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Via Email to losangeles@waterboards.ca.gov

February 15, 2023

In reply refer to SHEA-116462

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

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

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

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

FOURTH QUARTER 2022 DMR CONTENTS

This DMR includes the following sections and appendices:

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

- **Stormwater Pollution Prevention Plan/Best Management Practice Activities:** This section presents the Santa Susana Site-Wide Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practice (BMP)-related activities implemented in the Fourth Quarter 2022 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 SWPPP/BMP activities completed during the Fourth Quarter 2022 by location. Table IV summarizes activities completed in coordination with the Expert Panel during the Fourth Quarter 2022.
- **Figure 1** shows the stormwater collection and conveyance system, the Bell Creek Receiving Water sampling location (RSW-001, Outfall 002), and Santa Susana Site features; **Figure 2** shows the Arroyo Simi Receiving Water sampling location (RSW 002, Frontier Park) and upstream monitoring location.
- **Appendix A** summarizes the rainfall measured at the Santa Susana Site during the Fourth Quarter 2022.
- **Appendix B** tabulates waste shipments during the Fourth Quarter 2022.
- **Appendix C** presents chemical analytical results from the Fourth Quarter 2022 stormwater and/or receiving water sample discharge monitoring in tabular form by sampling locations, constituents evaluated (analytes), sample dates, and data validation qualifiers.
- **Appendix D** contains copies of the laboratory analytical reports, chain-of-custody forms, and data validation reports (if validation was performed).

DISCHARGE AND SAMPLE COLLECTION SUMMARY

The Santa Susana Site had five qualifying rain events during the Fourth Quarter 2022 that measured greater than 0.1 inch of rainfall within a 24-hour period and were preceded by at least 72 hours of dry weather (Appendix A). Outfalls 002 and 009 began flowing during the 2200 hour on December 31, 2022. This flow began at an hour considered unsafe to access the site and conduct sampling. Samples from Outfalls 002 and 009 were collected on the morning of January 1, 2023. These results will be reported in the First Quarter 2023 DMR. No discharges occurred at other outfalls in the Fourth Quarter 2022; therefore, no samples were collected. Automated flow-weighted composite samplers (autosamplers) were set in preparation for all anticipated rain events. There were no changes in the discharge as described in the NPDES Permit during the reporting period.

One quarterly offsite receiving water sample was collected at the Arroyo Simi location (RSW-002, Frontier Park); see Figure 2.

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

TABLE I: Sampling Record during the Fourth Quarter 2022

Date	Outfall/Location	Sample Frequency	Sample Type
12/20/2022	RSW-002	Quarterly	Grab

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 D. Attachment H of the NPDES Permit presents the SWRCB's minimum levels laboratories are expected to achieve for reporting and determining compliance with NPDES Permit limits. The analytical laboratory achieved these minimum levels in the Fourth Quarter 2022 except when reporting limits were above the minimum levels (generally because of matrix interference). In cases where the NPDES Permit limit was less than the reporting limit and minimum level or there was no minimum level specified in the NPDES Permit, the reporting limit was used to determine compliance.

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

The quarterly surface water sample collected at Arroyo Simi sampling location (RSW-002, Frontier Park) in Simi Valley had no constituents that exceeded receiving water limits.

FOURTH QUARTER 2022 RECEIVING WATER SURVEYS

The receiving water monitoring program required by the NPDES Permit includes surveys of Bell Creek, Dayton Canyon Creek, and Arroyo Simi. Observations are made only during discharge from Outfalls 002, 008, and 009, respectively, and at most monthly during periods of multiple flow events. During Fourth Quarter 2022, Outfall 008 did not discharge and Outfalls 002 and 009 did not discharge during safe work hours; thus, no receiving water surveys were conducted. Receiving water surveys will be reported in the First Quarter 2023 DMR.

STORMWATER TREATMENT SYSTEM (SWTS 011) ACTIVITIES

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

- The system was filled with hydrant water and hydrotested. All leaks were repaired, and the system was dosed with potassium permanganate to coat the sand filters in preparation for a possible discharge event.
- Replaced the deflated buoy on the intake line.
- Performed weed abatement in and around the compound. Weeds were abated around the intake line and structures.
- Replaced the ball valves in the chemboxes with stainless steel ball valves.
- Cleaned the spillway of R-1, removing branches and weeds.
- Installed a LED light above the bag filters.
- Installed a LED light in the microsand shed as well as a GFCI outlet.
- Installed new aluminum signs on the satellite accumulation sheds for emergency preparedness.

