier | Limits |
|-------------------------------|---------------------|----------|
| DCB Decachlorobiphenyl (Surr) | 61 | 21 - 117 |
| Tetrachloro-m-xvlene | 82 | 28 - 115 |

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-266381-1

Project/Site: Annual Sediment Arroyo

Lab Sample ID: 720-98611-A-1-C MSD

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

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 609935

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|-----------------|--------|-----------|-------|--------|-----------|-------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 4,4'-DDD | ND | | 25.9 | 20.2 | | ug/Kg | | 78 | 10 - 150 | 7 | 26 |
| 4,4'-DDE | ND | | 25.9 | 20.8 | | ug/Kg | | 81 | 10 - 150 | 7 | 40 |
| 4,4'-DDT | ND | | 25.9 | 21.4 | | ug/Kg | | 83 | 13 - 141 | 6 | 26 |
| cis-Chlordane | ND | | 25.9 | 19.6 | | ug/Kg | | 76 | 10 - 150 | 8 | 40 |
| trans-Chlordane | ND | | 25.9 | 17.7 | | ug/Kg | | 69 | 10 - 150 | 7 | 36 |
| Dieldrin | ND | | 25.9 | 20.0 | | ug/Kg | | 77 | 10 - 150 | 7 | 28 |
| | | | | | | | | | | | |

MSD MSD

Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl (Surr) 60 21 - 117 77 Tetrachloro-m-xylene 28 - 115

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 580-329193/5

Matrix: Solid

Matrix: Solid

Analysis Batch: 610192

Analysis Batch: 329193

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

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Matrix Spike

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

MB MB **Result Qualifier** RL **MDL** Unit Dil Fac Analyte Analyzed Prepared Total Organic Carbon - Average Dup 2000 97 mg/Kg 05/27/20 12:33 ND

Lab Sample ID: LCS 580-329193/6

Matrix: Solid

Analysis Batch: 329193

Spike LCS LCS %Rec. Added Result Qualifier Analyte Unit D %Rec Limits Total Organic Carbon - Average 5080 3650 mg/Kg 72 40 - 180

Dup

Lab Sample ID: LCSD 580-329193/7

Matrix: Solid

Analysis Batch: 329193

RPD Spike LCSD LCSD %Rec. Analyte Added Result Qualifier Unit %Rec Limits RPD Limit 5080 3350 mg/Kg 66 40 - 180 Total Organic Carbon - Average

Dup

Lab Sample ID: 320-61057-A-1 MS

Matrix: Solid

| Analysis Batch: 329193 | | | | | | | | | | |
|--------------------------------|--------|-----------|--------|--------|-----------|-------|---|------|----------|--|
| - | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Total Organic Carbon - Average | 230000 | | 120000 | 480000 | LM | mg/Kg | | 210 | 68 - 149 | |

Dup

Eurofins Calscience Irvine

Client: Haley & Aldrich, Inc. Job ID: 440-266381-1

Project/Site: Annual Sediment Arroyo

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

Lab Sample ID: 320-61057-A-1 MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 329193

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Unit %Rec RPD Limit Analyte Limits 120000 336000 BA 89 68 - 149 230000 mg/Kg 35 Total Organic Carbon - Average

Dup

Lab Sample ID: 320-61057-A-1 DU

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

Analysis Batch: 329193

Sample Sample DU DU RPD Result Qualifier Result Qualifier **Analyte** Unit D **RPD** Limit 230000 229000 mg/Kg 0.3 50 Total Organic Carbon - Average

Dup

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-610117/2-A Client Sample ID: Method Blank

Matrix: Solid

Analysis Batch: 610123 MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac

9.99 05/27/20 04:00 05/27/20 05:30 Ammonia (as N) $\overline{\mathsf{ND}}$ 2.00 mg/Kg

Lab Sample ID: LCS 440-610117/1-A

Matrix: Solid

Analysis Batch: 610123

Prep Batch: 610117 LCS LCS Spike %Rec. Added Analyte Result Qualifier Unit D %Rec Limits

Ammonia (as N) 50.0 44.78 90 85 - 115 mg/Kg

Lab Sample ID: 440-266269-A-1-L MS

Matrix: Solid

Analysis Batch: 610123 Prep Batch: 610117 Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

10000 98 75 - 125 Ammonia (as N) 8030 17880 mg/Kg

Lab Sample ID: 440-266269-A-1-M MSD

Matrix: Solid

Prep Type: Total/NA **Analysis Batch: 610123 Prep Batch: 610117** Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Limits Analyte Result Qualifier Unit D %Rec RPD Limit

8030 9960 ☼ 105 Ammonia (as N) 18470 mg/Kg 75 - 125 3

Eurofins Calscience Irvine

Prep Type: Total/NA

Prep Batch: 610117

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Matrix Spike

QC Association Summary

Client: Haley & Aldrich, Inc.

Project/Site: Annual Sediment Arroyo

GC Semi VOA

| Pren | Batcl | h• 6 | เกษ | 135 |
|------|-------|------|-----|-----|

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------------|-----------|--------|--------|------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | 3546 | |
| MB 440-609935/1-A | Method Blank | Total/NA | Solid | 3546 | |
| LCS 440-609935/2-A | Lab Control Sample | Total/NA | Solid | 3546 | |
| 720-98611-A-1-B MS | Matrix Spike | Total/NA | Solid | 3546 | |
| 720-98611-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 3546 | |

Analysis Batch: 610192

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| MB 440-609935/1-A | Method Blank | Total/NA | Solid | 8081A | 609935 |
| LCS 440-609935/2-A | Lab Control Sample | Total/NA | Solid | 8081A | 609935 |
| 720-98611-A-1-B MS | Matrix Spike | Total/NA | Solid | 8081A | 609935 |
| 720-98611-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8081A | 609935 |

Analysis Batch: 610567

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------------|-----------|--------|--------|------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | 8081A | 609935 |

General Chemistry

Analysis Batch: 329193

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | 9060 | _ |
| MB 580-329193/5 | Method Blank | Total/NA | Solid | 9060 | |
| LCS 580-329193/6 | Lab Control Sample | Total/NA | Solid | 9060 | |
| LCSD 580-329193/7 | Lab Control Sample Dup | Total/NA | Solid | 9060 | |
| 320-61057-A-1 MS | Matrix Spike | Total/NA | Solid | 9060 | |
| 320-61057-A-1 MSD | Matrix Spike Duplicate | Total/NA | Solid | 9060 | |
| 320-61057-A-1 DU | Duplicate | Total/NA | Solid | 9060 | |

Analysis Batch: 610088

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|----------|------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | Moisture | |
| 320-60985-A-17 DU | Duplicate | Total/NA | Solid | Moisture | |

Prep Batch: 610117

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|----------------------|--------------------------|-----------|--------|-------------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | SM 4500 NH3 B |
| MB 440-610117/2-A | Method Blank | Total/NA | Solid | SM 4500 NH3 B |
| LCS 440-610117/1-A | Lab Control Sample | Total/NA | Solid | SM 4500 NH3 B |
| 440-266269-A-1-L MS | Matrix Spike | Total/NA | Solid | SM 4500 NH3 B |
| 440-266269-A-1-M MSD | Matrix Spike Duplicate | Total/NA | Solid | SM 4500 NH3 B |

Analysis Batch: 610123

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------------|-----------|--------|---------------|------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | SM 4500 NH3 D | 610117 |
| MB 440-610117/2-A | Method Blank | Total/NA | Solid | SM 4500 NH3 D | 610117 |
| LCS 440-610117/1-A | Lab Control Sample | Total/NA | Solid | SM 4500 NH3 D | 610117 |
| 440-266269-A-1-L MS | Matrix Spike | Total/NA | Solid | SM 4500 NH3 D | 610117 |
| 440-266269-A-1-M MSD | Matrix Spike Duplicate | Total/NA | Solid | SM 4500 NH3 D | 610117 |

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Job ID: 440-266381-1

QC Association Summary

Job ID: 440-266381-1

Client: Haley & Aldrich, Inc. Project/Site: Annual Sediment Arroyo

Geotechnical

Analysis Batch: 73145

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------------|-----------|--------|--------|------------|
| 440-266381-1 | Arroyo_Semi-Sed_20200521 | Total/NA | Solid | D4464 | |
| LCS 570-73145/18 | Lab Control Sample | Total/NA | Solid | D4464 | |
| LCSD 570-73145/20 | Lab Control Sample Dup | Total/NA | Solid | D4464 | |

Definitions/Glossary

Client: Haley & Aldrich, Inc. Job ID: 440-266381-1

Project/Site: Annual Sediment Arroyo

Qualifiers

Qualifier

General Chemistry

Qualifier Description BA Relative percent difference out of control

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)

Estimated Detection Limit (Dioxin) **EDL** LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCI EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML 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)

Relative Percent Difference, a measure of the relative difference between two points **RPD**

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Eurofins Calscience Irvine

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: Annual Sediment Arroyo

Job ID: 440-266381-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| uthority | | ogram | Identification Number | Expiration Date |
|--|-------------|------------------------------|---|--|
| California | Sta | ate | 2706 | 06-30-20 |
| The following analytes the agency does not o | • | ort, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method | | Matrix | Analyte | |
| Analysis Method Moisture | Prep Method | Matrix Solid | Analyte Percent Moisture | |
| | | | | |

Laboratory: Eurofins Calscience LLC

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 | 10109 | 09-29-20 |
| | Districts | | |
| California | SCAQMD LAP | 17LA0919 | 11-30-20 |
| California | State | 2944 | 09-29-20 |
| Guam | State | 20-003R | 10-31-20 |
| Nevada | State | CA00111 | 07-31-20 |
| Oregon | NELAP | CA300001 | 01-29-21 |
| USDA | US Federal Programs | P330-20-00034 | 02-10-23 |
| Washington | State | C916-18 | 10-11-20 |

Laboratory: Eurofins TestAmerica, Seattle

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

| Authority | Program | Identification Number | Expiration Date |
|--------------------|-----------------------|-----------------------|------------------------|
| Alaska (UST) | State | 17-024 | 01-14-22 |
| ANAB | Dept. of Defense ELAP | L2236 | 01-19-22 |
| ANAB | ISO/IEC 17025 | L2236 | 01-20-23 |
| California | State | 2901 | 11-05-20 |
| Montana (UST) | State | NA | 04-13-21 |
| Oregon | NELAP | WA100007 | 11-06-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | US Federal Programs | P330-20-00031 | 02-10-23 |
| Washington | State | C553 | 02-18-21 |

Eurofins Calscience Irvine

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June 11, 2020

Ms. Katherine Miller Eurofins Calscience Irvine 17461 Derian Ave., Suite 100 Irvine, CA 92614-5817

Dear Ms. Miller:

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

CLIENT:

Eurofins Calscience Irvine

SAMPLE I.D.:

Arroyo Simi-Sed 20200521

DATE RECEIVED:

5/21/2020

ABC LAB. NO.:

CSE0520.211

Eohaustorius estuarius 10 Day Survival Sediment Bioassay

Percent Survival = 100.00% Survival

Scott Johnson

Laboratory Director

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Report Date:

11 Jun-20 12:02 (p 1 of 1)

| | | | | | | | Test | Code/ID: | CSE05 | 520.211e / 0 | 05-3749-780 | | |
|---------------|------------------|-----------|-----------------------------------|---------------------|------------|--------|--------|---|------------------------|--------------|-------------|--|--|
| Eohaustorius | 10-d Survival an | d Reburia | l Sedime | ent Test | | | | Aquatic | Bioassay & | Consultin | g Labs, Inc | | |
| Batch ID: | 17-5207-2715 | Te | Test Type: Survival-Reburial | | | | | Analyst: Joe Freas | | | | | |
| Start Date: | 26 May-20 13:00 | Pro | otocol: | EPA/600/R-94/0 | 025 (1994) | | Dilu | ent: Lab | t: Laboratory Seawater | | | | |
| Ending Date: | 05 Jun-20 13:00 | Sp | ecies: | Eohaustorius es | stuarius | | Brin | e: Not | Applicable | | | | |
| Test Length: | 10d 0h | Ta | xon: | Malacostraca | | | Sou | Source: Northwestern Aquatic Scienc Age | | | | | |
| Sample ID: | 08-7265-4594 | Co | de: | CSE0520.211e | | | Proje | ect: Bor | ing-SSFL NF | PDES | | | |
| Sample Date: | 21 May-20 08:30 | Ma | iterial: | Sediment | | | Sou | rce: Bio | assay Report | | | | |
| Receipt Date: | 21 May-20 11:30 | CA | S (PC): | | | | Stati | on: Arro | oyo_Simi-Se | d_2020052 | t | | |
| Sample Age: | 5d 4h | Cli | ent: | Eurofins Calscience | | | | | | | | | |
| Single Compa | arison Summary | | | | | | | | | | | | |
| Analysis ID | Endpoint | | Comparison Method | | | | | Comparison Result | | | | | |
| 05-2503-3868 | Survival Rate | | Wilcoxon Rank Sum Two-Sample Test | | | | | 100% pas | sed survival | rate | | | |
| Test Acceptal | bility | | | | | TAC | Limits | | | | | | |
| Analysis ID | Endpoint | | Attrib | ute | Test Stat | Lower | Upper | Overlap | Decision | | | | |
| 05-2503-3868 | Survival Rate | | Contro | ol Resp | 1 | 0.9 | >> | Yes | Passes C | riteria | | | |
| Survival Rate | Summary | | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | %Effect | | |
| 0 | N | 5 | 1.000 | 0 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.00% | 0.00% | | |
| 100 | | 5 | 1.000 | 0 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.00% | 0.00% | | |
| Survival Rate | Detail | | | | | | | | | | | | |
| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | | | | | | | |
| 0 | N | 1.0000 | 1.000 | 0 1.0000 | 1.0000 | 1.0000 | | | | | | | |
| 100 | | 1.0000 | 1.000 | 0 1.0000 | 1.0000 | 1.0000 | | | | | | | |
| Survival Rate | Binomials | | | | | | | | | | | | |
| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | | | | | | | |
| 0 | N | 20/20 | 20/20 | 20/20 | 20/20 | 20/20 | | | | | | | |
| 100 | | 20/20 | 20/20 | 20/20 | 20/20 | 20/20 | | | | | | | |
| | | | | | | | | | | | | | |

Report Date:

11 Jun-20 12:02 (p 1 of 2)

Test Code/ID: CSE0520.211e / 05-3749-7802

| | - 40 at 0 | | 0 - 45 4 7 | | | | | Aquatic | Bioassay & | Concultin | a Laba In | |
|---|--|--|---|--|---|--|--|-----------------------------|--|--------------------------------|------------------------------------|--|
| Eohaustorius | s 10-a Survivai an | ia Keburiai | Sealment | est | | | | Aquatic | Divassay o | Consultin | y Laus, III | |
| Analysis ID: Analyzed: | 05-2503-3868 11 Jun-20 12:02 | • | | | | | CETIS Version: CETISv1.9.5 Status Level: 1 | | | | | |
| Batch ID: | 17-5207-2715 | Tes | Test Type: Survival-Reb | | al | | Anal | yst: Joe | Freas | | | |
| Start Date: | 26 May-20 13:00 | Pro | tocol: EP | A/600/R-94/0 | 025 (1994) | | Dilue | nt: Lab | oratory Seav | vater | | |
| Ending Date: | 05 Jun-20 13:00 | Spe | Species: Eohaustorius | | stuarius | | Brine | : Not | Applicable | | | |
| Test Length: | 10d 0h | Tax | Taxon: Malacostraca | | | Sour | ce: Nor | thwestern A | quatic Scier | nc Age: | | |
| Sample ID: | 08-7265-4594 | Cod | Code: CSE0520,211e Project: | | | ct: Bor | ing-SSFL NI | PDES | | | | |
| Sample Date: | : 21 May-20 08:30 | Mat | erial: Sec | diment | | | Sour | ce: Bioa | assay Repor | t | | |
| _ | : 21 May-20 11:30 | CAS | S (PC): | | | | Stati | on: Arro | oyo_Simi-Se | d_2020052 | 1 | |
| Sample Age: | 5d 4h | Clie | ent: Eur | ofins Calscie | ence | | | | | | | |
| Data Transfoi | | Alt Hyp | | | | | | on Result | | | | |
| Angular (Corre | ected) | C > T | | | | | 100% pas | sed survival | rate | | | |
| Wilcoxon Rar | nk Sum Two-Sam | ple Test | | | | | | | | | | |
| Control | vs Conc-% | | Test Stat | Critical | Ties DF | P-Type | P-Value | Decision | (a:5%) | | | |
| Negative Conti | rol 100 | | 27.5 | n/a | 1 8 | Exact | 1.0000 | Non-Signi | ficant Effect | | | |
| Test Acceptal | bility Criteria | TAC L | imits | | | | | | | | | |
| Attribute | Test Stat | | Upper | Overlap | Decision | | | | | | | |
| Control Resp | 1 | 0.9 | >> | Yes | Passes Cr | riteria ₍ | | | | | | |
| ANOVA Table | 2 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Source | Sum Saua | ares | Mean Sou | ıare | DF | F Stat | P-Value | Decision | (a:5%) | | | |
| | Sum Squa | ares | Mean Squ | ıare | DF 1 | F Stat 65540 | P-Value <1.0E-37 | Decision Significan | | | | |
| Between | | ares | | ıare | DF 1 8 | F Stat 65540 | P-Value <1.0E-37 | Decision Significan | | | | |
| Between Error | 0 | ares | 0 | lare | 1 | | | | | | | |
| Between Error Total | 0 0 0 | ares | 0 | lare | 1 8 | | | | | | | |
| Between Error Total Survival Rate | 0 0 0 | | 0 | | 1 8 9 | 65540 — | <1.0E-37 | Significan | t Effect | CV% | %Effect | |
| Between Error Total Survival Rate Conc-% | 0 0 0 0 e Summary | Count | 0 | 95% LCL | 1 8 | | | Significan Max | t Effect Std Err | CV% | | |
| Between Error Total Survival Rate Conc-% 0 | 0 0 0 e Summary Code | | 0 0 Mean | | 1 8 9 95% UCL | 65540 Median | <1.0E-37 | Significan | t Effect | CV% 0.00% 0.00% | %Effect 0.00% 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 | 0 0 0 e Summary Code N | Count 5 5 | 0 0 Mean 1.0000 1.0000 | 95% LCL 1,0000 | 1 8 9 95% UCL 1.0000 | 65540 Median 1.0000 | <1.0E-37 Min 1.0000 | Significan Max 1.0000 | Std Err | 0.00% | 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Core | 0 0 0 e Summary Code | Count 5 5 | 0 0 Mean 1.0000 1.0000 | 95% LCL 1,0000 | 1 8 9 95% UCL 1.0000 | 65540 Median 1.0000 | <1.0E-37 Min 1.0000 | Significan Max 1.0000 | Std Err | 0.00% 0.00% | 0.00% 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Core | 0 0 0 e Summary Code N | Count 5 5 ned Summ | 0 0 0 Mean 1.0000 1.0000 | 95% LCL 1,0000 1,0000 | 9 95% UCL 1.0000 1.0000 | 65540 Median 1.0000 1.0000 | <1.0E-37 Min 1.0000 1.0000 | Max 1.0000 1.0000 | Std Err 0.0000 0.0000 | 0.00% | 0.00% 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr | 0 0 0 e Summary Code N rected) Transford | Count 5 5 ned Summ | 0 0 Mean 1.0000 1.0000 ary | 95% LCL 1.0000 1.0000 | 9 95% UCL 1.0000 1.0000 | Median 1.0000 1.0000 Median | <1.0E-37 Min 1.0000 1.0000 Min | Max 1.0000 1.0000 | Std Err 0.0000 0.0000 Std Err | 0.00% 0.00% CV% | 0.00% 0.00% %Effect | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 | 0 0 0 e Summary Code N rected) Transform | Count 5 5 ned Summ Count 5 | 0 0 1.0000 1.0000 ary Mean 1.459 | 95% LCL 1.0000 1.0000 95% LCL 1.458 | 95% UCL 1.0000 1.0000 95% UCL 1.459 | Median 1.0000 1.0000 Median 1.459 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effect 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Survival Rate | 0 0 0 e Summary Code N rected) Transform | Count 5 5 ned Summ Count 5 | 0 0 1.0000 1.0000 ary Mean 1.459 | 95% LCL 1.0000 1.0000 95% LCL 1.458 | 95% UCL 1.0000 1.0000 95% UCL 1.459 | Median 1.0000 1.0000 Median 1.459 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% %Effect 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Survival Rate Conc-% | 0 0 0 e Summary Code N rected) Transform Code N | Count 5 5 ned Summ Count 5 5 | 0 0 1.0000 1.0000 ary Mean 1.459 1.459 | 95% LCL 1.0000 1.0000 95% LCL 1.458 1.458 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 | Median 1.0000 1.0000 Median 1.459 1.459 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effect 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Survival Rate | O O O O O O O O O O O O O O O O O O O | Count 5 5 med Summ Count 5 5 | Mean 1.0000 1.0000 ary Mean 1.459 1.459 Rep 2 | 95% LCL 1.0000 1.0000 95% LCL 1.458 1.458 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effec 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Survival Rate Conc-% 0 100 | O O O O O O O O O O O O O O O O O O O | Count 5 5 5 med Summ Count 5 5 5 Fep 1 1.0000 1.0000 | 0 0 1.0000 1.0000 ary Mean 1.459 1.459 Rep 2 | 95% LCL 1.0000 1.0000 95% LCL 1.458 1.458 Rep 3 1.0000 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 1.0000 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 1.0000 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effec 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Conc Conc-% 0 100 Survival Rate Conc-% 0 100 Angular (Conc Conc-% 0 Angular (Conc Conc-% 0 | O O O O O O O O O O O O O O O O O O O | Count 5 5 ned Summ Count 5 5 Rep 1 1.0000 1.0000 ned Detail | Mean 1.0000 1.0000 ary Mean 1.459 1.459 Rep 2 1.0000 1.0000 | 95% LCL 1.0000 1.0000 95% LCL 1.458 1.458 Rep 3 1.0000 1.0000 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 1.0000 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 1.0000 1,0000 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effec 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Conc Conc-% 0 100 Survival Rate Conc-% 0 100 Angular (Conc Conc-% | 0 0 0 0 e Summary Code N rected) Transform Code N e Detail Code N | Count 5 5 5 med Summ Count 5 5 5 Fep 1 1.0000 1.0000 | 0 0 1.0000 1.0000 ary Mean 1.459 1.459 Rep 2 | 95% LCL 1.0000 1.0000 95% LCL 1.458 1.458 Rep 3 1.0000 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 1.0000 1.0000 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 1.0000 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effec 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Core Conc-% 0 100 Survival Rate Conc-% 0 100 Angular (Core Conc-% 0 | 0 0 0 0 e Summary Code N rected) Transform Code N e Detail Code N rected) Transform Code | Count 5 5 ned Summ Count 5 5 1.0000 1.0000 ned Detail Rep 1 | Mean 1.0000 1.0000 ary Mean 1.459 1.459 1.0000 1.0000 | 95% LCL 1,0000 1,0000 95% LCL 1,458 1,458 Rep 3 1,0000 1,0000 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 1.0000 1.0000 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 1.0000 1.0000 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effec 0.00% | |
| Between Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Angular (Corr Conc-% | O O O O O O O O O O O O O O O O O O O | Count 5 5 ned Summ Count 5 5 Rep 1 1.0000 1.0000 ned Detail Rep 1 1.459 | Mean 1.0000 1.0000 ary Mean 1.459 1.459 1.459 Rep 2 1.0000 1.0000 | 95% LCL 1,0000 1,0000 95% LCL 1,458 1,458 Rep 3 1,0000 1,0000 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 1.0000 1.459 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 1.0000 1.0000 Rep 5 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effec 0.00% | |
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| Error Total Survival Rate Conc-% 0 100 Angular (Corr Conc-% 0 100 Survival Rate Conc-% 0 100 | O O O O O O O O O O O O O O O O O O O | Count 5 5 ned Summ Count 5 5 Rep 1 1.0000 1.0000 ned Detail Rep 1 1.459 | Mean 1.0000 1.0000 ary Mean 1.459 1.459 1.459 Rep 2 1.0000 1.0000 | 95% LCL 1,0000 1,0000 95% LCL 1,458 1,458 Rep 3 1,0000 1,0000 | 95% UCL 1.0000 1.0000 95% UCL 1.459 1.459 Rep 4 1.0000 1.459 | Median 1.0000 1.0000 Median 1.459 1.459 Rep 5 1.0000 1.0000 Rep 5 | <1.0E-37 Min 1.0000 1.0000 Min 1.459 | Max 1.0000 1.0000 Max 1.459 | Std Err | 0.00% 0.00% CV% 0.00% | 0.00% 0.00% %Effect 0.00% | |

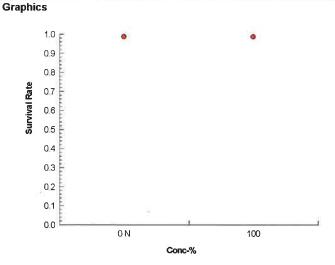
008-575-097-1

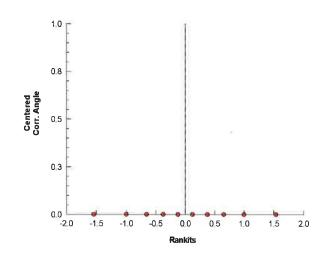
Report Date:

11 Jun-20 12:02 (p 2 of 2)

Test Code/ID: CSE0520.211e / 05-3749-7802

Eohaustorius 10-d Survival and Reburial Sediment TestAquatic Bioassay & Consulting Labs, Inc.Analysis ID:05-2503-3868Endpoint:Survival RateCETIS Version:CETIS Version:CETIS Version:CETIS Version:CETIS Version:Analyzed:11 Jun-20 12:02Analysis:Nonparametric-Two SampleStatus Level:1





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Report Date:

11 Jun-20 12:02 (p 1 of 2)

Test Code/ID:

CSE0520.211e / 05-3749-7802

| Eohaustorius ' | 10-d Survival a | and Rebu | ırial Sedime | ent Test | | | | Aquatio | Bioassay 8 | Consulti | ng Labs, Inc. | |
|------------------------------|--------------------------------|----------|---|---|-------------|------|----------|---|-----------------------------|------------|---------------|--|
| | | 0 | Test Type: Protocol: Species: Taxon: | Survival-Rebur EPA/600/R-94/ Eohaustorius e Malacostraca | (025 (1994) | | Di Bi | Analyst: Joe Freas Diluent: Laboratory Seawater Brine: Not Applicable Source: Northwestern Aquatic Scienc Ag | | | | |
| Sample ID: Sample Date: | 08-7265-4594 21 May-20 08:3 | | Code: Material: | CSE0520.211e Sediment Eurofins Calscience | | | | - | oring-SSFL N Dassay Repo | | | |
| Receipt Date: Sample Age: | * | | CAS (PC): Client: | | | | | ation: Ar | royo_Simi-Se | ed_2020052 | 21 | |
| Dissolved Oxy | gen-mg/L | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Count | |
| 0 | N | 2 | 9.25 | 0.991 | 17.51 | 8.6 | 9.9 | 0.65 | 0.9192 | 9.94% | 0 | |
| 100 | | 2 | 9.55 | 8.915 | 10.19 | 9.5 | 9.6 | 0.04998 | 0.07069 | 0.74% | 0 | |
| Overall | | 4 | 9.4 | 8,509 | 10.29 | 8.6 | 9.9 | 0.2799 | 0.5598 | 5.96% | 0 (0%) | |
| pH-Units | | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun | |
| 0 | N | 2 | 7.9 | 7.884 | 7.916 | 7.9 | 7.9 | 0 | 0 | 0.0% | 0 | |
| 100 | | 2 | 7.65 | 7.015 | 8,285 | 7.6 | 7.7 | 0.05 | 0.07071 | 0.92% | 0 | |
| Overall | | 4 | 7.775 | 7.536 | 8.014 | 7.6 | 7.9 | 0.075 | 0.15 | 1_93% | 0 (0%) | |
| Salinity-ppt | | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun | |
| 0 | N | 2 | 20 | 20 | 20 | 20 | 20 | 0 | 0 | 0.0% | 0 | |
| 100 | | 2 | 20 | 20 | 20 | 20 | 20 | 0 | 0 | 0.0% | 0 | |
| Overall | | 4 | 20 | 20 | 20 | 20 | 20 | 0 | 0 | 0.00% | 0 (0%) | |
| Temperature-° | С | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Coun | |
| 0 | N | 2 | 14.85 | 14.21 | 15.49 | 14.8 | 14.9 | 0.05004 | 0.07077 | 0_48% | 0 | |
| 100 | | 2 | 14.85 | 14.21 | 15.49 | 14.8 | 14.9 | 0.05004 | 0.07077 | 0.48% | 0 | |
| Overall | | 4 | 14.85 | 14.76 | 14.94 | 14.8 | 14.9 | 0.02887 | 0.05773 | 0.39% | 0 (0%) | |

Report Date:

11 Jun-20 12:02 (p 2 of 2)

Test Code/ID:

CSE0520.211e / 05-3749-7802

| Eohaustorius 10- | d Survival | Aquatic Bioassay & Consulting Labs, Inc | | | | | | | |
|------------------|------------|---|------|---------|----|--------|---------|---------|-------|
| Dissolved Oxyge | n-mg/L | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 8.6 | | | | | |
| 100 | | | | 9.5 | | | | | |
| 0 | N | 2 | | 9.9 | | | | | |
| 100 | | | | 9.6 | | | | | |
| pH-Units | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 7.9 | | | | | |
| 100 | | | | 7.7 | | | | | |
| 0 | N | 2 | | 7.9 | | | | | |
| 100 | | | | 7.6 | | | | | |
| Salinity-ppt | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 20 | | | | | |
| 100 | | | | 20 | | | | | |
| 0 | N | 2 | | 20 | | | | | |
| 100 | | | | 20 | | | | | |
| Temperature-°C | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes |
| 0 | N | 1 | | 14.8 | | | | | |
| 100 | | | | 14.8 | | | | | |
| 0 | N | 2 | | 14.9 | | | | | |
| 100 | | | | 14.9 | | | | | |



June 11, 2020

Ms. Katherine Miller **Eurofins Calscience Irvine** 17461 Derian Ave., Suite 100 Irvine, CA 92614-5817

Dear Ms. Miller:

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

CLIENT:

Eurofins Calscience Irvine

SAMPLE I.D.:

Arroyo Simi-Sed_20200521

DATE RECEIVED:

5/21/2020

ABC LAB. NO.:

CSE0520.211

CHRONIC MYTILUS SEDIMENT WATER INTERFACE BIOASSAY

NOEC = 100.00 %

1.00 TUc =

>100.00 % EC25 =

>100.00 % EC50 =

Yours very truly,

Scott Johnson

Laboratory Director

11 Jun-20 12:07 (p 1 of 1)

| | , , , , , | | | | | | Test | Code/ID: | CSE05 | 20.211m / 1 | 16-6189-0 | 326 |
|---------------|----------------|---------------|--------|------------------|-------------|---------|---------|------------------|----------------|--------------|------------|-----|
| Mussel Shell | Development T | est | | | | | | Aquatio | : Bioassay & | Consultin | g Labs, Ir | ıc. |
| Batch ID: | 00-2044-5617 | Test | Type: | Development-S | Survival | | Ana | l yst: Jo | e Freas | | | |
| Start Date: | 26 May-20 14:0 | 0 Prot | ocol: | EPA/600/R-95/ | /136 (1995) | | Dilu | ent: La | boratory Wate | er | | |
| Ending Date: | 28 May-20 14:0 | 0 Spe | cies: | Mytilus gallopro | ovincialis | | Brin | e: | | | | |
| Test Length: | 48h | Taxe | on: | Bivalvia | | | Sou | rce: Ca | irisbad Aquafa | arms CA | Age: | |
| Sample ID: | 18-0842-7902 | Cod | e: | CSE0520_211r | n | | Proj | ect: Bo | eing-SSFL N | PDES | | |
| Sample Date: | 21 May-20 08:3 | 0 Mate | erial: | Sediment | | | Sou | rce: Bio | oassay Report | i . | | |
| Receipt Date: | 21 May-20 11:3 | O CAS | (PC): | | | | Stat | ion: Ar | royo_Simi-Se | d_2020052 | 1 | |
| Sample Age: | 5d 6h | Clie | nt: | Eurofins Calsci | ience | | | | | | | |
| Single Compa | rison Summar | / | | | | | | | | | | |
| Analysis ID | Endpoint | | Comp | oarison Method | | | P-Value | Compar | ison Result | | | S |
| 19-6155-9832 | Combined Prop | ortion Normal | Equal | Variance t Two- | Sample Test | | 0,8038 | 100% pa | ssed combine | ed proportio | n normal | 1 |
| Test Acceptal | bility | | | | | TAC | Limits | | | | | |
| Analysis ID | Endpoint | | Attrib | ute | Test Stat | Lower | Upper | Overlap | Decision | | | |
| 19-6155-9832 | Combined Prop | ortion Normal | PMSE |) | 0.01911 | << | 0.25 | No | Passes C | riteria | | |
| Combined Pro | oportion Norma | l Summary | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | %Effec | ct |
| 0 - | N | 5 | 0.964 | 7 0.9491 | 0.9803 | 0.9502 | 0.9774 | 0.0056 | 0.0126 | 1.30% | 0.00% | |
| 100 | | 5 | 0.971 | 9 0,9549 | 0.9890 | 0.9548 | 0.9910 | 0.0061 | 0.0137 | 1.41% | -0.75% | 6 |
| Combined Pro | oportion Norma | l Detail | | | | | | | | | | |
| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | | | | | | |
| 0 | N | 0.9548 | 0.977 | 4 0.9638 | 0.9502 | 0.9774 | | | | | | |
| 100 | | 0.9638 | 0.954 | 8 0.9729 | 0.9910 | 0.9774 | | | | | | |
| Combined Pro | oportion Norma | l Binomials | | | | | | | | | | |
| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | | | | | | |
| 0 | N | 211/221 | 216/2 | 21 213/221 | 210/221 | 216/221 | | | | | | |
| 100 | | 213/221 | 211/2 | 21 215/221 | 219/221 | 216/221 | | | | | | |

7/15/2020 (Rev. 1)

Report Date:

11 Jun-20 12:06 (p 1 of 2)

Test Code/ID: CSE0520.211m / 16-6189-0326

Mussel Shell Development Test Aquatic Bioassay & Consulting Labs, Inc. Analysis ID: 19-6155-9832 **Endpoint:** Combined Proportion Normal **CETIS Version:** CETISv1.9.5 Analyzed: 11 Jun-20 12:06 Analysis: Parametric-Two Sample Status Level: Batch ID: Joe Freas 00-2044-5617 Test Type: Development-Survival Analyst: Start Date: Protocol: EPA/600/R-95/136 (1995) 26 May-20 14:00 Diluent: Laboratory Water Ending Date: 28 May-20 14:00 Species: Brine: Mytilus galloprovincialis Test Length: 48h Taxon: Bivalvia Source: Carlsbad Aquafarms CA Age: Sample ID: 18-0842-7902 Code: CSE0520.211m Project: Boeing-SSFL NPDES Sample Date: 21 May-20 08:30 Material: Sediment Source: Bioassay Report Receipt Date: 21 May-20 11:30 CAS (PC): Station: Arroyo_Simi-Sed_20200521 Client: Sample Age: 5d 6h **Eurofins Calscience**

| Data Transform | Alt Hyp | Comparison Result | PMSD |
|---------------------|---------|--|-------|
| Angular (Corrected) | C > T | 100% passed combined proportion normal | 1.91% |

Equal Variance t Two-Sample Test

| Control vs | Conc-% | Test Stat | Critical | MSD | DF | P-Type | P-Value | Decision(a:5%) |
|------------------|--------|-----------|----------|-------|----|--------|---------|------------------------|
| Negative Control | 100 | -0.904 | 1.86 | 0.047 | 8 | CDF | 0.8038 | Non-Significant Effect |

| Test Acceptabili | ty Criteria | TAC | Limits | | | |
|------------------|-------------|-------|--------|---------|-----------------|--|
| Attribute | Test Stat | Lower | Upper | Overlap | Decision | |
| PMSD | 0.01911 | << | 0.25 | No | Passes Criteria | |
| | | | | | | |

ANOVA Table

| Source | Sum Squares | Mean Square | DF | F Stat | P-Value | Decision(α:5%) |
|---------|-------------|-------------|----|--------|---------|------------------------|
| Between | 0.0013267 | 0.0013267 | 1 | 0.8173 | 0.3924 | Non-Significant Effect |
| Error | 0.0129859 | 0.0016232 | 8 | | | |
| Total | 0.0143126 | | 9 | | | |

ANOVA Assumptions Tests

| Attribute | Test | Test Stat | Critical | P-Value | Decision(α:1%) |
|--------------|--------------------------------------|-----------|----------|---------|---------------------|
| Variance | Levene Equality of Variance Test | 0.07994 | 11.26 | 0.7846 | Equal Variances |
| | Mod Levene Equality of Variance Test | 0.1798 | 13,75 | 0.6863 | Equal Variances |
| | Variance Ratio F Test | 1,703 | 23,15 | 0.6187 | Equal Variances |
| Distribution | Anderson-Darling A2 Normality Test | 0 2762 | 3.878 | 0.6855 | Normal Distribution |
| | D'Agostino Skewness Test | 0.6774 | 2.576 | 0.4982 | Normal Distribution |
| | Kolmogorov-Smirnov D Test | 0.1679 | 0.3025 | 0.6876 | Normal Distribution |
| | Shapiro-Wilk W Normality Test | 0.9546 | 0.7411 | 0.7228 | Normal Distribution |

Combined Proportion Normal Summary

| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Median | Min | Max | Std Err | CV% | %Effect |
|--------|------|-------|--------|---------|---------|--------|--------|--------|---------|-------|---------|
| 0 | N | 5 | 0.9647 | 0.9491 | 0.9803 | 0.9638 | 0.9502 | 0.9774 | 0.0056 | 1.30% | 0.00% |
| 100 | | 5 | 0.9719 | 0.9549 | 0.9890 | 0.9729 | 0.9548 | 0.9910 | 0.0061 | 1.41% | -0.75% |

Angular (Corrected) Transformed Summary

| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Median | Min | Max | Std Err | CV% | %Effect |
|--------|------|-------|-------|---------|---------|--------|-------|-------|---------|-------|---------|
| 0 | N | 5 | 1,384 | 1.341 | 1.427 | 1.379 | 1.346 | 1.42 | 0.0155 | 2.50% | 0.00% |
| 100 | | 5 | 1.407 | 1.351 | 1.463 | 1.405 | 1.356 | 1.476 | 0.02023 | 3.21% | -1.66% |