SWTS 011 did not operate in the Fourth Quarter 2022.

STORMWATER TREATMENT SYSTEM (SWTS 018) ACTIVITIES

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

- The system was filled with hydrant water and hydrottested. All leaks were repaired, and the system was dosed with potassium permanganate to coat the sand filters in preparation of a possible discharge event.
- Removed the microsand from the maturation and settling chambers in ACTIFLO.
- Performed weed abatement in and around the compound. Weeds were abated around the intake line and structures.
- Removed sediment from the weir tanks.
- Replaced a pump fuse.
- Removed the tree limb that was leaning on the screw press.
- Replaced a cracked fitting on the potassium permanganate line in the chemical skid.
- Cut and removed a fallen tree from the electrical wires for the aerators to the pond.
- Installed new aluminum signs on the satellite accumulation sheds for emergency preparedness.

SWTS 018 did not operate in the Fourth Quarter 2022.

STORMWATER POLLUTION PREVENTION PLAN/BEST MANAGEMENT PRACTICE ACTIVITIES

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

TABLE II: Routine Quarterly Outfall BMP Activities

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

Notes:

X = BMP activity is applicable to the Outfall and was completed in Fourth Quarter 2022.

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

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

TABLE III: Additional Fourth Quarter 2022 SWPPP/BMP Activities

Outfall, Watershed, BMP, or Other Location	SWPPP/BMP Activities During Fourth Quarter 2022
001	– Removed a fallen oak tree from the Outfall 001 drainage channel.
002	– Repaired the Autosampler strainer.
004	<ul style="list-style-type: none"> – Covered the check structure along the SRE pad with a double layer of felt. – Installed jute netting along the slope. – Installed a felt covered sandbag row along the edge of the upper parking lot. – Installed reflective tape on the old waterline to increase safety at night. – Removed leaf litter and debris from the upper and lower swales.
005	– Replaced the digital display on the Sparling totalizer.
006	<ul style="list-style-type: none"> – Installed felt wrapped sandbags in the upper right media basin to extend the flume wall. – Hydrottested the new pumps. – Trimmed the oak tree to allow safer access to the Outfall. – Applied a waterproof concrete epoxy along the outer wall of the flume.
008	– Weed abated and removed brush from the western drainage to expose the check structures.
010	– Removed the suction flex hose for the Charles King pump and fabricated and fused a new high-density polyethylene (HDPE) suction line.
011	– Installed new stainless-steel filler and overflow tubing.
018	– Installed new stainless-steel filler and overflow tubing.
Helipad	<ul style="list-style-type: none"> – Performed brush clearance around the valves at the top of the Helipad. – Removed sediment from the check structure at the bottom of Helipad Road.
CTL-III	– Installed straw wattles, jute netting, and riprap check structures at the various drilling locations.

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

NASA-Related Activities

Demolition BMPs and stormwater activities covered by NASA’s Construction SWPPP for the Bravo area continue to be inspected in accordance with the Construction General Permit (CGP; NASA, 2021). During the Fourth Quarter 2022, NASA placed gravel over completed soil areas previously disturbed, maintained fiber rolls as perimeter and linear sediment controls, and maintained silt fencing and gravel/riprap in areas within these sites where construction activities have been completed.

DOE-Related Activities

DOE reported no BMP-related activities during the Fourth Quarter 2022.

Expert Panel-Related Activities

The activities discussed below were performed, commenced, or completed during the Fourth Quarter 2022 in coordination with the Expert Panel.

TABLE IV: Expert Panel-Related Fourth Quarter 2022 Activities

Outfall, Watershed, BMP, or Other Location	Activities During Fourth Quarter 2022
Culvert Modifications (CMs)	<ul style="list-style-type: none"> – Performed BMP Inspections. – Performed weed abatement and brush clearance at CM-2, CM-3, CM-4, CM-5, and CM-9. – Installed straw wattles around the perimeter of CM-11. – Cleaned and rebuilt the check structure for the drop inlet to CM-9. – Removed sediment from the swale at CM-7.
Well 13 Road	<ul style="list-style-type: none"> – Performed BMP Inspections.
B-1 Area BMPs	<ul style="list-style-type: none"> – Performed BMP Inspections.
Upper Parking Lot Media Filter	<ul style="list-style-type: none"> – Performed BMP Inspections.
Former Building 1436 Detention Bioswales	<ul style="list-style-type: none"> – Performed BMP Inspections. – Removed sediment and debris from the inlet to the Bioswale. – Installed new straw wattles at the inlet to the Bioswale.
Lower Parking Lot	<ul style="list-style-type: none"> – Removed spent straw wattles around the perimeter of the Lower Lot and installed new wattles. – Cleaned and organized the BMP staging area. – Cleaned and rebuilt the check structure next to the walkway in the Lower Parking Lot. – Trimmed the oak trees and brush around the perimeter of the parking lot. Weed abated the northern end of the parking lot making it usable space. – Installed a double layer of felt over the sandbag check structure at the culvert entering the Northern Drainage.
Area I Road	<ul style="list-style-type: none"> – Installed straw wattles downslope of telephone poles along Area I Road, in the Burn Pit, and along the roadway to the Bell Canyon gate.
Area II Road	<ul style="list-style-type: none"> – Replaced spent straw wattles at the entrances to Edison’s access roads. – Removed sediment and debris from the curb cuts at Post 505.
R-1 Pond	<ul style="list-style-type: none"> – Excavated around two culvert pipes that extended into the pond and removed the old concrete plug. Installed a plug on the downstream side and filled the culvert with slurry. Benched around the culvert pipe and poured 3-sack of slurry. Compacted around the slurry and installed jute netting and straw wattles along the slope. Placed native seed underneath and on top of the jute netting.

Outfall, Watershed, BMP, or Other Location	– Activities During Fourth Quarter 2022
Former Shooting Range (Sage Ranch)	– Performed BMP Inspections. – Recovered the check structures with a double layer of felt.
B-1 Retention Basin	– Installed new felt walkway in the B-1 Retention Basin.
NASA and Boeing BMP Monitoring-Related Activities	– In addition to activities performed in coordination with the Expert Panel described above, BMP performance monitoring samples were collected in the watershed associated with Outfalls 001, 002, and 009 during the Fourth Quarter 2022. These sampling results will be reported by the Expert Panel in their 2023 Annual Report.

Other BMP Activities

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

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 rainy season and will make BMP and monitoring recommendations that will be communicated in the Expert Panel's 2023 Annual Report.

FACILITY CONTACT

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

CERTIFICATION

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

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

Executed on the 15th of February 2023 at The Boeing Company, Seal Beach, California Site.

Sincerely,



Kim O'Rourke

Global Remediation and Due Diligence Program Manager
Global Enterprise Sustainability – Environment

Enclosures:

References

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

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

Appendix A – Fourth Quarter 2022 Rainfall Data Summary

Appendix B – Fourth Quarter 2022 Waste Shipment Summary Tables

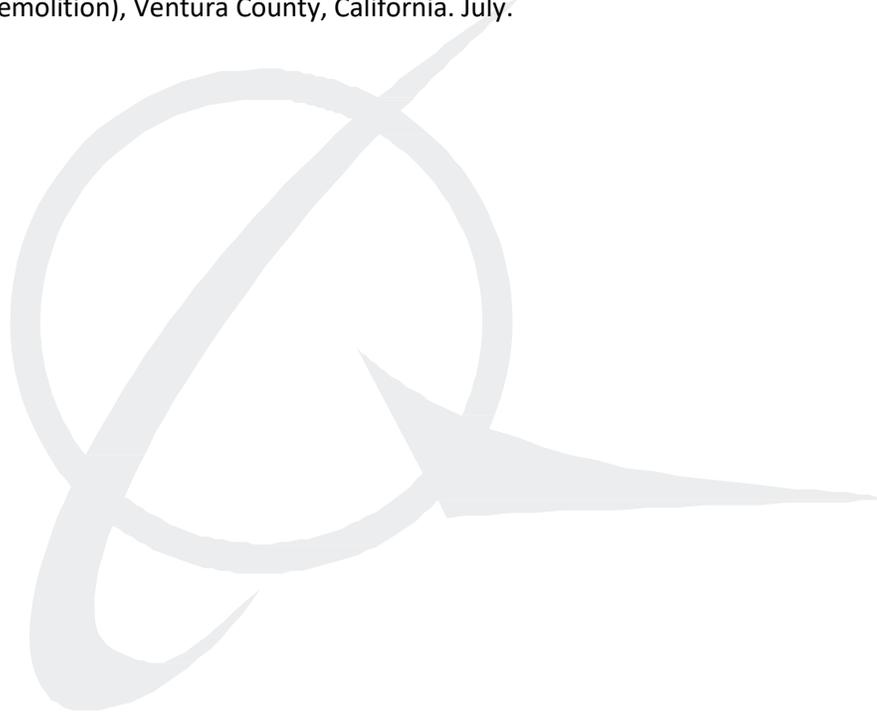
Appendix C – Fourth Quarter 2022 Discharge Monitoring Data Summary Tables