Combined Proportion Normal Detail

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | |
|--------|------|--------|--------|--------|--------|--------|--|
| 0 | N | 0.9548 | 0.9774 | 0.9638 | 0.9502 | 0.9774 | |
| 100 | | 0,9638 | 0,9548 | 0,9729 | 0.9910 | 0.9774 | |

Angular (Corrected) Transformed Detail

008-575-097-1

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 |
|--------|------|-------|-------|-------|-------|-------|
| 0 | N | 1.356 | 1.42 | 1.379 | 1.346 | 1.42 |
| 100 | | 1.379 | 1.356 | 1.405 | 1.476 | 1.42 |

CETIS™ v1.9.5.5

Page 29 of 48

Analyst: _____ QA:____

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Report Date: Test Code/ID:

11 Jun-20 12:06 (p 2 of 2)

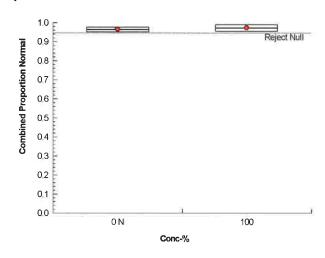
CSE0520.211m / 16-6189-0326

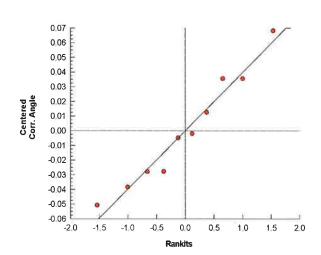
| Mussel Shell | Development Test | | | Aquatic | Bioassay & Consulting Labs, Inc. |
|--------------|------------------|-----------|----------------------------|----------------|----------------------------------|
| Analysis ID: | 19-6155-9832 | Endpoint: | Combined Proportion Normal | CETIS Version: | CETISv1.9.5 |
| Analyzed: | 11 Jun-20 12:06 | Analysis: | Parametric-Two Sample | Status Level: | 1 |

Combined Proportion Normal Binomials

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | |
|--------|------|---------|---------|---------|---------|---------|--|
| 0 | N | 211/221 | 216/221 | 213/221 | 210/221 | 216/221 | |
| 100 | | 213/221 | 211/221 | 215/221 | 219/221 | 216/221 | |

Graphics





Report Date:

11 Jun-20 12:06 (p 1 of 2)

Test Code/ID:

CSE0520.211m / 16-6189-0326

| Mussel Shell | Development Te | st | | | | | | Aqua | tic Bioassay 8 | Consultin | g Labs, Inc. |
|--|---|-------|---|---|-------------|------|------|----------------------|---|-----------|--------------|
| Batch ID: Start Date: Ending Date: Test Length: | 00-2044-5617 26 May-20 14:00 28 May-20 14:00 48h | | Test Type: Protocol: Species: Taxon: | Development-S EPA/600/R-95 Mytilus gallopro Bivalvia | /136 (1995) | | | Diluent: l Brine: | loe Freas .aboratory Wat Carlsbad Aquat | | Age: |
| • | 18-0842-7902 21 May-20 08:30 21 May-20 11:30 5d 6h |) | Code: Material: CAS (PC): Client: | CSE0520.211n Sediment Eurofins Calso | | | | Source: E | Boeing-SSFL N Bioassay Repor Arroyo_Simi-Se | t | 1 |
| Dissolved Oxy | ygen-mg/L | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Count |
| 0 | N | 2 | 7.75 | -3.05 | 18.55 | 6.9 | 8.6 | 0.85 | 1.202 | 15.51% | 0 |
| 100 | | 2 | 8.1 | 3.018 | 13.18 | 7.7 | 8.5 | 0.4 | 0.5657 | 6.98% | 0 |
| Overall | | 4 | 7.925 | 6.663 | 9.187 | 6.9 | 8.6 | 0.3966 | 0.7932 | 10.01% | 0 (0%) |
| pH-Units | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Count |
| 0 | N | 2 | 7.9 | 7.884 | 7.916 | 7.9 | 7.9 | 0 | 0 | 0.0% | 0 |
| 100 | | 2 | 7.55 | 6,915 | 8.185 | 7.5 | 7.6 | 0_05 | 0_07071 | 0.94% | 0 |
| Overall | | 4 | 7.725 | 7.397 | 8.053 | 7.5 | 7.9 | 0.1031 | 0.2062 | 2.67% | 0 (0%) |
| Salinity-ppt | | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Count |
| 0 | N | 2 | 34 | 34 | 34 | 34 | 34 | 0 | 0 | 0,0% | 0 |
| 100 | | 2 | 34 | 34 | 34 | 34 | 34 | 0 | 0 | 0.0% | 0 |
| Overall | | 4 | 34 | 34 | 34 | 34 | 34 | 0 | 0 | 0.00% | 0 (0%) |
| Temperature- | °C | | | | | | | | | | |
| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV% | QA Count |
| 0 | N | 2 | 14.75 | 14.11 | 15.39 | 14.7 | 14.8 | 0.05002 | 0.07075 | 0.48% | 0 |
| 100 | | 2 | 14.75 | 14.11 | 15.39 | 14.7 | 14.8 | 0.05002 | 0.07075 | 0.48% | 0 |
| Overall | | 4 | 14.75 | 14.66 | 14.84 | 14.7 | 14.8 | 0.02887 | 0.05774 | 0.39% | 0 (0%) |

7/15/2020 (Rev. 1)

Report Date: Test Code/ID: 11 Jun-20 12:06 (p 2 of 2) CSE0520.211m / 16-6189-0326

| | | | | | | | | Test C | ode/ID: | CSE0520.211m / 16-6189-0326 |
|------------------|----------|------|------|---------|----|--------|---------|---------|-----------|----------------------------------|
| Mussel Shell Dev | elopment | Test | | | | | | | Aquatic I | Bioassay & Consulting Labs, Inc. |
| Dissolved Oxyger | n-mg/L | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 8.6 | | | | | | |
| 100 | | | | 7.7 | | | | | | |
| 0 | N | 2 | | 6.9 | | | | | | |
| 100 | | | | 8.5 | | | | | | |
| pH-Units | | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 7.9 | | | | | | |
| 100 | | | | 7.5 | | | | | | |
| 0 | N | 2 | | 7.9 | | | | | | |
| 100 | | | | 7.6 | | | | | | |
| Salinity-ppt | | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 34 | | | | | | |
| 100 | | | | 34 | | | | | | |
| 0 | N | 2 | | 34 | | | | | | |
| 100 | | | | 34 | | | | | | |
| Temperature-°C | | | | | | | | | | |
| Conc-% | Code | Read | Time | Measure | QA | Diff-% | Inst ID | Analyst | Notes | |
| 0 | N | 1 | | 14.7 | | | | | | |
| 100 | | | | 14.7 | | | | | | |
| 0 | N | 2 | | 14.8 | | | | | | |
| 100 | | | | 14.8 | | | | | | |

Analyst: QA: 7/15/2020 (Rev. 1)

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

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2019-2020 Rainy Season Version 2

| | Rolinquished By | Relinquished B | Relinquished B | | | | | | All Of City | Arroy of the | | | | Sample Description | Sampler: Dan Smith | TestAmenta s se Agreement# 2019 TestAmenta Lab | Eurofins Calscience 17461 Derian Ave t Invine CA 92614 Tel: 949-260-3218 | 5333 Mission Center | Client Name/Address: |
|--------------|-------------------|--|---------------------------|-----|--|----------|----------|---|-----------------------------------|--------------------------|----------|----------|----------|-----------------------|---|---|--|--|-------------------------------|
| | S. Awa | Descrition Descrime | Date/Time | | | | | | | Arrayo Similard 20200521 | | | | Sample l.D. | an Smith | TestAmenca is services under mis CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-1 estAmenca by and between Heley & Aldrich, Inc., its subsidiaries and efficies, and TestAmenca Laboratories Inc. | Euroffins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218 | Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 | e/Address: |
| | Company Company | 21-2020, | ne | | | | | 10830 | / | Someton / | | | | Sampling Date/Time | | eccordance with the T&Cs within E lidrich, Inc., its subsidiaries and eff | tian Bondoc | | |
| | Company. | Company. | Company | | | SE | æ | SE | SE | SE | SE | ЭВ | æ | Sample Matrix | | listes, and | | | |
| | 1130 | | | | | 8 oz Jar | θ oz Jar | 1L wide mout Plastic | 1L wide mouth Plastic | ⊕ oz Jar | θ oz Jar | 8 oz Jar | 8 oz Jar | Container Type | | | Annu | | |
| | 0 | F | | | | _ | _ | 4 | ω | 1 | -1 | _ | 1 | # of Cont. | Field M: 978.234.5 | Project M 520.289.8 | al Sedim | | |
| | | A | | | | None | None | 4°C in the Dark | None | None | None | None | None | nt. Preservative | Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell) | Project Manager: Katherine Miller 520.289.8606, 520.904 6944 (cell) | Boeing-SSFL NPDES Permit 2015 Annual Sediment Arroyo Simi-Frontier Park | Project: | |
| 3) | Received By | Received By | Legend: A=Annual | | | 310 | 305 | 300 | 295 | 290 | 280 | 246 | 185 | Bottle # | ominick 0702 (cell | herine Mille 4 6944 (cel | NPDES 15 Simi-Frontie | | |
| | Ву | A POLICE OF THE PROPERTY OF TH | *Annual | | | No | No | No | No | No | N 0 | No. | No | # MS/MSD | | | r Park | | |
| | | 2 | | W | | | | | | | | | × | | Ammonia (SM4 | 500-NH3-D) | | | T |
| | | CN. | | | | - | | | | | | × | | Total | l Organic Carbor | (9060) | | | |
| | Date/Time: | Date/Time: | Date/Ti | | | | | | | n: | × | | | PCB | s (SW8082) | | | | AN |
| | ĕ | Date/Time: | e. | 113 | | | | | | × | | | | Chlor (SW8 | rdane, Dieldrin, ⁻ 3081A) | Foxaphene, 4,4- | DDD, 4,4-DDE, 4,4 | 4-DDT | ANALYSIS |
| | | 60 | | | | | | | × | | | | | 48-ho | our Bivalve Emb | ryo toxicity (Myti | lus edulis or Crass /entura, CA | ostrea | REQ |
| | Store s Data R | 24 Hou Sample | Turner | | | | | × | | N. | | | | | nic 10-day eoha V600/R-94/025) | | | | REQUIRED |
| | Intact:On ice: | 24 Hour., 72 Hour 48 Hour., 5 Day: Sample Integrity: (Check) | Turn-ground time: (Check) | | | | × | | | | | | | | oisture (2540G) | | | | 1 |
| | ts: (Che | (Check) | Check | | | × | | | | | | | | Partie | cle Size Distribul | ion (D422 M) | | | 1 |
| John - 1 200 | × 5 3 | Normal: | | | | | | Keep sample in cooler in the dark until delivered to ABC Labs | Deliver to ABC Labs in Ventura CA | | | | | Comments | Checked by: 4146 | conductivity 1/20 µmhos/cm | 71/2 | Field readings: (Include units) Time of readings 0820 | Field Readings Meter serial # |





2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 TestAmerica North Canton 4101 Shuffel Street NW North Canton OH 44720

Report Date: May 29, 2020 12:47

Project: Annual Sediment Arroyo

Account #: 41440 Group Number: 2100588 SDG: SSF19 PO Number: 44009879 State of Sample Origin: CA

Electronic Copy To TestAmerica Irvine

Attn: Christian Bondoc

Respectfully Submitted,

Kay Mour

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/. Historical copies may be requested through your project manager.

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Lancaster Laboratories Environmental

Arroyo_Semi-Sed_20200521 (440-266381-1)







2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

SAMPLE INFORMATION

Client Sample Description

Sample Collection Date/Time

ELLE#

05/21/2020 08:30

1320380

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



Analysis Report

Sample Description: Arroyo_Semi-Sed_20200521 (440-266381-1)

Annual Sedment Arroyo

Annual Sediment Arroyo

Submittal Date/Time: 05/23/2020 09:41 Collection Date/Time: 05/21/2020 08:30 SDG#: SSF19-01

Project Name:

TestAmerica North Canton ELLE Sample #: SW 1320380 **ELLE Group #:** 2100588

Matrix: Solid

Dry Dry Method Limit of CAT Dilution Dry **Analysis Name CAS Number Detection Limit*** Quantitation Result Factor No. **PCBs** SW-846 8082 ug/kg ug/kg ug/kg 4.5 10736 PCB-1016 12674-11-2 N.D. D1 21 1 10736 PCB-1221 11104-28-2 N.D. D1 21 5.7 10736 21 PCB-1232 11141-16-5 N.D. D1 9.9 10736 PCB-1242 N.D. D1 21 53469-21-9 4.1 10736 PCB-1248 N.D. D1 21 12672-29-6 4 1 10736 PCB-1254 11097-69-1 N.D. D1 21 4.1 10736 PCB-1260 11096-82-5 N.D. D2 6.1 21 SM 2540 G-1997 **Wet Chemistry %Moisture Calc** 00111 Moisture 19.6 0.50 0.50 Moisture represents the loss in weight of the sample after oven drying at

103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

CA ELAP Lab Certification No. 2792

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|---------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 10736 | PCBs in Soil (microwave) | SW-846 8082 | 1 | 201480005A | 05/28/2020 16:16 | Elizabeth E Donovan | 1 | | | | |
| 10497 | PCB Microwave Soil Extraction | SW-846 3546 | 1 | 201480005A | 05/27/2020 17:10 | Scott Crawford | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 20149820001A | 05/28/2020 10:41 | William C Schwebel | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEn

Quality Control Summary

Client Name: TestAmerica North Canton Group Number: 2100588

Reported: 05/29/2020 12:47

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Result | MDL** | LOQ |
|------------|---|---|
| ug/kg | ug/kg | ug/kg |
| Sample num | ber(s): 1320380 | |
| N.D. | 3.6 | 17 |
| N.D. | 4.6 | 17 |
| N.D. | 8.0 | 17 |
| N.D. | 3.3 | 17 |
| N.D. | 3.3 | 17 |
| N.D. | 3.3 | 17 |
| N.D. | 4.9 | 17 |
| | ug/kg Sample num N.D. N.D. N.D. N.D. N.D. N.D. N.D. | ug/kg ug/kg Sample number(s): 1320380 N.D. 3.6 N.D. 4.6 N.D. 8.0 N.D. 3.3 N.D. 3.3 N.D. 3.3 |

LCS/LCSD

| Analysis Name | LCS Spike Added ug/kg | LCS Conc ug/kg | LCSD Spike Added ug/kg | LCSD Conc ug/kg | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|-----------------------------|----------------------|------------------------------|-----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 201480005A | Sample number | (s): 1320380 | | | | | | | |
| PCB-1016 | 166.9 | 176.16 | | | 106 | | 76-121 | | |
| PCB-1260 | 167.03 | 192.56 | | | 115 | | 79-130 | | |
| | % | % | % | % | | | | | |
| Batch number: 20149820001A | Sample number | (s): 1320380 | | | | | | | |
| Moisture | 89.5 | 89.37 | | | 100 | | 99-101 | | |

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

| Analysis Name | Unspiked Conc ug/kg | MS Spike Added ug/kg | MS Conc ug/kg | MSD Spike Added ug/kg | MSD Conc ug/kg | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|--------------------------|---------------------------|----------------------------|---------------------|-----------------------------|----------------------|------------|-------------|------------------|-----|------------|
| Batch number: 201480005A | Sample numbe | er(s): 1320380 | UNSPK: 13 | 320380 | | | | | | |
| PCB-1016 | N.D. | 166.35 | 167.98 | 165.79 | 165.44 | 101 | 100 | 76-121 | 2 | 50 |
| PCB-1260 | N.D. | 166.48 | 182.7 | 165.93 | 182.34 | 110 | 110 | 79-130 | 0 | 50 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Quality Control Summary

Client Name: TestAmerica North Canton Group Number: 2100588

Reported: 05/29/2020 12:47

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PCBs in Soil (microwave)

Batch number: 201480005A

| | Tetrachloro-m-xylene-D1 | Decachlorobiphenyl-D1 | Tetrachloro-m-xylene-D2 | Decachlorobiphenyl-D2 |
|---------|-------------------------|-----------------------|-------------------------|-----------------------|
| 1320380 | 92 | 94 | 98 | 98 |
| Blank | 94 | 98 | 100 | 99 |
| LCS | 91 | 95 | 99 | 103 |
| MS | 95 | 97 | 104 | 101 |
| MSD | 91 | 93 | 99 | 105 |
| Limits: | 53-140 | 45-143 | 53-140 | 45-143 |

5

5

6

10

13

14

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

Eurofins Calscience Irvine

17461 Derian Ave Suite 100

Irvine, CA 92614-5817

N-41490 6-2100788 5-1320330 **Chain of Custody Record**

|--|

💸 eurofins **Environment Testing** America

| Phone: 949-261-1022 Fax; 949-260-3297 | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------------------------|--|--|---|---------------------|----------------|--|-------------|-------|--------------------|--------|----------------------------------|--------------|--|--|-----------|----------|-----------|-------|----------------|---|---------|---|-----------|
| Client Information (Sub Contract Lab) | Sampler: | , | | | PM: ndoc | | nristia | an M | | | | | ľ | Carrie | r Trac | king I | No(s): | | | | COC No: 440-15637! | 5.1 | | |
| Client Contact: Shipping/Receiving | Phone: | | | E-M chri | ristiaı | | | | | nerica | | om | | State o | | | | | | F | Page: Page 1 of 1 | | | |
| Company: Eurofins Lancaster Laboratories Env LLC | | | | | | | | | | (See n liforni: | | | | | | | | | | J | Job #: 440-26638 ⁻ | | | |
| Address: 2425 New Holland Pike, , | Due Date Request 6/3/2020 | ted: | | | | | | | | Ar | naly | sis F | Req | uest | ted | | | | | F | Preservation | | | |
| City: Lancaster | TAT Requested (d | lays): | | | | | PCB- | | | | | | | | | | | | | | A - HCL B - NaOH C - Zn Acetat | | M - Hexane N - None O - AsNaO2 | |
| State, Zip: PA, 17601 | | | | | | | 82LL- F | | | | | | | | | | | | | | D - Nitric Acid E - NaHSO4 F - MeOH | | P - Na2O4S Q - Na2SO3 R - Na2S2O3 | |
| Phone: 717-656-2300(Tel) | PO #: | | | | _ [9 | | Labs)/ 8082LL- | | | | | | | | | | | | | | G - Amchlor H - Ascorbic | Acid | S - H2SO4 T - TSP Dodeo | cahydrate |
| Email: | WO #: | | | | as or I | ĮžΙ | 章 | | | | | | | | | | | | | go I. | I - Ice J - DI Water K - EDTA | | U - Acetone V - MCAA W - pH 4-5 | |
| Project Name: Annual Sediment Arroyo | Project #: 44009879 | | | | Sample (Yes | Yes or | ancas | | | | | | | | | | | | | ntain | L - EDA | | Z - other (spec | aify) |
| Site: | SSOW#: | | | T | Sam |) dsw | PCB-1 | , | | | | | | | | | | | | 5 | Other: | | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S≃solid, O=waste/oli, BT=Tissue, A=Air | Č Field Filtered | Perform MS/I | SUB (8082LL- PCB- Lancas Lancaster Labs | | | | | | | | | | | | | Total Number | Spec | ial Ins | structions/N | iote: |
| The state of the s | | >< | Preserva | ation Code: | \mathbb{X} | \boxtimes | | | | | | | | | | | | | | X | | | | |
| Arroyo_Semi-Sed_20200521 (440-266381-1) | 5/21/20 | 08:30 Pacific | | Solid | | \blacksquare | Х | | | | | | | | | _ | | | | 1 | evel IV pacl | kage n | ieeded | |
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| The State of the S | <u> </u> | | | | + | H | | \vdash | | \vdash | | - | \dashv | + | + | + | + | + | | + | | | | |
| | | | | | H | | | $\ \cdot\ $ | | | | \blacksquare | - | + | + | + | + | + | | + | | | | - |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience maintain accreditation in the State of Origin listed above for analysis/tests/matrix Calscience attention immediately. If all requested accreditations are current to describe the contract of the contract o | k being analyzed, the | samples must | t be shipped ba | ack to the Euro | ofins (| Calsci | ience | e labora | atory | or othe | | | | | | | | | | | | | | |
| Possible Hazard Identification | | | | | | San | | | | | | nay t | | | | | | s are | | | d longer th | nan 1 | | |
| Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliver | able Rank: | 2 | | | Spe | | | | Client | | quire | | sposa ts: | al By | Lab | | | - Arc | chive | e For | | Months | |
| Empty Kit-Relinquished by: | 7 Times y = 2 | Date: | | | TTi | me: | | | | 110, 5, | | 44 | 1110 | | detho: | d of S | Shipme | ent: | | | | | | |
| Relinguished by: | Date/Time: | L | | Company | | | Rece | eived b | by: | | | | | | | | Date/T | | | | | | Company | |
| Relinquished by: | 5/22/20 Date/Time: | <u> </u> | 700 | EC 7/ | ピし | | Rece | eived b | by: | | | | | para de la constante de la con | SOCIETY OF THE PARTY _ | Date/T | Гіте: | | angere a de la | | | Company | |
| Relinquished by: | Date/Time: | | SERVICE DAY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN | Company | | Received by: | | | | | | Date/Time: S123 20 09 41 Company | | | | | | | | | | | | |
| Custody Seals Intact: Custody Seal No.: | | Taren de la companya de la companya de la companya de la companya de la companya de la companya de la companya | | | | | | | • | <u> </u> | | \frac{1}{2} | or Po | a morko | | | | <u>23</u> | | | | | Company | _ |
| Δ Yes Δ No | | | | | | | Coole | erien | npera | iture(s) |) C ar | ia Otne | er Ker | marks | • | 0. | ,Q | | , DI | TIL | 16 | | | |

Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID:

Group Number(s):

285378

Client: Eurofins Calscience Irvine

Annual Sediment Arroyo

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Date:

05/23/2020

Number of Packages:

1

Number of Projects:

1

State/Province of Origin:

<u>CA</u>

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

Yes

Total Trip Blank Qty:

0.