Appendix D – Fourth Quarter 2022 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

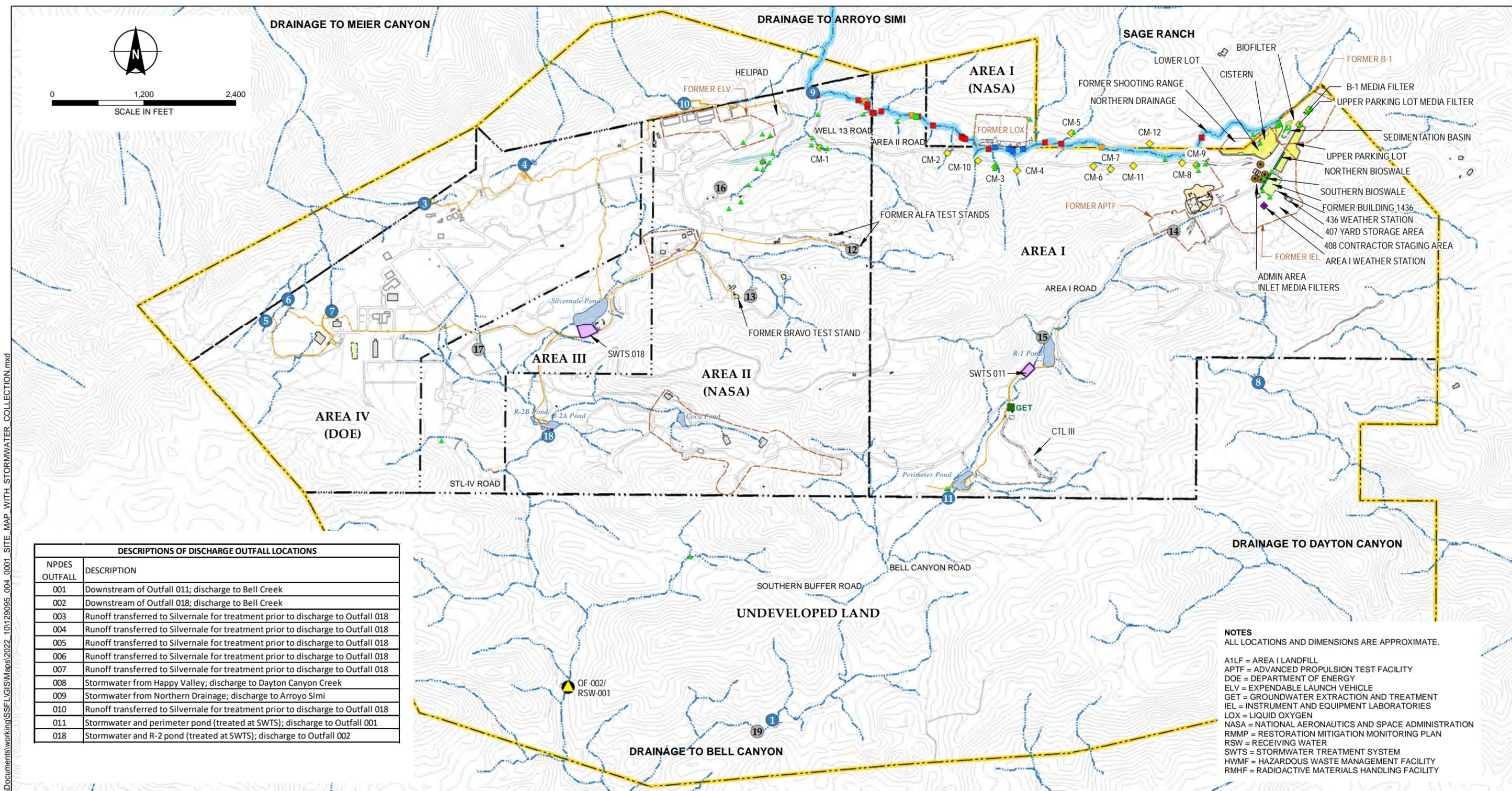
- c: Los Angeles Regional Water Quality Control Board; Attn: Mr. Duong H. Trinh
Los Angeles Regional Water Quality Control Board; Attn: Ms. Bronwyn Kelly
California Department of Toxic Substances Control; Attn: Mr. Mark Malinowski

REFERENCES

1. California Regional Water Quality Control Board, Los Angeles Region, 2015. Waste Discharge Requirements for The Boeing Company, Santa Susana Field Laboratory (Order No. R4-2015-0033, NPDES No. CA0001309). 12 February.
2. Haley & Aldrich, Inc., 2022. Stormwater Pollution and Prevention Plan (Version 9 for Compliance with 2015 NPDES Permit). 16 December.
3. National Aeronautics and Space Administration, 2021. Stormwater Pollution and Prevention Plan for the Pacific Region MATOC FY21 Facilities Reduction Program at the NASA Santa Susana Field Laboratory (Phase 5 – Bravo Test Area Demolition), Ventura County, California. July.



Figures



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

NOTES
 ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

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

LEGEND

① ACTIVE NPDES OUTFALL LOCATION	● ADMINISTRATION AREA DRAIN INLETS	■ STORMWATER TREATMENT SYSTEM	--- DRAINAGE	■ VEHICLE PARKING	■ EXISTING BUILDING/STRUCTURE
①⑦ FORMER NPDES OUTFALL LOCATION	▲ BMP MONITORING LOCATION	□ FORMER STUDY AREA	--- NORTHERN DRAINAGE	■ BIOFILTER	■ FORMER BUILDING FOOTPRINT
● BELL CREEK RECEIVING WATER (RSW-001) SAMPLING LOCATION AND OUTFALL 002	■ GET SYSTEM	RMMP LOCATION	--- ASPHALT SWALE	■ SEDIMENT BASIN	■ CONCRETE SLAB IN PLACE
● SLOPE DRAIN DISCHARGE POINT TO NORTHERN DRAINAGE		■ CHECK STRUCTURE - MOSTLY NATURAL SANDSTONE, SOME RIP RAP	--- PAVED ROAD	■ STORAGE TANK	■ LANDFILL AREA
◆ CULVERT MODIFICATION		■ CHECK STRUCTURE - RIP RAP	--- DIRT ROAD	■ BIOSWALE	■ SANTA SUSANA SITE PROPERTY BOUNDARY
		■ CHECK STRUCTURE - VEGETATED RIP RAP	--- 25' ELEVATION CONTOUR	■ GRAVEL	--- ADMINISTRATIVE AREA BOUNDARY
		■ SLOPE DRAIN WITH UNDERLYING CHECK STRUCTURE AND ENERGY DISSIPATING GRAVEL AT INFLUENT END		■ SURFACE WATER POND	