Samples Chilled:

Yes

Air Quality Samples Present:

No

Paperwork Enclosed:

Yes

Samples Intact:

Yes

Missing Samples:

No

Extra Samples:

No

Discrepancy in Container Qty on COC:

No

Unpacked by Nicole Reiff

Samples Chilled Details: Annual Sediment Arroyo

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler #

Thermometer ID

Corrected Temp

Therm. Type DT

Ice Type

Ice Present?

Ice Container

Elevated Temp?

1 .

DT146

8.0

Wet

Loose

Ν

Page 1 of 1

2425 New Holland Pike Lancaster, PA 17605-2425

P88840 8 48

T | 717-656-2300 F | 717-656-2681 www.LancasterLabs.com 7/15/2020 (Rev. 1)

ppb

basis

Dry weight

parts per billion

Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

millilitor(c)

The following defines common symbols and abbreviations used in reporting technical data:

Rolaw Minimum Quantitation Lavel

| BMQL | Below Minimum Quantitation Level | mL | milliliter(s) |
|----------|----------------------------------|------------------------|---|
| С | degrees Celsius | MPN | Most Probable Number |
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | | be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For igrams per liter (mg/l), because one liter of water has a weig uivalent to one microliter per liter of gas. |

as-received basis.

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is less than the LOQ |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is less than the LOQ |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is less than the LOQ |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is less than the LOQ |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| P^ | Concentration difference between the primary and confirmation column > 40%. The higher result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

4 4

| Project Name 2015 Name | Client Name/Address | e/Address. | | | | | | | | | र्दि | ANAL YSIS REQUIRED | REGU | RED | | Field Readings Me | Meter serial |
|--|--|---|---|------------------------------|---------------------------|------------------------|---------------------------------|-------------------------|-----------------|-----|--|-------------------------------|-----------------------------------|-------------------------------------|----------------------------|--|--------------|
| Project Manager: Kelherine Willer Project Manager: Kelherine W | Haley & Al 5333 Missic | Idrich on Center Rd Suite 300 | | | | | Project | | | | | 700 | serite | | | nclude units) | |
| Project Manager Manage | San Diego, | CA 92108 | | | | Boein | SSFL NPO | g | | | | b 'b | 085 | | | | |
| Poject Manager: Katherine Miller S20,299 6944 (self) S20,294 | Eurofins C. 17461 Deri Irvine CA 9. Tel: 949-26 | alscience irvine Contact* Christ an Ave Sulte #100 2614 0-3218 | stian Bondoc | | Annua | } Sedimen | ermit 2015 t Arroyo Simi | -Frontier f | ¥ | | | ,900°, 4,400E, | ius edulis or Cra AC ,shitter | SToxicity אכטיגא, יבא | | 6.92 | |
| Sample Distertion Sample Description Distertion | TestAmerica e se Agreement# 2011 TestAmerice Lab | envices under this CoC shall be performed in a 9-22-Test/america by and between Halley & AA instances inc | accordance with the T&Cs within Bi Verich, inc , its subsidientes end effi | larket Service lates, and | 52 52 | oject Mar 0.289.860 | ager: Katheri 26, 520 904.63 | ne Miller 944 (cell) | | | (ngne) | 4,4 ,snangexo | y abc Lebsin' yo toxicity (Mys | nnautes euthoteu etr : sab. '987 | (MCCACT) no | Conductivity 1/2 Qumit | |
| Sample Description Descr | Sampler. D | an Smith | | | 26 | Field Man 8,234,503 | ager: Mark Do 33, 818.599.07 | minick 702 (cell) | | | | T,andise, Dieldin, T (A16) | EPAR-95/136 | 10-day eohae | | Field readings QC Checked by: Conc. | |
| North North North 188 No X X X X X X X X X | Sample | Sample i D | Sempling Date/Time | Sample | Container Type | # of Cont | Preservative | Bottle # | MSMSC | | ······································ | Chlorda (SVV808 | 148-hour) (850) | Ononio (EPA/6i | | Comments | 3 |
| Armyo_Simi-Sed_20200521 52712020 | | | | as as | 9 oz Jar | Ŀ | None | 165 | S | × | - | | | | - | | |
| Armyo_Simi-Sed_2000621 5C210200 SE 9 cc Jar 1 None 250 No No No No No No No No No No No No No | | | | SE | 9 oz Jar | | None | 246 | £ | | × | | | | | | |
| Note 280 No | | | | 딿 | 9 oz Jar | 1 | None | 280 | αN | | × | | | | | | |
| Note 286 No No No No No No No N | č | | , 0000 | 33 | 9 cecular | + | None | 280 | Š | | | × | | | | | |
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| SE 9 cz Jar 1 None 310 No No X X | | | 10830 | | 11. wide mouth Plastic | | 4°C in the Dark | L | £ | | - | | | `` | | 1 ' | إعاد |
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| | Refinquished E | | | Company | 5 | | | | 700 | E | affect C | Time | | stant O | es for 6 m ements, (C | and the second s | |
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Page 1 of 1

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

5/21/20 D

2019-2020 Rainy Season Version 2

Eurofins Calscience Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

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| Environment Testing America |
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| Phone: 949-261-1022 Fax: 949-260-329/ | | | | | |
|--|---|--|---|---|---|
| Client Information (Sub Contract Lab) | Sampler: | Lab PM Bondo | Lab PM: Bondoc, Christian M | No(s): | COC No: 440-156467.1 |
| Client Contact: Shipping/Receiving | Phone: | E-Ma chris | E-Mail: christian.bondoc@testamericainc.com | State of Origin: California | Page: Page 1 of 1 |
| Company: Eurofins Calscience LLC | | | Accreditations Required (See note): State Program - California | | Job #: 440-266381-1 |
| Address: 7440 Lincoln Way. | Due Date Requested: 6/4/2020 | | Analysis Requested | | Preservation Codes: |
| City: Garden Grove | TAT Requested (days): | | | | A-THCL M-THEXAIRE B-NACH N-NONE C-Zh Acetate O-ASNAO2 D-NIFIG AFRICA D-NACOAN |
| State, Zip: CA, 92841 | | | | | |
| Phone: 714-895-5494(Tel) 714-894-7501(Fax) | PO #: | | (0) | | Acid |
| Email: | WO#; | | | | 1-foe U - Acetone J - Di Water V - MCAA |
| Project Name: Annual Sediment Arroyo | Project #: 44009879 | | 10 60, | | <u> </u> |
| Site: | SSOW#: | | U ası | | Other: |
| | 0) | | bild Elltered erform MS/N 4464/ Full Ans | iedwiny (eto | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Preservation Code: | JX. | | |
| Arroyo_Semi-Sed_20200521 (440-266381-1) | 5/21/20 08:30 Dacific | Solid | × | | |
| | 55 | | | | |
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| | | | | | |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditations are subject to change, Eurofins Calscience analysis/lests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody affesting to said complicance to Eurofins Calscience. | ce places the ownership of method, is being analyzed, the samples must date, return the signed Chain of Cus | nalyte & accreditation complibe shipped back to the Eurol tody attesting to said complic | ance upon out subcontract laboratories. This sins Calscience laboratory or other instructions wance to Eurofins Calscience. | ımple shipment is forwarded under chain- ill be provided. Any changes to accredita | of-custody. If the laboratory does not currently ition status should be brought to Eurofins |
| Possible Hazard Identification | | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | assessed if samples are retained for | ed longer than 1 month) |
| Unconfirmed Dais graphs Desirented 11 III N/ Other (energy) | Primary Deliverable Rank: 2 | 2 | Special Instructions/QC Requirements: | usar by Lab | |
| Deliverable Requested: I, II, III, IV, Other (specify) | | | | I | |
| Empty Kit Relinquished by: | Date: | | Time: | Method of Shipment: | |
| Relinquished by: | Date/Time: | Company | Received by: | 1/27/2020 | 10:28 |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Сотрапу |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Сотрапу |
| Custody Seals Intact: Custody Seal No.: | 4/ | | Cooler Temperature(s) °C and Other Remarks: | Remarks: 2 - 7 / 2 - 3 | 342 |
| | | | 11 2 13 14 | 7 8 9 | η Cη ΔVer. (16.6/2012) |

Eurofins Calscience Irvine

17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Chain of Custody Record



🔅 eurofins

Environment Testing America

| Phone: 949-261-1022 Fax: 949-260-3297 | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------------|------------------|---------------------------------------|--|------------------|---------------------|----------------|------------------|----------|----------|---------------------|------|-------------------|----------------|---|--------------|-----------------|-----------------|------------------|---|--|------------------------------------|---------------------------------------|
| Client Information (Sub Contract Lab) | Sampler: | | | | b PM ondo | | nristi. | ап М | | | | | | Carrie | er Trac | king | No(s) | i. | | | COC No: 440-156376.1 | | |
| Client Conlact: Shipping/Receiving | Phone: | | | | Mail: rristia | an.bc | ondo | c@te: | stam | ericai | nc.co | m | | | of Ori | | | | | *************************************** | Page: Page 1 of 1 | | |
| Company: TestAmerica Laboratories, Inc. | | | | | | | | s Requ ram - | | | | | | | | | | *** | | | Job #: 440-266381-1 | | |
| Address: 5755 8th Street East, . | Due Date Reques 6/3/2020 | ted: | | | T | ********* | ********** | | | An | alysi | is F | Real | ıes | ted | | | | | | Preservation Co | | |
| City: Tacoma | TAT Requested (| days): | | | | | | | | П | | | | | 1 | | | | | | A - HCL B - NaOH C - Zn Acetate | M - Hexan N - None O - AsNaC | |
| State, Zip: WA, 98424 | 1 | | | | | | | | | | | | | | | | | | | | D - Nitric Acid E - NaHSO4 | P - Na2O4 Q - Na2SC | IS |
| Phone: 253-922-2310(Tel) 253-922-5047(Fax) | PO #: | | | | ٦, | | | | | | | | | | | | | | | | F - MeOH G - Amothior | R - Na2S2 S - H2SO4 | ı |
| Email: | WO #: | | | | - Or No | 9 | | | | | | | | | | | | | | 5 0 | H - Ascorbic Acid I - Ice J - DI Water | U - Aceton V - MCAA | |
| Project Name: Annual Sediment Arroyo | Project #: 44009879 | | | | | 5 | ŭ | | | | | | | | | | | | | container | K - EDTA L - EDA | W - pH 4-5 Z - other (s | |
| Site: | SSOW#: | | | | T amg | SD (Y | Soil TOC | | | | | | | | | | | | | of con | Other: | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (Wawater, Sesolid, Oawasta/oil, BT=Tissue, AAA) | Field Fittered S | Perform MS/MSD (Yes | 9060/ Standard | | | 77774444 | | | | | | | | | | Total Number o | Special In | structions | s/Note: |
| | | >< | Preserv | ation Code: | X | \mathbb{X} | | | | | | | | | | | | | | X | | | |
| Arroyo_Semi-Sed_20200521 (440-266381-1) | 5/21/20 | 08:30 Pacific | | Solid | | | х | | | | | | | | | | | | | 1 | | | |
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| | | | | | \bot | Ц | _ | \bot | 4 | | | 1 | | \bot | _ | _ | | \bot | | | | | |
| | 200 | | | | \bot | \dashv | | _ | \perp | | _ | - | _ | 1 | _ | 4 | _ | _ | 100 A | | | | · · · · · · · · · · · · · · · · · · · |
| | | | | | Ш | | | | \bot | | | | | | _L | | | | | | | | |
| Note: Since laboratory accreditations are subject to change, Eurofins Calscience naintain accreditation in the State of Origin listed above for analysis/lests/matrix Calscience attention immediately | | | | | | | | | | | ories. T nstruct | his: | sample will be | e ship prov | pment rided. | is fo Any | rwarde chang | ed un jes to | der ch | nain-c editat | of-custody. If the lab ion status should be | oratory does brought to E | not currently urofins |
| Possible Hazard Identification | | | | | 1 | Sam | ple i | Dispo | sal (| A fe | e may | / be | ass | ess | ed if | san | nples | are | reta | ine | d longer than 1 | month) | |
| Unconfirmed | | | | | | | 1 | turn T | | | | 1 | ł | | l By l | | | | _1 | | 9 For | Months | |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Delivera | ble Rank: 2 | | | | Spec | ial Ir | nstruc | tions | /QC I | Requi | rem | ents: | | *************************************** | | | | | | | | *** |
| Empty Kit Relinquished by: | | Date: | | | Tin | | | | | | | | | М | ethod | of St | hipmer | it: | | | | | ** |
| telingtrished by: | Date/Time: | 8 / | ′フoъ | Company とこー// | EW | R | eceiv | ed by: | 70 | ew |] | Tu | 1 | _ | | D | ate/Tir | ne: 23 | .20 | , | 0930 | Company TAS | •3 |
| elinquished by: | Date/Firme: | | | Company | | R | eceiv | ed by: | - | t | , | | | | | | ate/Tir | | | | • - | Company | |
| elinquished by: | Date/Time: | | | Company | | R | eceiv | ed by: | | | | | ·· | | | D | ate/Tir | ne: | | | | Company | |
| Custody Seals Intact: Custody Seal No.: Δ Yes Δ No | | | | | | C | ooler | Tempe | ratur | e(s) °C | and O | lher | Rema | rks: | | 7 | <u> </u> | 4 | | À \ 1. A. 161 | | | |

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-266381-1

Login Number: 266381 List Source: Eurofins Irvine

List Number: 1

Creator: Dolidze, Lado

| Creator: Dollaze, Lado | | |
|--|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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? | 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. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |
| | | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-266381-1

Login Number: 266381 List Number: 3 Creator: Cruise. Noel List Source: Eurofins Calscience List Creation: 05/27/20 12:22 PM

| Creator: Cruise, Noel | | |
|---|--------|-------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td> | N/A | |
| 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? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc. Job Number: 440-266381-1

Login Number: 266381

List Number: 2 Creator: Hobbs, Kenneth F List Source: Eurofins TestAmerica, Seattle

List Creation: 05/23/20 11:50 AM

| • 4 | | |
|---|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td> | 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 | |
| | | |

APPENDIX F

Second Quarter 2020 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)

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. |
| В | Background |
| С | 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). |

<u>Definition of Acronyms, Abbreviations, and Terminology Used (Continued)</u>

| 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, (d) DNQ- Detected Not Quantified (sample results less than the RL, but great than or equal to the laboratory's MDL), and (e) rejected (R). |
| 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 applica | able 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. |

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 applica | ble data set. | | | | | | | | |
| Is Effluent Data | If all data is qualified, then NO. If not, then YES. | | | | | | | | |
| Available | | | | | | | | | |
| Step 3 determines the max | ximum observed effluent concentration. | | | | | | | | |
| Was Constituent | If the constituent was detected, then YES. If all monitoring data are non- | | | | | | | | |
| Detected in Effluent Data | detect or qualified, then NO. If constituent was not required as per NPDES | | | | | | | | |
| | Permit, then NA. | | | | | | | | |
| Are all Detection Limits | If constituent was detected in effluent data or if no lowest criteria exists, | | | | | | | | |
| >C | 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 | If the previous cell answer was yes, then the MEC is equal to the minimum | | | | | | | | |
| (DL) | 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. If no comparison concentration exists, then NA. | | | | | | | | |

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). |
| Concentiation | Jusana Sile (NA). |

| Projected Maximum | The Regional Board estimates the projected maximum receiving water |
|-------------------|---|
| Receiving Water | concentration as equal to the projected maximum effluent concentration. |
| Concentration | |

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 | This is the Regional Board's Basis for determining if reasonable potential |
| Protection, NC – Human | should be evaluated for a non-priority pollutant. |
| Non-carcinogen, AP- | |
| Aquatic Life Protection, | |
| TMDL – Total Maximum | |
| Daily Load | |

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.