HALEY ALDRICH

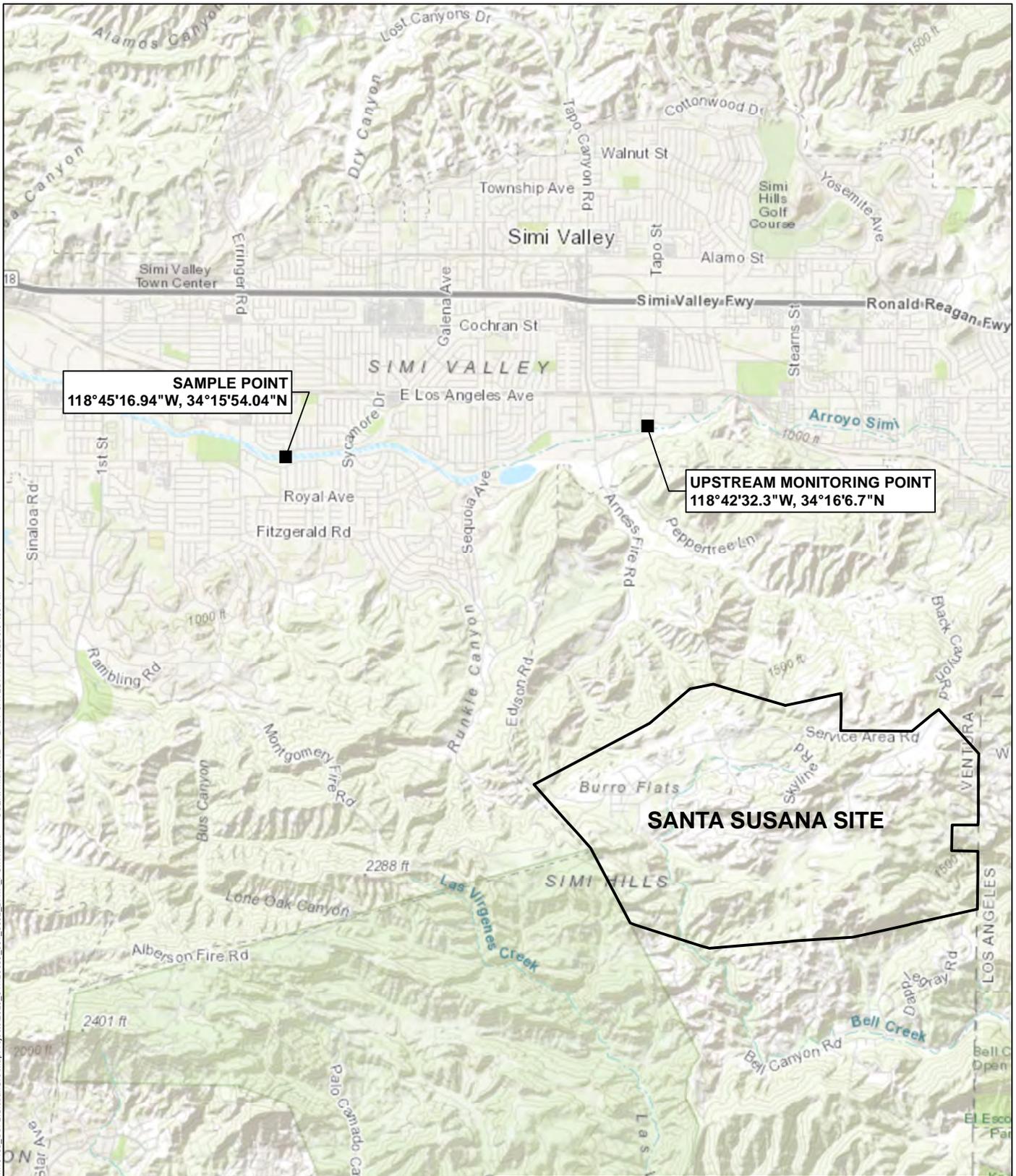
NPDES PERMIT COMPLIANCE FOURTH QUARTER 2022 DISCHARGE MONITORING REPORT THE BOEING COMPANY VENTURA COUNTY, CALIFORNIA

SITE MAP WITH STORMWATER COLLECTION AND CONVEYANCE SYSTEM AND SITE FEATURES

FEBRUARY 2023 **FIGURE 1**

C:\Users\hwachholz\OneDrive - halevaldrich.com\Documents\working\SF\GIS\Maps\2022_10129095_004_0001_SITE_MAP_WITH_STORMWATER_COLLECTION.mxd

GIS FILE PATH: \\haleyaldrich.com\haley\sfprj\comm\040458_SSFL\Global\GIS\MapProjects\2023_0117\20065_004_0002_DATA_POINT.mxd — USER: hwaschote — LAST SAVED: 7/15/2022 3:07:36 PM



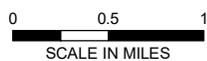
SAMPLE POINT
 118°45'16.94"W, 34°15'54.04"N

UPSTREAM MONITORING POINT
 118°42'32.3"W, 34°16'6.7"N

SANTA SUSANA SITE

NOTES

1. THE SAMPLE POINT IS FOR QUARTERLY WATER QUALITY AND ANNUAL SEDIMENT SAMPLING.
2. THE UPSTREAM SAMPLE POINT LOCATION WAS CHOSEN BASED ON IT BEING UPSTREAM OF ALL POSSIBLE DISCHARGE FROM THE SANTA SUSANA SITE.



**HALEY
ALDRICH**

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

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

FEBRUARY 2023

FIGURE 2

APPENDIX A
Fourth Quarter 2022 Rainfall Data Summary

APPENDIX A
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Table A – Daily Rainfall Summary

**TABLE A
DAILY RAINFALL SUMMARY**

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

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

HOOR OF THE DAY, PACIFIC STANDARD TIME

	HR-BEG	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	HR-END	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
	DAY																									Total	
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	0.00
A	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00
	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	13	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	0.00
F	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	0.00
	15	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
T	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	0.00
H	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	0.00
E	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	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	0.00
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	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	0.00

Monthly Total 0.02

Flags: d = Off-line part of hour. Invalid hour due to semi-annual calibration (October 13). Onsite personnel confirmed no rainfall was observed during this time.

**TABLE A
DAILY RAINFALL SUMMARY**

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

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

HOUR OF THE DAY, PACIFIC STANDARD TIME

	HR-BEG	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
	HR-END	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
DAY																											Total	
D	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	0.01	0.04	0.05	
A	2	0.00	0.06	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	
Y	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	0.00	
O	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	0.00	
F	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	0.00	
T	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	0.00	
H	7	0.01	0.03	0.01	0.04	0.03	0.00	0.01	0.00	0.01	0.03	0.04	0.01	0.03	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.35	
E	8	0.00	0.00	0.06	0.05	0.09	0.35	0.12	0.01	0.04	0.03	0.00	0.01	0.04	0.28	0.33	0.02	0.05	0.01	0.00	0.01	0.02	0.00	0.00	0.01	0.01	1.53	
M	9	0.01	0.03	0.00	0.00	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	0.00	0.08	
O	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	0.00	
N	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	0.00	
T	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	0.00	
H	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	0.00	
M	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	0.00	
O	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	0.00	
N	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	0.00	
T	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	0.00	
H	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	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	0.00	
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	0.00	
																											Monthly Total	2.13

Flags: d = Off-line part of hour, invalid hour due to communication error (November 22). For the off-line event, the rain gauge at 436 building recorded 0.00" on November 21 during hour 2300-2400.

**TABLE A
DAILY RAINFALL SUMMARY**

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

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

HOUR OF THE DAY, PACIFIC STANDARD TIME

	HR-BEG	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	HR-END	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
DAY																											Total
D	1	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.01	0.19	
A	2	0.07	0.10	0.10	0.08	0.07	0.08	0.07	0.06	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.09	0.03	0.00	0.00	0.97
Y	3	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	
O	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.04	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	
F	5	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
T	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	
H	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	
E	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	
M	9	0.00	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	
O	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	0.02	0.03	0.02	0.00	0.03	0.02	0.16	0.28	
N	11	0.11	0.16	0.25	0.32	0.48	0.20	0.08	0.03	0.01	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	1.67	
T	12	0.00	0.00	0.06	0.05	0.00	0.05	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	
H	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	
M	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	
O	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	
N	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	
T	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	
H	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
M	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
O	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
N	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
T	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
H	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.04	0.04	0.04	0.03	0.10	0.10	0.03	0.03	0.10	0.05	0.62	
	28	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	0.00	0.01	
	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	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.06	
	30	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.02	0.00	0.02	0.00	0.01	0.02	0.05	0.05	0.03	0.00	0.02	0.00	0.01	0.02	0.02	0.03	0.02	0.37	
	31	0.03	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.00	0.00	0.05	0.01	0.01	0.00	0.02	0.05	0.08	0.12	0.23	0.39	0.26	0.34	0.17	1.90	
																										Monthly Total	6.42

Flags: d = Off-line part of hour. Invalid hour due to semi-annual audit (December 9). Onsite personnel confirmed no rainfall was observed during this time.