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)

| Company Comp | | | | | | | | | Step 1: Water Quality | Criteria, Determine C | | | Step 4 | | | | |
|--|--------------|-----|---|----------|---|-----|-------------------------|---------------|-----------------------|---------------------------------------|------------|-------------|----------------|--------|----|----|----------|
| Color Cell Continue Cell Continue Cell Continue Cell Color Cell Color Cell Color Cell Color Cell Color Cell Color Cell Ce | | | | | | | | CTR C | RITERIA | · | | | Step 2 | Step 3 | | | |
| December Color C | | | | | | | Freshwater Human Health | | | C = Lowes | C = Lowest | Is Effluent | | | | | |
| 1,2,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1 | Outfall | CTR | Constituent | Units | MEC | CV | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Basin Plan | | Data Available | | | | MEC >= C |
| 17.11 10 10 Programm | 1, 2, 11, 18 | 15 | Asbestos | Fibers/L | Not Analyzed | 0.6 | NONE | NONE | 7,000,000 | NONE | 7,000,000 | 7,000,000 | No | NA | NA | NA | NA |
| 12.1.1.16 12 Processor 191 | 1, 2, 11, 18 | 17 | Acrolein | μg/L | Annual | 0.6 | NONE | NONE | 320 | 780 | NONE | 780 | No | NA | NA | NA | NA |
| 17.1 10 72 Parentom 191 | 1, 2, 11, 18 | 18 | Acrylonitrile | μg/L | Annual | 0.6 | NONE | NONE | 0.059 | 0.66 | NONE | 0.66 | No | NA | NA | NA | NA |
| 1,2 11 9 71 Control terretures | 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 |
| 1,2,11,16 20 Chankowana pigh Available Doug-Ch 08 NORTH NORTH 150 NORTH NORTH 150 NORTH NORTH 150 NORTH NORTH 150 NORTH 1, 2, 11, 18 | 20 | Bromoform | μg/L | Available Data <dl< td=""><td>0.6</td><td>NONE</td><td>NONE</td><td>4.3</td><td>360</td><td>NONE</td><td>360</td><td>Yes</td><td>No</td><td>No</td><td>NA</td><td>No</td></dl<> | 0.6 | NONE | NONE | 4.3 | 360 | NONE | 360 | Yes | No | No | NA | No |
| 12.11.19 22 Discontinementation 190 Available Desire CFF 10 10 MODIF | 1, 2, 11, 18 | 21 | Carbon Tetrachloride | μg/L | Available Data <dl< td=""><td>0.6</td><td>NONE</td><td>NONE</td><td>0.25</td><td>4.4</td><td>0.5</td><td>0.5</td><td>Yes</td><td>No</td><td>No</td><td>NA</td><td>No</td></dl<> | 0.6 | NONE | NONE | 0.25 | 4.4 | 0.5 | 0.5 | Yes | No | No | NA | No |
| 1.2.11,10 24 Descriptors 194. Novige 2020-154. 30 NORTH NOVIE 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 |
| 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1, | 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 |
| 1.5.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 | 1, 2, 11, 18 | 24 | Chloroethane | μg/L | Available Data < DL | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | Yes | No | No | NA | No |
| 1.2.11 10 27 Observementations | 1, 2, 11, 18 | 25 | 2-Chloroethyl vinyl ether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 1.2.1.1.1.18 28 | - | | , | | | | | | | | | | | | | | |
| 1,2 1,1 1,1 1 1 1 1 1 1 1 | | | | | Available Data <dl< td=""><td></td><td>+</td><td></td><td>+</td><td></td><td>NONE</td><td>46</td><td>+</td><td>-</td><td></td><td></td><td></td></dl<> | | + | | + | | NONE | 46 | + | - | | | |
| 1.5.2,11.18 32 des.3.2-0-transproposes 1.951 | | 28 | , | | | | - | | + | | | 5 | + | - | · | | |
| 1.2 11, 10 326 Inter-1-SOCIAMONOGENE Up. Assistance Base OTL 0.0 NORE NOVE 10 1,770 0.0 0.5 0.5 Ves No No No No No No No N | | | | | | | - | | | | | _ | | - | | | |
| 1,2,11,16 33 Diphylanophen UpX | | | | | | | | | | | | | | | | | |
| 1, 2, 11, 16 34 District Methy Chindry 191, Movilable Dates OL, 0.6 NONE NONE NONE NAME NAME NONE N | - | | | | | | | + | | | | | | | | | |
| 1,2,11,18 55 Coloromature Methy Chrisky gst, Available Date CL 0.8 NONE | | | · · | | | | - | | · · | | | | + | - | | | |
| 1,2 (1,1 (8) 30 Methylene erlandes 19 L Movillate Data of D. 0.6 NONE NONE A7 1,200 NONE 1,500 Yes No No No No No No No N | | | | | | | - | | | | | , | | | | | |
| 1.2, 1.1, 18 37 1.1, 22-Teinachtoordene yg.L | | | ` , , | | | | | | | | | | | | · | | |
| 1,2,11,18 38 Transchivenere 1951 Available Data CIL 0.8 NONE NONE NONE NONE NONE 1,2,11,18 39 Transchivenere 1951 Available Data CIL 0.8 NONE NONE NONE 2,200,000 150 150 150 Yes No No NA Ne No No No NA Ne No No No No No No No | | | · · | | | | | | | · · · · · · · · · · · · · · · · · · · | | | | - | | | |
| 1,2,11,16 39 Tollege | | | | | | | - | | + | | | | + | - | | | |
| 1,2,11,18 40 unner-12-Dichtonecheme µg\L Available Data -OL 0.6 NONE NONE NONE NONE None No No No No No No No N | - | | | | | | | | | | | - | + | - | | | |
| 1, 2, 11, 18 | | | | | | | - | | · · | , | | | | - | | | |
| 1,2,11,18 | | | | | | | | | + | , | | | | | | | |
| 1, 2, 11, 18 | | | 1 ' ' | | | | - | | + | | | | + | - | | | |
| 1.2.11, 18 | | | | | | | - | | | | | - | + | - | | | |
| 1.2, 11, 18 48 2.4-Direlropphenol µg/L Annual 0.6 NONE 93 70 NONE 70 NA NA <td>·</td> <td></td> <td>· ·</td> <td></td> <td></td> <td></td> <td>+</td> <td>1</td> <td>+</td> <td></td> <td></td> <td></td> <td>†</td> <td>-</td> <td></td> <td></td> <td></td> | · | | · · | | | | + | 1 | + | | | | † | - | | | |
| 1, 2, 11, 18 | | | <u>'</u> | | | | - | | + | | | | + | - | | | |
| 1,2,11,18 | | | <u>'</u> | | | | | | | | | | | | | | |
| 1,2,11,18 49 2,4-Dinitrophenol | - | | • | | | | | + | | | | · | | | | | |
| 1,2,11,18 50 2-Nitrophenol µg/L Annual 0.6 NONE N | | | | <u> </u> | | | - | | 1 | | | | + | + | | | |
| 1, 2, 11, 18 51 4-Nitrophenol μg/L Annual 0.6 NONE | | <u>'</u> | | | | - | | | , | | , | + | - | | | |
| 1, 2, 11, 18 52 4-Chioro-3-methylphenol pg/L Annual 0.6 NONE NO | - | | | | | | | | | | | | + | | | | |
| 1, 2, 11, 18 | | | · · | <u> </u> | | | + | | | | | | - | - | | | |
| 1, 2, 11, 18 56 Acenaphthene µg/L Annual 0.6 NONE NONE 1,200 2,700 NONE 2,700 NO NA NA NA NA NA NA NA | | | | | | | | | | | | | <u>.</u> | | | | |
| 1, 2, 11, 18 57 Acenaphthylene μg/L Annual 0.6 NONE NON | | | | | | | | | | - | | | | | | | |
| 1, 2, 11, 18 58 Anthracene μg/L Annual 0.6 NONE NONE 9,600 110,000 NONE 110,000 NO NA NA NA NA 1, 2, 11, 18 59 Benzidine μg/L Annual 0.6 NONE NONE 0.00054 NONE 0.00054 NO NA NA NA 1, 2, 11, 18 60 Benzo(a)Anthracene μg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 NO NA NA NA NA 1, 2, 11, 18 61 Benzo(a)Pyrene μg/L Annual 0.6 NONE NONE 0.049 NO NA NA NA 1, 2, 11, 18 62 Benzo(b)Fluoranthene μg/L Annual 0.6 NONE NONE <td></td> <td></td> <td>· ·</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>· ·</td> <td></td> <td></td> <td></td> <td>+</td> <td>+</td> <td></td> <td></td> <td></td> | | | · · | | | | - | | · · | | | | + | + | | | |
| 1, 2, 11, 18 59 Benzidine μg/L Annual 0.6 NONE NONE 0.0012 0.0054 NONE 0.0054 NONE NA NA <t< td=""><td>-</td><td></td><td>' '</td><td></td><td></td><td></td><td>+</td><td>+</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | - | | ' ' | | | | + | + | | | | | | | | | |
| 1, 2, 11, 18 60 Benzo(a)Anthracene μg/L Annual 0.6 NONE NONE 0.049 NONE 0.049 NO NA NA NA NA 1, 2, 11, 18 61 Benzo(a)Pyrene μg/L Annual 0.6 NONE NONE 0.044 0.049 0.2 0.049 No NA NA NA NA 1, 2, 11, 18 62 Benzo(b)Fluoranthene μg/L Annual 0.6 NONE NONE 0.049 NONE 0.049 NO NA NA NA NA 1, 2, 11, 18 63 Benzo(b)Fluoranthene μg/L Annual 0.6 NONE | - | | | | | | | + | · · | | | - | + | | | | |
| 1, 2, 11, 18 61 Benzo(a)Pyrene µg/L Annual 0.6 NONE NONE 0.044 0.049 0.2 0.049 No NA NA NA NA 1, 2, 11, 18 62 Benzo(b)Fluoranthene µg/L Annual 0.6 NONE NONE 0.049 NONE 0.049 NO NA NA NA NA 1, 2, 11, 18 62 Benzo(b)Fluoranthene µg/L Annual 0.6 NONE NO | | | | | | | - | | + | | | | + | - | | | |
| 1, 2, 11, 18 62 Benzo(b)Fluoranthene μg/L Annual 0.6 NONE NONE 0.044 0.049 NONE 0.049 NO NA NA NA NA 1, 2, 11, 18 63 Benzo(g,h,i)Perylene μg/L Annual 0.6 NONE 1.4 NONE NONE NONE NONE <td>-</td> <td></td> <td>. ,</td> <td></td> <td></td> <td></td> <td></td> <td>+</td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | - | | . , | | | | | + | + | | | | | | | | |
| 1, 2, 11, 18 63 Benzo(g,h,i)Perylene μg/L Annual 0.6 NONE < | | | . , , | | | | | + | + | | | | | | | | |
| 1, 2, 11, 18 64 Benzo(k)Fluoranthene μg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 NO NA NA NA NA 1, 2, 11, 18 65 Bis (2-Chloroethoxy) methane μg/L Annual 0.6 NONE 1.4 NONE 1.4 NO NA NA NA NA NA 1, 2, 11, 18 67 Bis (2-Chloroisopropyl) Ether μg/L Annual 0.6 NONE NONE 1,400 170,000 NONE 170,000 NO NA NA NA NA | · | | . , | | | | | 1 | + | | | | † | | | | |
| 1, 2, 11, 18 65 Bis (2-Chloroethoxy) methane μg/L Annual 0.6 NONE 1.4 NONE 1.4 NO NA NA NA NA NA 1, 2, 11, 18 67 Bis (2-Chloroisopropyl) Ether μg/L Annual 0.6 NONE NONE 170,000 NONE 170,000 NO NA NA NA NA | - | | | | | | | + | + | | | | | | | | |
| 1, 2, 11, 18 66 Bis (2-Chloroethyl) ether μg/L Annual 0.6 NONE NONE 0.0310 1.4 NONE 1.4 NONE 1.4 NO NA NA NA NA NA NA NA NA NA NA NA NA NA | - | | . , | | | | + | + | + | | | | | | | | |
| 1, 2, 11, 18 67 Bis (2-Chloroisopropyl) Ether µg/L Annual 0.6 NONE NONE 1,400 170,000 NONE 170,000 NO NA NA NA NA NA | | | ` ' ' ' | <u> </u> | | | - | | + | | | | + | - | | | |
| | | | ` ' | | | | | | | | | | | | | | |
| | - | 69 | | _ | | | | + | | | | | | | | | |

TABLE F-1 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

| Outsile CTR | | | Step 4 | | |
|---|------------------------------------|----------------|-----------------------|--|--|
| Outfall CTR | | | | | |
| Outfall CTR | Was Constituent Are all If DL > C, | | | | |
| 1,2,11,18 | Detection Limits > C | MEC = Min (DL) | MEC >= C | | |
| 1,2,11,18 72 | NA | NA | NA | | |
| 1,2,11,18 73 Chysene pg/L Annual 0.6 NONE NONE 0.044 0.049 NONE 0.049 NO NA 1,2,11,18 74 Dibent/2(a)); anthracene pg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 NO NA 1,2,11,18 75 1,2-Dichiorobenzene pg/L Available Data <dl 0.00="" 0.000="" 0.0044="" 0.006="" 0.04="" 0.049="" 0.077="" 0.6="" 1,2,11,18="" 1,3-dichiorobenzene="" 1,4-dichiorobenzene="" 120,000="" 2,200,000="" 2,600="" 3,3-dichiorobenzidine="" 313,000="" 400="" 76="" 77="" 78="" 79="" 80="" 81="" 83="" <dl="" annual="" available="" data="" diethyl="" direthyl="" l="" n<="" na="" no="" none="" pg="" ptimiate="" td="" yes="" =""><td>NA</td><td>NA</td><td>NA</td></dl> | NA | NA | NA | | |
| 1, 2, 11, 18 | NA | NA | NA | | |
| 1, 2, 11, 18 75 1, 2-Dichlorobenzene µg/L Available Data «OL. 0.6 NONE 2,700 17,000 600 Yes NO 1, 2, 11, 18 75 1, 3-Dichlorobenzene µg/L Available Data «OL. 0.6 NONE MONE 400 2,600 NONE 2,600 Yes NO 1, 2, 11, 18 77 1,4-Dichlorobenzene µg/L Available Data «OL. 0.6 NONE MONE 400 2,600 S 5 Yes NO 1, 2, 11, 18 79 3,3-Dichlorobenzidine µg/L Annual 0.6 NONE NONE 0.04 0.077 NONE 0.077 NO NA 1, 2, 11, 18 79 Diethyl phrhalate µg/L Annual 0.6 NONE NONE 2,000 NONE 1.0,000 NO NA 1, 2, 11, 18 80 Directly phrhalate µg/L Annual 0.6 NONE NONE NONE NONE NONE NONE NONE NONE | NA | NA | NA | | |
| 1, 2, 11, 18 76 1,3-Dichlorobenzene μg/L Available Data <dl 0.000="" 0.04="" 0.077="" 0.6="" 1,="" 1,4-dichlorobenzene="" 11,="" 120,000="" 18="" 2,="" 2,600="" 2,700="" 2,900,000="" 23,000="" 230,000="" 3,3-dichlorobenzidine="" 400="" 5="" 77="" 78="" 80="" 81="" 84="" <dl="" annual="" available="" data="" dimbyly="" l="" na="" no="" none="" phthalate="" td="" yes="" ="" <="" μg=""><td>NA</td><td>NA</td><td>NA</td></dl> | NA | NA | NA | | |
| 1, 2, 11, 18 | No | NA | No | | |
| 1, 2, 11, 18 78 3,3*Dichlorobenzidine µg/L Annual 0.6 NONE NONE 0.04 0.077 NONE 0.077 No NA 1, 2, 11, 18 79 Dientyl phthalate µg/L Annual 0.6 NONE NONE 23,000 120,000 NONE 120,000 NO NA 1, 2, 11, 18 81 Dimethyl phthalate µg/L Annual 0.6 NONE NONE 23,000 NONE 29,00,000 NO NA 1, 2, 11, 18 81 Dim-butyl phthalate µg/L Annual 0.6 NONE NONE NONE 12,000 NONE 12,000 NO NA 1, 2, 11, 18 84 Dim-cotyl phthalate µg/L Annual 0.6 NONE NONE </td <td>No</td> <td>NA</td> <td>No</td> | No | NA | No | | |
| 1, 2, 11, 18 79 Diethyl phthalate μg/L Annual 0.6 NONE NONE 23,000 120,000 NONE 120,000 NO NA 1, 2, 11, 18 80 Dimethyl phthalate μg/L Annual 0.6 NONE NONE NONE 313,000 2,900,000 NONE 2,900,000 No NA 1, 2, 11, 18 81 Di-n-butyl phthalate μg/L Annual 0.6 NONE NONE NONE NONE NONE 12,000 No NA 1, 2, 11, 18 83 2,6-Dinitrotoluene μg/L Annual 0.6 NONE NO | No | NA | No | | |
| 1, 2, 11, 18 | NA | NA | NA | | |
| 1,2,11,18 | NA | NA | NA | | |
| 1, 2, 11, 18 83 2,6-Dinitrotoluene μg/L Annual 0.6 NONE | NA | NA | NA | | |
| 1,2,11,18 | NA | NA | NA | | |
| 1, 2, 11, 18 85 1,2-Diphenylhydrazine/Azobenzene μg/L Annual 0.6 NONE NONE 0.040 0.54 NONE 0.54 No NA 1, 2, 11, 18 86 Fluorenthene μg/L Annual 0.6 NONE NONE 300 370 NONE 370 No NA 1, 2, 11, 18 87 Fluorene μg/L Annual 0.6 NONE NONE 1,300 14,000 NONE 14,000 No NA 1, 2, 11, 18 88 Hexachlorobenzene μg/L Annual 0.6 NONE NONE 0.00075 1 0.00077 No NA 1, 2, 11, 18 89 Hexachlorobenzene μg/L Annual 0.6 NONE NONE 0.00075 0.00077 1 0.000077 No NA 1, 2, 11, 18 89 Hexachlorobenzene μg/L Annual 0.6 NONE NONE 0.44 50 NONE NO NO NA <td>NA</td> <td>NA</td> <td>NA</td> | NA | NA | NA | | |
| 1,2,11,18 86 Fluoranthene μg/L Annual 0.6 NONE NONE 300 370 NONE 370 No NA 1,2,11,18 87 Fluorene μg/L Annual 0.6 NONE NONE 1,300 14,000 NONE 14,000 No NA 1,2,11,18 88 Hexachlorobenzene μg/L Annual 0.6 NONE NONE 0.00075 0.00077 1 0.00077 No NA 1,2,11,18 89 Hexachlorobutadiene μg/L Annual 0.6 NONE NONE 0.44 50 NONE 50 No NA 1,2,11,18 90 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 0.44 50 NONE NO NA 1,2,11,18 91 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 1.9 8.9 NONE NO NA 1,2,11,18 | NA | NA | NA | | |
| 1, 2, 11, 18 87 Fluorene μg/L Annual 0.6 NONE NONE 1,300 14,000 NONE 14,000 NO NA 1, 2, 11, 18 88 Hexachlorobenzene μg/L Annual 0.6 NONE NONE 0.00075 0.00077 1 0.00077 No NA 1, 2, 11, 18 89 Hexachlorobutadiene μg/L Annual 0.6 NONE NONE 0.44 50 NONE 50 No NA 1, 2, 11, 18 90 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 240 17,000 50 50 No NA 1, 2, 11, 18 91 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 240 17,000 50 50 No NA 1, 2, 11, 18 91 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE NONE 9.9 NONE 8.9 NONE <td>NA</td> <td>NA</td> <td>NA</td> | NA | NA | NA | | |
| 1, 2, 11, 18 88 Hexachlorobenzene μg/L Annual 0.6 NONE NONE 0.00075 0.00077 1 0.00077 No NA 1, 2, 11, 18 89 Hexachlorobutadiene μg/L Annual 0.6 NONE NONE 0.44 50 NONE 50 No NA 1, 2, 11, 18 90 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 240 17,000 50 50 No NA 1, 2, 11, 18 91 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 240 17,000 50 50 No NA 1, 2, 11, 18 91 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 1.9 8.9 NONE 8.9 NO NA 1, 2, 11, 18 92 Indenot(1,2,3-d)Pyrene μg/L Annual 0.6 NONE NONE NONE 0.049 NONE 0.049 < | NA | NA | NA | | |
| 1, 2, 11, 18 89 Hexachlorobutadiene μg/L Annual 0.6 NONE NONE 0.44 50 NONE 50 No NA 1, 2, 11, 18 90 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 17,000 50 50 No NA 1, 2, 11, 18 91 Hexachlorocthane μg/L Annual 0.6 NONE NONE 1.9 8.9 NONE 8.9 No NA 1, 2, 11, 18 92 Indeno(1,2,3-cd)Pyrene μg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 No NA 1, 2, 11, 18 93 Isophorone μg/L Annual 0.6 NONE 1,2,11,18 95 NItrobenzene μg/L Annual <td< td=""><td>NA</td><td>NA</td><td>NA</td></td<> | NA | NA | NA | | |
| 1, 2, 11, 18 90 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 240 17,000 50 50 No NA 1, 2, 11, 18 91 Hexachlorocyclopentadiene μg/L Annual 0.6 NONE NONE 1.9 8.9 NONE 8.9 No NA 1, 2, 11, 18 92 Indeno(1,2,3-cd)Pyrene μg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 No NA 1, 2, 11, 18 93 Isophorone μg/L Annual 0.6 NONE 1,2,11,18 95 Nitrobenzene μg/L Annual 0.6 NONE NONE NONE 1.4 NONE 1.4 NONE NO NA 1, 2, 11, 18 97 n-Nitroso-di-n-propylamine μg/L Annual 0. | NA | NA | NA | | |
| 1, 2, 11, 18 91 Hexachloroethane μg/L Annual 0.6 NONE NONE 1.9 8.9 NONE 8.9 NO NA 1, 2, 11, 18 92 Indeno(1,2,3-cd)Pyrene μg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 NO NA 1, 2, 11, 18 93 Isophorone μg/L Annual 0.6 NONE NONE 8.4 600 NONE 600 NO NA 1, 2, 11, 18 94 Naphthalene μg/L Available Data <dl< td=""> 0.6 NONE 1,900 NONE NO NA 1, 2, 11, 18 97 n-Nitroso-di-n-propylamine μg/L Annual 0.6 NONE NONE 0.005 1.4 NONE 1.4 NO NA</dl<> | NA | NA | NA | | |
| 1, 2, 11, 18 92 Indeno(1,2,3-cd)Pyrene μg/L Annual 0.6 NONE NONE 0.0044 0.049 NONE 0.049 NO NA 1, 2, 11, 18 93 Isophorone μg/L Annual 0.6 NONE NONE 8.4 600 NONE 600 NO NA 1, 2, 11, 18 94 Naphthalene μg/L Available Data <dl< td=""> 0.6 NONE 1,2,11,18 95 Nitrobenzene μg/L Annual 0.6 NONE NONE NONE 1,4 NONE 1.4 NONE 1.4 NONE NA</dl<> | NA | NA | NA | | |
| 1, 2, 11, 18 93 Isophorone μg/L Annual 0.6 NONE NONE 8.4 600 NONE 600 NO NA 1, 2, 11, 18 94 Naphthalene μg/L Available Data <dl< td=""> 0.6 NONE 1,900 NONE 1,900 NO NA 1, 2, 11, 18 97 n-Nitroso-di-n-propylamine μg/L Annual 0.6 NONE NONE 0.005 1.4 NONE 1.4 NO NA</dl<> | NA | NA | NA | | |
| 1, 2, 11, 18 94 Naphthalene μg/L Available Data <dl< th=""> 0.6 NONE NONE</dl<> | NA | NA | NA | | |
| 1, 2, 11, 18 95 Nitrobenzene μg/L Annual 0.6 NONE NONE 17 1,900 NONE 1,900 NO NA 1, 2, 11, 18 97 n-Nitroso-di-n-propylamine μg/L Annual 0.6 NONE NONE 0.005 1.4 NONE 1.4 NO NA | NA | NA | NA | | |
| 1, 2, 11, 18 97 n-Nitroso-di-n-propylamine μg/L Annual 0.6 NONE NONE 0.005 1.4 NONE 1.4 NONE NA | No | NA | No | | |
| | NA NA | NA NA | NA NA | | |
| | NA NA | NA NA | NA NA | | |
| 1, 2, 11, 18 98 N-Nitrosodiphenylamine µg/L Annual 0.6 NONE NONE 5.0 16 NONE 16 NO NA | NA NA | NA NA | NA NA | | |
| 1, 2, 11, 18 99 Phenanthrene µg/L Annual 0.6 NONE NONE NONE NONE NONE NONE NONE NON | NA NA | NA NA | NA NA | | |
| 1, 2, 11, 18 100 Pyrene µg/L Annual 0.6 NONE NONE 960 11,000 NONE 11,000 No NA | NA NA | NA NA | NA NA | | |
| 1, 2, 11, 18 101 1,2,4-Trichlorobenzene μg/L Annual 0.6 NONE NONE NONE 70 70 No NA 1, 2, 11, 18 102 Aldrin μg/L Available Data < DL | NA Yes | 0.00016 | NA NA [‡] | | |
| | No | 0.00016 NA | NA No | | |
| | No | NA NA | No | | |
| 1, 2, 11, 18 105 gamma-BHC (Lindane) μg/L Available Data <dl 0.019="" 0.063="" 0.2="" 0.6="" 0.95="" no<br="" none="" yes="">1, 2, 11, 18 106 delta-BHC μg/L Available Data <dl 0.6="" non<="" none="" td=""><td>No</td><td>NA NA</td><td>No</td></dl></dl> | No | NA NA | No | | |
| 1, 2, 11, 18 107 Chlordane | Yes | 0.083 | NA [‡] | | |
| | Yes | 0.003 | NA [‡] | | |
| 1, 2, 11, 18 108 4,4'-DDT μg/L Available Data <dl 0.00059="" 0.001="" 0.6="" 1.1="" no<br="" none="" yes="">1, 2, 11, 18 109 4,4'-DDE μg/L Available Data <dl 0.00059="" 0.6="" no<="" none="" td="" yes=""><td>Yes</td><td>0.0042</td><td>NA[‡]</td></dl></dl> | Yes | 0.0042 | NA [‡] | | |
| 1, 2, 11, 18 | Yes | 0.0031 | NA [‡] | | |
| 1, 2, 11, 18 | Yes | 0.0042 | NA [‡] | | |
| 1, 2, 11, 18 | No | NA | No | | |
| 1, 2, 11, 18 | No | NA NA | No | | |
| 1, 2, 11, 18 | No | NA | No | | |
| 1, 2, 11, 18 | No | NA NA | No | | |
| 1, 2, 11, 18 | No | NA NA | No | | |
| 1, 2, 11, 18 | No | 0.0031 | NA [‡] | | |
| 1, 2, 11, 18 | Yes | 0.0026 | NA [‡] | | |
| 1, 2, 11, 18 | Yes | 0.26 | NA [‡] | | |
| 1, 2, 11, 18 120 Aroclor 1221 µg/L Available Data <dl 0.00017="" 0.014="" 0.5="" 0.6="" no<="" none="" td="" yes=""><td>Yes</td><td>0.26</td><td>NA[‡]</td></dl> | Yes | 0.26 | NA [‡] | | |
| 1, 2, 11, 18 | Yes | 0.26 | NA [‡] | | |

TABLE F-1 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

| | | | | | | | | Step 1: Water Quality 0 | Criteria, Determine | C | | Step 2 | | Step 3 | | |
|--------------|-----|--------------|-----------|--|-----|-------------------------|---------------|-------------------------|---------------------|---------------|--------------------|----------------|--------------------------------|----------------------------|----------------|-----------------|
| | | | | | | | CTR CRITERIA | | | | | | | | | |
| | | | | | | Freshwater Human Health | | | | Basin Plan | in Plan C = Lowest | Is Effluent | Was Constituent Detected in | Are all Detection Limits > | If DL > C, | MEC >= C |
| Outfall | CTR | Constituent | Units | MEC | cv | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Dasiii i iaii | Criteria | Data Available | Effluent Data | C | MEC = Min (DL) | MEC >= C |
| 1, 2, 11, 18 | 122 | Aroclor 1242 | μg/L | Available Data <dl< td=""><td>0.6</td><td>NONE</td><td>0.014</td><td>0.00017</td><td>0.00017</td><td>0.5</td><td>0.00017</td><td>Yes</td><td>No</td><td>Yes</td><td>0.26</td><td>NA[‡]</td></dl<> | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | Yes | No | Yes | 0.26 | 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 | 0.26 | NA [‡] |
| 1, 2, 11, 18 | 124 | Aroclor 1254 | μg/L | Available Data <dl< td=""><td>0.6</td><td>NONE</td><td>0.014</td><td>0.00017</td><td>0.00017</td><td>0.5</td><td>0.00017</td><td>Yes</td><td>No</td><td>Yes</td><td>0.26</td><td>NA[‡]</td></dl<> | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | Yes | No | Yes | 0.26 | NA [‡] |
| 1, 2, 11, 18 | 125 | Aroclor 1260 | μg/L | Available Data <dl< td=""><td>0.6</td><td>NONE</td><td>0.014</td><td>0.00017</td><td>0.00017</td><td>0.5</td><td>0.00017</td><td>Yes</td><td>No</td><td>Yes</td><td>0.26</td><td>NA[‡]</td></dl<> | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | Yes | No | Yes | 0.26 | NA [‡] |
| 1, 2, 11, 18 | 126 | Toxaphene | μg/L | Available Data <dl< td=""><td>0.6</td><td>0.73</td><td>0.0002</td><td>0.00073</td><td>0.00075</td><td>3</td><td>0.0002</td><td>Yes</td><td>No</td><td>Yes</td><td>0.25</td><td>NA[‡]</td></dl<> | 0.6 | 0.73 | 0.0002 | 0.00073 | 0.00075 | 3 | 0.0002 | Yes | No | Yes | 0.25 | NA [‡] |
| 1, 2, 11, 18 | 127 | E. Coli | MPN/100ml | Annual | 0.6 | NA | NA | NA | NA | 235 | 235 | No | NA | NA | NA | NA |

TABLE F-2 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

| | | | | | | Step 1: Water Quality Criteria, Determine C | | | | | | Step 2 | | Step 4 | | |
|------------|-----|---------------------------------|----------|--|-----|---|---------------|------------------|---------------------------------------|---------------|------------|----------------|--------------------------------|-------------------------------|----------------|-------------|
| | | | | | | CTR CRITERIA | | | | | | | | | | |
| | | | | | | Fresi | nwater | Human | Health | Basin Plan | C = Lowest | Is Effluent | Was Constituent Detected in | Are all Detection Limits > | If DL > C, | MEC >= C |
| Outfall | CTR | Constituent | Units | MEC | cv | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Dasiii i iaii | Criteria | Data Available | Effluent Data | C | MEC = Min (DL) | III.LO >= 0 |
| 3-7, 9, 10 | 2 | Arsenic | μg/L | Annual | 0.6 | 340 | 150 | NONE | NONE | 50 | 50 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 3 | Beryllium | μg/L | Annual | 0.6 | NONE | NONE | Narrative | Narrative | 4 | 4 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 5a | Chromium | μg/L | Annual | 0.6 | 550 | 180 | Narrative | Narrative | 50 | 50 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 5b | Chromium VI (Hexavalent) | μg/L | Annual | 0.6 | 16 | 11 | Narrative | Narrative | NONE | 11 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 10 | Selenium | μg/L | Available Data <dl< td=""><td>0.6</td><td>Reserved</td><td>5</td><td>Narrative</td><td>Narrative</td><td>50</td><td>5</td><td>Yes</td><td>No</td><td>No</td><td>NA</td><td>No</td></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< td=""><td>0.6</td><td>3.4</td><td>NONE</td><td>NONE</td><td>NONE</td><td>NONE</td><td>3.4</td><td>Yes</td><td>No</td><td>No</td><td>NA</td><td>No</td></dl<> | 0.6 | 3.4 | NONE | NONE | NONE | NONE | 3.4 | Yes | No | No | NA | No |
| 3-7, 9, 10 | 15 | Asbestos | Fibers/L | Annual | 0.6 | NONE | NONE | 7,000,000 | NONE | 7,000,000 | 7,000,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 17 | Acrolein | μg/L | Annual | 0.6 | NONE | NONE | 320 | 780 | NONE | 780 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 18 | Acrylonitrile | μg/L | Annual | 0.6 | NONE | NONE | 0.059 | 0.66 | NONE | 0.66 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 19 | Benzene | μg/L | Annual | 0.6 | NONE | NONE | 1.2 | 71 | 1 | 1 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 20 | Bromoform | μg/L | Annual | 0.6 | NONE | NONE | 4.3 | 360 | NONE | 360 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 21 | Carbon Tetrachloride | μg/L | Annual | 0.6 | NONE | NONE | 0.25 | 4.4 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 22 | Chlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 680 | 21,000 | 70 | 70 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 23 | Dibromochloromethane | μg/L | Annual | 0.6 | NONE | NONE | 0.401 | 34 | NONE | 34 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 24 | Chloroethane | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 25 | 2-Chloroethyl vinyl ether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 26 | Chloroform | μg/L | Annual | 0.6 | NONE | NONE | Reserved | Reserved | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 27 | Chlorodibromomethane | μg/L | Annual | 0.6 | NONE | NONE | 0.56 | 46 | NONE | 46 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 28 | 1,1-Dichloroethane | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | 5 | 5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 29 | 1,2-Dichloroethane | μg/L | Annual | 0.6 | NONE | NONE | 0.38 | 99 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 30 | 1,1-Dichloroethene | μg/L | Annual | 0.6 | NONE | NONE | 0.057 | 3.2 | 6 | 3.2 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 31 | 1,2-Dichloropropane | μg/L | Annual | 0.6 | NONE | NONE | 0.52 | 39 | 5 | 5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 32 | cis-1,3-Dichloropropene | μg/L | Annual | 0.6 | NONE | NONE | 10 | 1,700 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 32a | trans-1,3-Dichloropropene | μg/L | Annual | 0.6 | NONE | NONE | 10 | 1,700 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 33 | Ethylbenzene | μg/L | Annual | 0.6 | NONE | NONE | 3,100 | 29,000 | 700 | 700 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 34 | Bromomethane | μg/L | Annual | 0.6 | NONE | NONE | 48 | 4,000 | NONE | 4,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 35 | Chloromethane (Methyl Chloride) | μg/L | Annual | 0.6 | NONE | NONE | Narrative | Narrative | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 36 | Methylene chloride | μg/L | Annual | 0.6 | NONE | NONE | 4.7 | 1,600 | NONE | 1,600 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 37 | 1,1,2,2-Tetrachloroethane | μg/L | Annual | 0.6 | NONE | NONE | 0.17 | 11 | 1 | 1 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 38 | Tetrachloroethene | μg/L | Annual | 0.6 | NONE | NONE | 0.8 | 8.85 | 5 | 5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 39 | Toluene | μg/L | Annual | 0.6 | NONE | NONE | 6,800 | 200,000 | 150 | 150 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 40 | trans-1,2-Dichloroethene | μg/L | Annual | 0.6 | NONE | NONE | 700 | 140,000 | 10 | 10 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 41 | 1,1,1-Trichloroethane | μg/L | Annual | 0.6 | NONE | NONE | Narrative | Narrative | 200 | 200 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 42 | 1,1,2-Trichloroethane | μg/L | Annual | 0.6 | NONE | NONE | 0.6 | 42 | 5 | 5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 43 | Trichloroethene | μg/L | Annual | 0.6 | NONE | NONE | 2.7 | 81 | 5 | 5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 44 | Vinyl chloride | μg/L | Annual | 0.6 | NONE | NONE | 2 | 525 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 45 | 2-Chlorophenol | μg/L | Annual | 0.6 | NONE | NONE | 120 | 400 | NONE | 400 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 46 | 2,4-Dichlorophenol | μg/L | Annual | 0.6 | NONE | NONE | 93 | 790 | NONE | 790 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 47 | 2,4-Dimethylphenol | μg/L | Annual | 0.6 | NONE | NONE | 540 | 2,300 | NONE | 2,300 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 48 | 2-Methyl-4,6-dinitrophenol | μg/L | Annual | 0.6 | NONE | NONE | 13.4 | 765 | NONE | 765 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 49 | 2,4-Dinitrophenol | μg/L | Annual | 0.6 | NONE | NONE | 70 | 14,000 | NONE | 14,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 50 | 2-Nitrophenol | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 51 | 4-Nitrophenol | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 52 | 4-Chloro-3-methylphenol | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 53 | Pentachlorophenol | μg/L | Annual | 0.6 | pH dependent | pH dependent | 0.28 | 8.2 | 1 | 1 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 54 | Phenol | μg/L | Annual | 0.6 | NONE | NONE | 21,000 | 4,600,000 | NONE | 4,600,000 | No | NA | NA | NA | NA |
| | | 1 | | i | | 1 | | 1 | · · · · · · · · · · · · · · · · · · · | | | 1 | | 1 | | |

TABLE F-2 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

| | | | | | | | | Step 1: Water Quality C | riteria. Determine C | | | Step 2 | | Step 3 | | Step 4 |
|------------|-----|----------------------------------|-------|--------|-----|-------------|---------------|-------------------------|----------------------|------------|------------|----------------|------------------------------|--------------------|----------------|----------|
| | | | | | | | | RITERIA | | | | | | | | Otop 4 |
| | | | | | | Frest | nwater | Human H | lealth | | C = Lowest | Is Effluent | Was Constituent | Are all | If DL > C, | MEC >= C |
| Outfall | CTR | Constituent | Units | MEC | cv | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Basin Plan | Criteria | Data Available | Detected in Effluent Data | Detection Limits > | MEC = Min (DL) | MEC >= C |
| 3-7, 9, 10 | 55 | 2,4,6-Trichlorophenol | μg/L | Annual | 0.6 | NONE | NONE | 2.1 | 6.5 | NONE | 6.5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 56 | Acenaphthene | μg/L | Annual | 0.6 | NONE | NONE | 1,200 | 2,700 | NONE | 2,700 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 57 | Acenaphthylene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 58 | Anthracene | μg/L | Annual | 0.6 | NONE | NONE | 9,600 | 110,000 | NONE | 110,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 59 | Benzidine | μg/L | Annual | 0.6 | NONE | NONE | 0.00012 | 0.00054 | NONE | 0.00054 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 60 | Benzo(a)Anthracene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 61 | Benzo(a)Pyrene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | 0.2 | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 62 | Benzo(b)Fluoranthene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 63 | Benzo(g,h,i)Perylene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 64 | Benzo(k)Fluoranthene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 65 | Bis (2-Chloroethoxy) methane | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 66 | Bis (2-Chloroethyl) ether | μg/L | Annual | 0.6 | NONE | NONE | 0.031 | 1.4 | NONE | 1.4 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 67 | Bis (2-Chloroisopropyl) Ether | μg/L | Annual | 0.6 | NONE | NONE | 1,400 | 170,000 | NONE | 170,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 68 | Bis (2-ethylhexyl) Phthalate | μg/L | Annual | 0.6 | NONE | NONE | 1.8 | 5.9 | 4 | 4 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 69 | 4-Bromophenyl phenyl ether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 70 | Butyl benzylphthalate | μg/L | Annual | 0.6 | NONE | NONE | 3,000 | 5,200 | NONE | 5,200 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 71 | 2-Chloronaphthalene | μg/L | Annual | 0.6 | NONE | NONE | 1,700 | 4,300 | NONE | 4,300 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 72 | 4-Chlorophenyl phenyl ether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 73 | Chrysene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 74 | Dibenz(a,h)anthracene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 75 | 1,2-Dichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 2,700 | 17,000 | 600 | 600 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 76 | 1,3-Dichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 400 | 2,600 | NONE | 2,600 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 77 | 1,4-Dichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 400 | 2,600 | 5 | 5 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 78 | 3,3'-Dichlorobenzidine | μg/L | Annual | 0.6 | NONE | NONE | 0.04 | 0.077 | NONE | 0.077 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 79 | Diethyl phthalate | μg/L | Annual | 0.6 | NONE | NONE | 23,000 | 120,000 | NONE | 120,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 80 | Dimethyl phthalate | μg/L | Annual | 0.6 | NONE | NONE | 313,000 | 2,900,000 | NONE | 2,900,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 81 | Di-n-butyl phthalate | μg/L | Annual | 0.6 | NONE | NONE | 2,700 | 12,000 | NONE | 12,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 82 | 2,4-Dinitrotoluene | μg/L | Annual | 0.6 | NONE | NONE | 0.11 | 9.1 | NONE | 9.1 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 83 | 2,6-Dinitrotoluene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 84 | Di-n-octyl phthalate | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 85 | 1,2-Diphenylhydrazine/Azobenzene | μg/L | Annual | 0.6 | NONE | NONE | 0.04 | 0.54 | NONE | 0.54 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 86 | Fluoranthene | μg/L | Annual | 0.6 | NONE | NONE | 300 | 370 | NONE | 370 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 87 | Fluorene | μg/L | Annual | 0.6 | NONE | NONE | 1,300 | 14,000 | NONE | 14,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 88 | Hexachlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 0.00075 | 0.00077 | 1 | 0.00077 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 89 | Hexachlorobutadiene | μg/L | Annual | 0.6 | NONE | NONE | 0.44 | 50 | NONE | 50 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 90 | Hexachlorocyclopentadiene | μg/L | Annual | 0.6 | NONE | NONE | 240 | 17,000 | 50 | 50 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 91 | Hexachloroethane | μg/L | Annual | 0.6 | NONE | NONE | 1.9 | 8.9 | NONE | 8.9 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 92 | Indeno(1,2,3-cd)Pyrene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 93 | Isophorone | μg/L | Annual | 0.6 | NONE | NONE | 8.4 | 600 | NONE | 600 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 94 | Naphthalene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 95 | Nitrobenzene | μg/L | Annual | 0.6 | NONE | NONE | 17 | 1,900 | NONE | 1,900 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 96 | N-Nitrosodimethylamine | μg/L | Annual | 0.6 | NONE | NONE | 0.00069 | 8.1 | NONE | 8.1 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 97 | n-Nitroso-di-n-propylamine | μg/L | Annual | 0.6 | NONE | NONE | 0.005 | 1.4 | NONE | 1.4 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 98 | N-Nitrosodiphenylamine | μg/L | Annual | 0.6 | NONE | NONE | 5 | 16 | NONE | 16 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 99 | Phenanthrene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 100 | Pyrene | μg/L | Annual | 0.6 | NONE | NONE | 960 | 11,000 | NONE | 11,000 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 101 | 1,2,4-Trichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | 70 | 70 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 102 | Aldrin | μg/L | Annual | 0.6 | 3 | NONE | 0.00013 | 0.00014 | NONE | 0.00014 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 103 | alpha-BHC | μg/L | Annual | 0.6 | NONE | NONE | 0.0039 | 0.013 | NONE | 0.013 | No | NA | NA | NA | NA |

TABLE F-2 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

| | | | | | | | | Step 1: Water Quality | Criteria, Determine | С | | Step 2 | | Step 4 | | |
|------------|-----|---------------------|-----------|--------|-----|-------------|---------------|-----------------------|---------------------|---------------|------------|----------------|--------------------------------|----------------------------|----------------|----------|
| | | | | | | | CTR (| RITERIA | | | | · | | - | | · |
| | | | | | | Fres | hwater | Human I | Health | Basin Plan | C = Lowest | Is Effluent | Was Constituent Detected in | Are all Detection Limits > | If DL > C, | MEC >= C |
| Outfall | CTR | Constituent | Units | MEC | cv | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Dasiii i laii | Criteria | Data Available | Effluent Data | C | MEC = Min (DL) | III.20 |
| 3-7, 9, 10 | 104 | beta-BHC | μg/L | Annual | 0.6 | NONE | NONE | 0.014 | 0.046 | NONE | 0.046 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 105 | gamma-BHC (Lindane) | μg/L | Annual | 0.6 | 0.95 | NONE | 0.019 | 0.063 | 0.2 | 0.063 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 106 | delta-BHC | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 107 | Chlordane | μg/L | Annual | 0.6 | 2.4 | 0.0043 | 0.00057 | 0.00059 | 0.1 | 0.00059 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 108 | 4,4'-DDT | μg/L | Annual | 0.6 | 1.1 | 0.001 | 0.00059 | 0.00059 | NONE | 0.00059 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 109 | 4,4'-DDE | μg/L | Annual | 0.6 | NONE | NONE | 0.00059 | 0.00059 | NONE | 0.00059 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 110 | 4,4'-DDD | μg/L | Annual | 0.6 | NONE | NONE | 0.00083 | 0.00084 | NONE | 0.00084 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 111 | Dieldrin | μg/L | Annual | 0.6 | 0.24 | 0.056 | 0.00014 | 0.00014 | NONE | 0.00014 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 112 | alpha-Endosulfan | μg/L | Annual | 0.6 | 0.22 | 0.056 | 110 | 240 | NONE | 0.056 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 113 | beta-Endosulfan | μg/L | Annual | 0.6 | 0.22 | 0.056 | 110 | 240 | NONE | 0.056 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 114 | Endosulfan Sulfate | μg/L | Annual | 0.6 | NONE | NONE | 110 | 240 | NONE | 240 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 115 | Endrin | μg/L | Annual | 0.6 | 0.086 | 0.036 | 0.76 | 0.81 | 2 | 0.036 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 116 | Endrin Aldehyde | μg/L | Annual | 0.6 | NONE | NONE | 0.76 | 0.81 | NONE | 0.81 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 117 | Heptachlor | μg/L | Annual | 0.6 | 0.52 | 0.0038 | 0.00021 | 0.00021 | 0.01 | 0.00021 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 118 | Heptachlor Epoxide | μg/L | Annual | 0.6 | 0.52 | 0.0038 | 0.0001 | 0.00011 | 0.01 | 0.00011 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 119 | Aroclor 1016 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 120 | Aroclor 1221 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 121 | Aroclor 1232 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 122 | Aroclor 1242 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 123 | Aroclor 1248 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 124 | Aroclor 1254 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 125 | Aroclor 1260 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 126 | Toxaphene | μg/L | Annual | 0.6 | 0.73 | 0.0002 | 0.00073 | 0.00075 | 3 | 0.0002 | No | NA | NA | NA | NA |
| 3-7, 9, 10 | 127 | E. Coli | MPN/100ml | Annual | 0.6 | NA | NA | NA | NA | 235 | 235 | No | NA | NA | NA | NA |

TABLE F-3 REASONABLE POTENTIAL ANALYSIS - NONPRIORITY POLLUTANTS (OUTFALLS 003-007,009, AND 010)

| 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 | 2 | 3.2 | 0.6 | 7.39 | 23.66 | NA | NA | 23.66 | 45 | BU |

TABLE F-4 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALL 008)

| | | | | | | | | Step 1: Water Quality C | riteria, Determine | C Step 2 Step 3 | | | | | | Step 4 |
|---------|------|----------------------------|----------|--|-----|-------------------------|---------------|-------------------------|--------------------|-----------------|-------------|-----------------|------------------------------|--------------------|----------------|----------|
| | | | | | | CTR CRITERIA | | | | | | | | | | |
| | | | | | | Freshwater Human Health | | | Basin Plan | C = Lowest | Is Effluent | Was Constituent | Are all | If DL > C, | MEO 0 | |
| Outfall | CTR | Constituent | Units | MEC | CV | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Title 22 GWR | Criteria | Data Available | Detected in Effluent Data | Detection Limits > | MEC = Min (DL) | MEC >= C |
| 8 | 002 | Arsenic | μg/L | Annual | 0.6 | 340 | 150 | NONE | NONE | 50 | 50 | No | NA | NA | NA | NA |
| 8 | 003 | Beryllium | μg/L | Annual | 0.6 | NONE | NONE | Narrative | Narrative | 4 | 4 | No | NA | NA | NA | NA |
| 8 | 005a | Chromium | μg/L | Annual | 0.6 | 550 | 180 | Narrative | Narrative | 50 | 50 | No | NA | NA | NA | NA |
| 8 | 005b | Chromium VI | μg/L | Annual | 0.6 | 16 | 11 | Narrative | Narrative | NONE | 11 | No | NA | NA | NA | NA |
| 8 | 011 | Silver | μg/L | Available Data <dl< td=""><td>0.6</td><td>3.4</td><td>NONE</td><td>NONE</td><td>NONE</td><td>NONE</td><td>3.4</td><td>Yes</td><td>No</td><td>No</td><td>NA</td><td>No</td></dl<> | 0.6 | 3.4 | NONE | NONE | NONE | NONE | 3.4 | Yes | No | No | NA | No |
| 8 | 015 | Asbestos | Fibers/L | Annual | 0.6 | NONE | NONE | 7,000,000 | NONE | 7,000,000 | 7,000,000 | No | NA | NA | NA | NA |
| 8 | 017 | Acrolein | μg/L | Annual | 0.6 | NONE | NONE | 320 | 780 | NONE | 780 | No | NA | NA | NA | NA |
| 8 | 018 | Acrylonitrile | μg/L | Annual | 0.6 | NONE | NONE | 0.059 | 0.66 | NONE | 0.66 | No | NA | NA | NA | NA |
| 8 | 019 | Benzene | μg/L | Annual | 0.6 | NONE | NONE | 1.2 | 71 | 1 | 1 | No | NA | NA | NA | NA |
| 8 | 020 | Bromoform | μg/L | Annual | 0.6 | NONE | NONE | 4.3 | 360 | NONE | 360 | No | NA | NA | NA | NA |
| 8 | 021 | Carbon Tetrachloride | μg/L | Annual | 0.6 | NONE | NONE | 0.25 | 4.4 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 8 | 022 | Chlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 680 | 21,000 | 70 | 70 | No | NA | NA | NA | NA |
| 8 | 023 | Dibromochloromethane | μg/L | Annual | 0.6 | NONE | NONE | 0.401 | 34 | NONE | 34 | No | NA | NA | NA | NA |
| 8 | 024 | Chloroethane | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 025 | 2-Chloroethylvinylether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 026 | Chloroform | μg/L | Annual | 0.6 | NONE | NONE | Reserved | Reserved | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 027 | Bromodichloromethane | μg/L | Annual | 0.6 | NONE | NONE | 0.56 | 46 | NONE | 46 | No | NA | NA | NA | NA |
| 8 | 028 | 1,1-Dichloroethane | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | 5 | 5 | No | NA | NA | NA | NA |
| 8 | 029 | 1,2-Dichloroethane | μg/L | Annual | 0.6 | NONE | NONE | 0.38 | 99 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 8 | 030 | 1,1-Dichloroethene | μg/L | Annual | 0.6 | NONE | NONE | 0.057 | 3.2 | 6 | 3.2 | No | NA | NA | NA | NA |
| 8 | 031 | 1,2-Dichloropropane | μg/L | Annual | 0.6 | NONE | NONE | 0.52 | 39 | 5 | 5 | No | NA | NA | NA | NA |
| 8 | 032 | cis-1,3-Dichloropropene | μg/L | Annual | 0.6 | NONE | NONE | 10 | 1,700 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 8 | 032a | trans-1,3-Dichloropropene | μg/L | Annual | 0.6 | NONE | NONE | 10 | 1,700 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 8 | 033 | Ethylbenzene | μg/L | Annual | 0.6 | NONE | NONE | 3,100 | 29,000 | 700 | 700 | No | NA | NA | NA | NA |
| 8 | 034 | Bromomethane | μg/L | Annual | 0.6 | NONE | NONE | 48 | 4,000 | NONE | 4,000 | No | NA | NA | NA | NA |
| 8 | 035 | Chloromethane | μg/L | Annual | 0.6 | NONE | NONE | Narrative | Narrative | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 036 | Methylene chloride | μg/L | Annual | 0.6 | NONE | NONE | 4.7 | 1,600 | NONE | 1,600 | No | NA | NA | NA | NA |
| 8 | 037 | 1,1,2,2-Tetrachloroethane | μg/L | Annual | 0.6 | NONE | NONE | 0.17 | 11 | 1 | 1 | No | NA | NA | NA | NA |
| 8 | 038 | Tetrachloroethene | μg/L | Annual | 0.6 | NONE | NONE | 0.8 | 8.85 | 5 | 5 | No | NA | NA | NA | NA |
| 8 | 039 | Toluene | μg/L | Annual | 0.6 | NONE | NONE | 6,800 | 200,000 | 150 | 150 | No | NA | NA | NA | NA |
| 8 | 040 | trans-1,2-Dichloroethene | μg/L | Annual | 0.6 | NONE | NONE | 700 | 140,000 | 10 | 10 | No | NA | NA | NA | NA |
| 8 | 041 | 1,1,1-Trichloroethane | μg/L | Annual | 0.6 | NONE | NONE | Narrative | Narrative | 200 | 200 | No | NA | NA | NA | NA |
| 8 | 042 | 1,1,2-trichloroethane | μg/L | Annual | 0.6 | NONE | NONE | 0.6 | 42 | 5 | 5 | No | NA | NA | NA | NA |
| 8 | 043 | Trichloroethene | μg/L | Annual | 0.6 | NONE | NONE | 2.7 | 81 | 5 | 5 | No | NA | NA | NA | NA |
| 8 | 044 | Vinyl chloride | μg/L | Annual | 0.6 | NONE | NONE | 2 | 525 | 0.5 | 0.5 | No | NA | NA | NA | NA |
| 8 | 045 | 2-chlorophenol | μg/L | Annual | 0.6 | NONE | NONE | 120 | 400 | NONE | 400 | No | NA | NA | NA | NA |
| 8 | 046 | 2,4-Dichlorophenol | μg/L | Annual | 0.6 | NONE | NONE | 93 | 790 | NONE | 790 | No | NA | NA | NA | NA |
| 8 | 047 | 2,4-dimethylphenol | μg/L | Annual | 0.6 | NONE | NONE | 540 | 2,300 | NONE | 2,300 | No | NA | NA | NA | NA |
| 8 | 048 | 2-Methyl-4,6-dinitrophenol | μg/L | Annual | 0.6 | NONE | NONE | 13.4 | 765 | NONE | 765 | No | NA | NA | NA | NA |
| 8 | 049 | 2,4-dinitrophenol | μg/L | Annual | 0.6 | NONE | NONE | 70 | 14,000 | NONE | 14,000 | No | NA NA | NA NA | NA NA | NA |
| 8 | 050 | 2-nitrophenol | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA NA | NA NA | NA NA | NA |
| 8 | 051 | 4-nitrophenol | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 052 | 4-Chloro-3-methylphenol | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 053 | Pentachlorophenol | μg/L | Annual | 0.6 | pH dependent | pH dependent | 0.28 | 8.2 | 1 | 1 | No | NA NA | NA NA | NA | NA NA |
| 8 | 053 | Phenol | μg/L | Annual | 0.6 | NONE | NONE | 21,000 | 4,600,000 | NONE | 4,600,000 | No | NA NA | NA NA | NA NA | NA NA |
| 8 | 055 | 2,4,6-Trichlorophenol | μg/L | Annual | 0.6 | NONE | NONE | 2.1 | 6.5 | NONE | 6.5 | No | NA NA | NA NA | NA NA | NA NA |
| 8 | 056 | Acenaphthene | μg/L | Annual | 0.6 | NONE | NONE | 1,200 | 2,700 | NONE | 2,700 | No | NA NA | NA NA | NA NA | NA NA |
| 8 | 057 | Acenaphthylene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA NA | NA NA | NA NA | NA NA |
| 8 | 057 | Anthracene | μg/L | Annual | 0.6 | NONE | NONE | 9,600 | 110,000 | NONE | 110,000 | No | NA NA | NA NA | NA NA | NA NA |
| | 000 | , a la naccino | μ9/∟ | ,dai | 3.0 | INCINE | INOINE | 5,500 | 110,000 | INOINE | 1 10,000 | 110 | | . 47 1 | | |

TABLE F-4 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALL 008)

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | Step 1: Water Quality Criteria, Determine C | | | С | | Step 2 | | Step 3 | | Step 4 | |
|---------|-----|------------------------------|-------|--------|----------------|---|---------------|------------------|-----------|--------------|------------------------|----------------|------------------------------|--------------------|----------------|----------|
| | | | | | CTR CRITERIA D | | | | | | | | | | | |
| | | | | | | Fres | nwater | Human H | lealth | Basin Plan | C = Lowest Criteria | Is Effluent | Was Constituent | Are all | If DL > C, | MEC >= C |
| Outfall | CTR | Constituent | Units | MEC | cv | CMC = Acute | CCC = Chronic | HH W&O (Not App) | HH O = HH | Title 22 GWR | | Data Available | Detected in Effluent Data | Detection Limits > | MEC = Min (DL) | |
| 8 | 059 | Benzidine | μg/L | Annual | 0.6 | NONE | NONE | 0.00012 | 0.00054 | NONE | 5.3 | No | NA | NA | NA | NA |
| 8 | 060 | Benzo(a)Anthracene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 8 | 061 | Benzo(a)Pyrene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | 0.2 | 0.049 | No | NA | NA | NA | NA |
| 8 | 062 | Benzo(b)Fluoranthene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 8 | 063 | Benzo(g,h,i)Perylene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 064 | Benzo(k)Fluoranthene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 8 | 065 | Bis(2-Chloroethoxy) methane | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 066 | bis (2-Chloroethyl) ether | μg/L | Annual | 0.6 | NONE | NONE | 0.031 | 1.4 | NONE | 1.4 | No | NA | NA | NA | NA |
| 8 | 067 | Bis(2-Chloroisopropyl) Ether | μg/L | Annual | 0.6 | NONE | NONE | 1,400 | 170,000 | NONE | 170,000 | No | NA | NA | NA | NA |
| 8 | 068 | bis (2-ethylhexyl) Phthalate | μg/L | Annual | 0.6 | NONE | NONE | 1.8 | 5.9 | 4 | 4 | No | NA | NA | NA | NA |
| 8 | 069 | 4-Bromophenylphenylether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 070 | Butylbenzylphthalate | μg/L | Annual | 0.6 | NONE | NONE | 3,000 | 5,200 | NONE | 5,200 | No | NA | NA | NA | NA |
| 8 | 071 | 2-Chloronaphthalene | μg/L | Annual | 0.6 | NONE | NONE | 1,700 | 4,300 | NONE | 4,300 | No | NA | NA | NA | NA |
| 8 | 072 | 4-Chlorophenylphenylether | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 073 | Chrysene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 8 | 074 | Dibenzo(a,h)Anthracene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 8 | 075 | 1,2-Dichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 2,700 | 17,000 | 600 | 600 | No | NA | NA | NA | NA |
| 8 | 076 | 1,3-Dichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 400 | 2,600 | NONE | 2,600 | No | NA | NA | NA | NA |
| 8 | 077 | 1,4-Dichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 400 | 2,600 | 5 | 5 | No | NA | NA | NA | NA |
| 8 | 078 | 3,3'-Dichlorobenzidine | μg/L | Annual | 0.6 | NONE | NONE | 0.04 | 0.077 | NONE | 0.077 | No | NA | NA | NA | NA |
| 8 | 079 | Diethylphthalate | μg/L | Annual | 0.6 | NONE | NONE | 23,000 | 120,000 | NONE | 120,000 | No | NA | NA | NA | NA |
| 8 | 080 | Dimethylphthalate | μg/L | Annual | 0.6 | NONE | NONE | 313,000 | 2,900,000 | NONE | 2,900,000 | No | NA | NA | NA | NA |
| 8 | 081 | Di-n-butylphthalate | μg/L | Annual | 0.6 | NONE | NONE | 2,700 | 12,000 | NONE | 12,000 | No | NA | NA | NA | NA |
| 8 | 082 | 2,4-Dinitrotoluene | μg/L | Annual | 0.6 | NONE | NONE | 0.11 | 9.1 | NONE | 9.1 | No | NA | NA | NA | NA |
| 8 | 083 | 2,6-Dinitrotoluene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 084 | Di-n-octylphthalate | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 085 | 1,2-Diphenylhydrazine | μg/L | Annual | 0.6 | NONE | NONE | 0.04 | 0.54 | NONE | 0.54 | No | NA | NA | NA | NA |
| 8 | 086 | Fluoranthene | μg/L | Annual | 0.6 | NONE | NONE | 300 | 370 | NONE | 370 | No | NA | NA | NA | NA |
| 8 | 087 | Fluorene | μg/L | Annual | 0.6 | NONE | NONE | 1,300 | 14,000 | NONE | 14,000 | No | NA | NA | NA | NA |
| 8 | 088 | Hexachlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | 0.00075 | 0.00077 | 1 | 0.00077 | No | NA | NA | NA | NA |
| 8 | 089 | Hexachlorobutadiene | μg/L | Annual | 0.6 | NONE | NONE | 0.44 | 50 | NONE | 50 | No | NA | NA | NA | NA |
| 8 | 090 | Hexachlorocyclopentadiene | μg/L | Annual | 0.6 | NONE | NONE | 240 | 17,000 | 50 | 50 | No | NA | NA | NA | NA |
| 8 | 091 | Hexachloroethane | μg/L | Annual | 0.6 | NONE | NONE | 1.9 | 8.9 | NONE | 8.9 | No | NA | NA | NA | NA |
| 8 | 092 | Indeno(1,2,3-cd)Pyrene | μg/L | Annual | 0.6 | NONE | NONE | 0.0044 | 0.049 | NONE | 0.049 | No | NA | NA | NA | NA |
| 8 | 093 | Isophorone | μg/L | Annual | 0.6 | NONE | NONE | 8.4 | 600 | NONE | 600 | No | NA | NA | NA | NA |
| 8 | 094 | Naphthalene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 095 | Nitrobenzene | μg/L | Annual | 0.6 | NONE | NONE | 17 | 1,900 | NONE | 1,900 | No | NA | NA | NA | NA |
| 8 | 096 | N-Nitrosodimethylamine | μg/L | Annual | 0.6 | NONE | NONE | 0.00069 | 8.1 | NONE | 8.1 | No | NA | NA | NA | NA |
| 8 | 097 | n-Nitroso-di-n-propylamine | μg/L | Annual | 0.6 | NONE | NONE | 0.005 | 1.4 | NONE | 1.4 | No | NA | NA | NA | NA |
| 8 | 098 | N-Nitrosodiphenylamine | μg/L | Annual | 0.6 | NONE | NONE | 5 | 16 | NONE | 16 | No | NA | NA | NA | NA |
| 8 | 099 | Phenanthrene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 100 | Pyrene | μg/L | Annual | 0.6 | NONE | NONE | 960 | 11,000 | NONE | 11,000 | No | NA | NA | NA | NA |
| 8 | 101 | 1,2,4-Trichlorobenzene | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | 70 | 70 | No | NA | NA | NA | NA |
| 8 | 102 | Aldrin | μg/L | Annual | 0.6 | 3 | NONE | 0.00013 | 0.00014 | NONE | 0.00014 | No | NA | NA | NA | NA |
| 8 | 103 | alpha-BHC | μg/L | Annual | 0.6 | NONE | NONE | 0.0039 | 0.013 | NONE | 0.013 | No | NA | NA | NA | NA |
| 8 | 104 | beta-BHC | μg/L | Annual | 0.6 | NONE | NONE | 0.014 | 0.046 | NONE | 0.046 | No | NA | NA | NA | NA |
| 8 | 105 | Lindane (gamma-BHC) | μg/L | Annual | 0.6 | 0.95 | NONE | 0.019 | 0.063 | 0.2 | 0.063 | No | NA | NA | NA | NA |
| 8 | 106 | delta-BHC | μg/L | Annual | 0.6 | NONE | NONE | NONE | NONE | NONE | NONE | No | NA | NA | NA | NA |
| 8 | 107 | Chlordane | μg/L | Annual | 0.6 | 2.4 | 0.0043 | 0.00057 | 0.00059 | 0.1 | 0.00059 | No | NA | NA | NA | NA |

TABLE F-4 REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALL 008)

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

| | | | | | | Step 1: Water Quality Criteria, Determine C | | | Step 2 Step 3 | | | | Step 4 | | | |
|---------|-----|--------------------|-----------|--------|-----|---|---------------|------------------|---------------|--------------|------------|----|---------------------------------------|----------------------------|------------------------------|----------|
| | | | | | | | CTR C | RITERIA | | - Basin Plan | | - | - | | | |
| | | | | | | Fres | hwater | Human H | lealth | | C = Lowest | | Was Constituent | Are all Detection Limits > | 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 | | Criteria | | Detected in Detected in Effluent Data | C C | | |
| 8 | 108 | 4,4'-DDT | μg/L | Annual | 0.6 | 1.1 | 0.001 | 0.00059 | 0.00059 | NONE | 0.00059 | No | NA | NA | NA | NA |
| 8 | 109 | 4,4'-DDE | μg/L | Annual | 0.6 | NONE | NONE | 0.00059 | 0.00059 | NONE | 0.00059 | No | NA | NA | NA | NA |
| 8 | 110 | 4,4'-DDD | μg/L | Annual | 0.6 | NONE | NONE | 0.00083 | 0.00084 | NONE | 0.00084 | No | NA | NA | NA | NA |
| 8 | 111 | Dieldrin | μg/L | Annual | 0.6 | 0.24 | 0.056 | 0.00014 | 0.00014 | NONE | 0.00014 | No | NA | NA | NA | NA |
| 8 | 112 | Endosulfan I | μg/L | Annual | 0.6 | 0.22 | 0.056 | 110 | 240 | NONE | 0.056 | No | NA | NA | NA | NA |
| 8 | 113 | Endosulfan II | μg/L | Annual | 0.6 | 0.22 | 0.056 | 110 | 240 | NONE | 0.056 | No | NA | NA | NA | NA |
| 8 | 114 | Endosulfan Sulfate | μg/L | Annual | 0.6 | NONE | NONE | 110 | 240 | NONE | 240 | No | NA | NA | NA | NA |
| 8 | 115 | Endrin | μg/L | Annual | 0.6 | 0.086 | 0.036 | 0.76 | 0.81 | 2 | 0.036 | No | NA | NA | NA | NA |
| 8 | 116 | Endrin Aldehyde | μg/L | Annual | 0.6 | NONE | NONE | 0.76 | 0.81 | NONE | 0.81 | No | NA | NA | NA | NA |
| 8 | 117 | Heptachlor | μg/L | Annual | 0.6 | 0.52 | 0.0038 | 0.00021 | 0.00021 | 0.01 | 0.00021 | No | NA | NA | NA | NA |
| 8 | 118 | Heptachlor Epoxide | μg/L | Annual | 0.6 | 0.52 | 0.0038 | 0.0001 | 0.00011 | 0.01 | 0.00011 | No | NA | NA | NA | NA |
| 8 | 119 | Aroclor-1016 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 120 | Aroclor-1221 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 121 | Aroclor-1232 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 122 | Aroclor-1242 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 123 | Aroclor-1248 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 124 | Aroclor-1254 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 125 | Aroclor-1260 | μg/L | Annual | 0.6 | NONE | 0.014 | 0.00017 | 0.00017 | 0.5 | 0.00017 | No | NA | NA | NA | NA |
| 8 | 126 | Toxaphene | μg/L | Annual | 0.6 | 0.73 | 0.0002 | 0.00073 | 0.00075 | 3 | 0.0002 | No | NA | NA | NA | NA |
| 8 | 127 | E. Coli | MPN/100ml | Annual | 0.6 | NA | NA | NA | NA | 235 | 235 | No | NA | NA | NA | NA |

TABLE F-5 REASONABLE POTENTIAL ANALYSIS - NONPRIORITY POLLUTANTS (OUTFALL 008)

SECOND QUARTER 2020 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 | 2 | 2.6 | 0.60 | 7.39 | 19.22 | 0 | 0 | 19.22 | 45 | BU |

APPENDIX G

Second Quarter 2020 Receiving Water Surveys

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Table G - Receiving Water Surveys

TABLE G RECEIVING WATER SURVEYS

SECOND QUARTER 2020 THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

April 1 through June 30, 2020

Observation Requirements: Observations are only made during discharge on a monthly basis when 002 (Bell Creek), Outfall 008 (Dayton Creek), and Outfall 009 (Arroyo Simi) are flowing. Outfalls only discharged in April during the Second Quarter 2020.

| SECOND QUARTER 2020 ARROYO SIMI OBSERVATIONS at Arroyo Simi | | | | | | | | |
|---|-------------------------|-----|------|--|--|--|--|--|
| ARROYO SIMI OBSERVATIONS | APRIL | MAY | JUNE | | | | | |
| Date and time of inspection | 4/6/2020, 08:20 | N/A | N/A | | | | | |
| Weather conditions | Raining, cool, overcast | N/A | N/A | | | | | |
| Color of water | Brown | N/A | N/A | | | | | |
| Appearance of oil films or grease, or floatable materials | Feathers, leaves, twigs | N/A | N/A | | | | | |
| Extent of visible turbidity or color patches | Uniform opaque | N/A | N/A | | | | | |
| Description of odor, if any | None | N/A | N/A | | | | | |
| Presence or activity of California Least Tern or California Brown Pelican | No | N/A | N/A | | | | | |
| Upstream Surface Water Temperature* | 54.7°F | N/A | N/A | | | | | |
| Upstream Surface Water pH* | 7.98 pH Units | N/A | N/A | | | | | |

Notes:

N/A = not applicable. Since Outfall 009 did not flow during May or June, no monthly inspections were required at Arroyo Simi for those months.

^{* =} These data were collected to assist in determining compliance with receiving water limitations during the quarter. Úpstream data (Figure 2) were compared to the pH and temperature measured at Arroyo Simi sample location RSW-002 (Appendix C) and were within 0.5 unit and 5°F of the upstream field readings; therefore, compliance was demonstrated.

| SECOND QUARTER 2020 BELL CREEK OBSERVATIONS at Outfall 002 | | | | | | | | |
|---|---------------------------|-----|------|--|--|--|--|--|
| BELL CREEK OBSERVATIONS | APRIL | MAY | JUNE | | | | | |
| Date and time of inspection | 4/6/2020, 07:20 | N/A | N/A | | | | | |
| Weather conditions | Drizzling, cool, overcast | N/A | N/A | | | | | |
| Color of water | Brown | N/A | N/A | | | | | |
| Appearance of oil films or grease, or floatable materials | None | N/A | N/A | | | | | |
| Extent of visible turbidity or color patches | Uniform translucent | N/A | N/A | | | | | |
| Description of odor, if any | None | N/A | N/A | | | | | |
| Presence or activity of California Least Tern or California Brown Pelican | No | N/A | N/A | | | | | |

Notes:

N/A = not applicable. Since Outfall 002 did not flow during May or June, no monthly inspection were required at Outfall 002 for those months.

| SECOND QUARTER 2020 DAYTON CANYON CREEK OBSERVATIONS at Outfall 008 | | | | | | | | |
|---|---------------------|-----|------|--|--|--|--|--|
| DAYTON CANYON CREEK OBSERVATIONS | APRIL | MAY | JUNE | | | | | |
| Date and time of inspection | 4/15/2020, 07:30 | N/A | N/A | | | | | |
| Veather conditions | Cool, partly cloudy | N/A | N/A | | | | | |
| Color of water | Clear | N/A | N/A | | | | | |
| Appearance of oil films or grease, or floatable materials | None | N/A | N/A | | | | | |
| Extent of visible turbidity or color patches | None | N/A | N/A | | | | | |
| Description of odor, if any | None | N/A | N/A | | | | | |
| Presence or activity of California Least Tern or California Brown Pelican | No | N/A | N/A | | | | | |

Notes:

NA = not applicable. Since Outfall 008 did not flow during the months of May or June, no monthly inspection were required at Outfall 008 for those months.

APPENDIX H Annual Comprehensive Sitewide Compliance Evaluation Report

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Appendix H – Annual Comprehensive Site Compliance Evaluation Report, Reporting Year July 1, 2019 – June 30, 2020

APPENDIX H

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT REPORTING YEAR JULY 1, 2019 – JUNE 30, 2020

This Annual Comprehensive Site Compliance Evaluation Report (Report) was prepared for The Boeing Company (Boeing) Santa Susana Field Laboratory (Site), located in Simi Hills, Ventura County, California in general accordance with Attachment G (Section IX.D.) of the Site's Waste Discharge Requirements (National Pollutant Discharge Elimination System [NPDES] Permit No. CA0001309, CI No. 6027). This Report evaluates compliance with the Site-Wide SWPPP during reporting year July 1, 2018 – June 30, 2019. The Annual Comprehensive Site Compliance Evaluation (Annual Evaluation) was conducted between June 1 - 4, and 8, 2020 by Mark Dominick, PG, QSD of Haley & Aldrich:

The Inspector observed minor amounts of sediment delivered or accumulated around sediment control BMPs due to the areas upstream from most of the BMPs being well-vegetated with a diversity of plants.

REVIEW OF VISUAL OBSERVATIONS RECORDS AND SAMPLING AND ANALYSIS RESULTS

For reporting year July 1, 2019 – June 30, 2020 the Inspector reviewed all inspection forms during the Annual Evaluation, up to May 2020, that documented inspections/visual observations. All inspection forms that were completed for the reporting year after the Annual Evaluation were reviewed by June 30, 2020; each inspection form was complete or revised as needed. A process exists and has been implemented for non-compliance items to be properly evaluated and corrected.

Sampling and analysis results are evaluated in each quarterly Discharge Monitoring Report (DMR).

POTENTIAL POLLUTANT SOURCE VISUAL INSPECTION

For reporting year July 1, 2019 – June 30, 2020, the Inspector conducted visual inspections at the Site during the Annual Evaluation at buildings, equipment, and surrounding areas to evaluate the status of existing potential pollutant sources. Areas where known potential pollutants exist have Best Management Practices (BMPs) implemented to minimize and/or eliminate the potential for pollutant releases. No additional areas were identified that require additional BMPs.

BEST MANAGEMENT PRACTICE REVIEW

For reporting year July 1, 2019 – June 30, 2020, the Inspector reviewed and evaluated the structural and non-structural BMPs at the Site during the during the Annual Evaluation. The Inspector determined the BMPs were adequate, properly implemented and required minor maintenance and in compliance with the SWPPP and BMP Plan. The onsite evaluation did result in recommendations which the Inspector identified on the inspection forms and verified that the corrective actions were completed prior to the issuance of the Second Quarter DMR or scheduled to be completed during the Third Quarter of 2020.

SWPPP REVISIONS AND SCHEDULE

The Los Angeles Regional Water Quality Control Board (Regional Board) adopted the 2015 NPDES Permit No. R4-2015-0033 on February 12, 2015, effective April 1, 2015, to revise the existing 2010 NPDES Permit No. R4-2010-0090. A revised SWPPP was submitted to the Regional Board in accordance with the terms of the new 2015 Permit on June 30, 2016. The most recent Site-Wide SWPPP was updated in accordance with the terms of the 2015 Permit and submitted to the Regional Board on September 26, 2019 as version 6. Version 7 of the SWPPP will be completed in the fall 2020 based on observations made during the Annual Evaluation and include the following revisions:

- Updated text to Surface Water Discharges (section 2.4.1);
- Added text to Surface Water Ponds (section 2.4.2);
- Updated text to Dust and Particulate Generating Activities (section 2.8.2);
- Added text to Potential Soil Erosion (section 2.8.5);
- Updated text to Northern Drainage (section 2.8.6.1);

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ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT REPORTING YEAR JULY 1, 2019 – JUNE 30, 2020

- Updated text to Interim Soil Removal Actions (section 2.8.6.2);
- Added text to Non-Stormwater Discharges (section 3.1.3);
- Added text to Secondary Containment Structures (section 4.2.4);
- Added text to New BMPs to be Implemented (section 4.3);
- Updated text to the References (Section 6);
- Updated figures;
- Updated Significant Materials Inventory (Appendix C);
- Updated SPRP (Appendix E); and
- Updated inspection forms (Appendix F).

NON-COMPLIANCE INCIDENTS AND CORRECTIVE ACTIONS TAKEN

As part of the Annual Evaluation, the Inspector reviewed the non-compliance issues (Permit Limit exceedances) discussed in the DMRs and reviewed the corrective actions during the evaluation period. The Inspector has determined that the corrective actions were appropriate and have been completed. During the onsite portion of the annual evaluation, minor recommendations were made to Boeing and the Inspector has determined that the recommendations were either completed prior to the issuance of the Second Quarter DMR or scheduled to be completed during the Third Quarter of 2020.

CERTIFICATION

Per NPDES Permit Appendix G, Section IX.D, the signature and certification requirements for this evaluation report are included in the DMR text.

APPENDIX I

Annual Bioassessment Sampling Report

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Aquatic Bioassay & Consulting Laboratories, Inc., Bioassessment Sampling for the Boeing Company at the Santa Susana Field Laboratory (2020)

Date: June 18th, 2020

To: Katherine Miller

Haley & Aldrich

600 South Meyer Avenue, Suite 100

Tucson, AZ 85701-2554

From: Scott Johnson

Laboratory Director

Aquatic Bioassay and Consulting Laboratories

29 N. Olive St. Ventura, CA 93001



RE: BIOASSESSMENT SAMPLING FOR THE BOEING COMPANY AT THE SANTA SUSANA FIELD LABORATORY (2020)

The Bioassessment Sampling and Analysis Plan for The Boeing Company at the Santa Susana Field Laboratory (SSFL) specifies that spring/summer bioassessment sampling occur from four to six weeks following the last major storm event of the 2020 rain season. This time period was established by, and is included in, the state-wide bioassessment protocols established by the State of California's Surface Water Ambient Monitoring Program (SWAMP 2016). Flowing water through a stream reach over this period of time is necessary for the aquatic benthic macroinvertebrate (BMI) community that might reside there to become established and ensures that valid BMI samples will be collected.

The 2019 to 2020 rain year was characterized by average rainfall amounts. Between July 2019 and May 2020, a total of 20.52 inches of rain fell on the SSFL property. The last significant rainfall occurred in April (total = 3.88 inches) (Figure 1). On June 4th, 2020, 17 days following the last rainfall (0.22 inches) on May 18th, the two NPDES permitted sites on the SSFL were visited by Aquatic Bioassay and Consulting Laboratory Biologists to determine if bioassessment samples could be collected. Neither SSFL-001 nor SSFL-006 had flow and both were completely dry across their entire reaches (see photos).

If you have any questions regarding this memo or future sampling plans, please contact me directly.

Sincerely,

Scott Johnson Laboratory Director 805 643 5621 x 11

scott@aquaticbioassay.com



SSFL Rainfall (July 2019 thru May 2020) 8.0 6.0 Rainfall (inches) 4.0 2.0 0.0 Apr-20 Dec-19 Feb-20 Mar-20 Jul-19 Aug-19 Sep-19 Oct-19 Nov-19 Jan-20 May-20

Figure 1. Rainfall (inches) measured July 2019 thru May 2020 at SSFL.



Figure 2. Photos taken downstream and upstream of each permitted discharge point from the SSFL property (June 2020).