APPENDIX B
Fourth Quarter 2022 Waste Shipment Summary Tables

APPENDIX B
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Table B – Waste Shipment Summary Table

**TABLE B
WASTE SHIPMENT SUMMARY TABLE**

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

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
UN1950, Waste Aerosols, Flammable, N.O.S. 21	Solid	39	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
Non-RCRA Hazardous Waste, Liquids (Non PCB Ballasts and Capacitors)	Liquid	13	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Buttonwillow LLC 2500 West Lockern Road Buttonwillow, CA 93206
NA3077, Hazardous Waste, Solid, N.O.S.(Trichloroethene, Tetrachloroethylene) 9 PG III	Solid	11	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 2247 South Highway 71 Kimball, NE 69145
UN3262, Corrosive Solid, Basic, Inorganic, N.O.S. (Sodium Hydroxide, Potassium Hydroxide) 8 PG III	Solid	27	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN1791, Waste Hypochlorite Solutions (Sodium Hypochlorite) 8 PG III	Liquid	213	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
NA3082, Hazardous Waste, Liquid, N.O.S.(Trichloroethylene) 9 PG III	Liquid	1670	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
Non-RCRA Hazardous Waste, Solids (Debris, Sulfuric Acid)	Solid	74	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
Non-RCRA Hazardous Waste, Solid (Debris)	Solid	404	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN3090, Lithium Metal Batteries, 9 PG II	Solid	11	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Retriev Technologies, Inc. 8090 Lancaster Newark Road Baltimore, OH 43105
Universal Waste (Electronic Devices)	Solid	188	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
UN2800, Batteries, Wet, Non-Spillable, 8 (Universal Waste Batteries)	Solid	44	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
Non-Hazardous, Non D.O.T. Regulated Material (Debris)	Solid	1325	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744

**TABLE B
WASTE SHIPMENT SUMMARY TABLE**

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

TYPE OF WASTE	MATRIX	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	DESTINATION
Non-Hazardous, Non D.O.T. Regulated	Solid	180	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
NA3082, Hazardous Waste, Liquid, N.O.S., (Water)	Liquid	47,300	G	Ecology Control Industries	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
NA3082, Hazardous Waste, Liquid, N.O.S. (Water)	Liquid	765	G	Patriot Environmental Services	n/a	US Ecology Vernon 5375 South Boyle Avenue Los Angeles, CA 90058
RQ, NA3077, Hazardous Waste, Solid, N.O.S. (Rock Solids)	Solid	50	Y	Ecology Control Industries	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003
NA3077, Hazardous Waste, Solid N.O.S., (F002 Rock Drilling Solids)	Solid	10	P	Patriot Environmental Services	n/a	US Ecology Beatty US Hwy 95, 11 Miles South of Beatty Beatty, NV 89003
Non Hazardous Waste	Liquid	20,000	G	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058	n/a	Southwest Processors, Inc. 4120 Bandini Boulevard Vernon, CA 90058

APPENDIX C
Fourth Quarter 2022 Discharge Monitoring Data Summary Tables

APPENDIX C

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Reporting Summary Notes

Arroyo Simi - Discharge Monitoring Data Summary Table

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

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

1. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalents (TEQs) for the purpose of determining permit compliance are the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). The resulting compliance TCDD TEQ does not include those congener concentrations that are reported as detected but not quantified (DNQ), as specified on page 26 of the NPDES permit (Water Board, 2015).
2. Temperature, total residual chlorine (TRC), dissolved oxygen (DO), and pH are measured in the field and are not validated.
3. pH and temperature are identified on the table as daily maximum discharge limits. The National Pollutant Discharge Elimination System (NPDES) permit limit has an instantaneous minimum (6.5) and maximum (8.5) for pH and an instantaneous maximum of 86°F for temperature.
4. Exceedances are defined on page 6 of the NPDES permit as constituents in excess of daily maximum benchmark limits, daily maximum permit limits, or receiving water limits. Analytical concentrations or calculations to determine compliance to the NPDES permit are compared to the same number of significant figures as the daily maximum benchmark limits, daily maximum permit limits, or receiving water limits.
5. Priority pollutants sampled once every five years, at Arroyo Simi Receiving Water sampling location (RSW-002, Frontier Park) were analyzed during the First Quarter 2018.
6. Dissolved metals are filtered by the laboratory and reported as "Metal, dissolved". Total metals are not filtered by the laboratory and reported as "Metal".
7. Abbreviations, symbols, and acronyms:

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

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

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

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

EB	Equipment blank.
EMPC	Estimated maximum possible concentration.
F	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.
FB	Field blank.
F1	Matrix spike (MS) and/or matrix spike duplicate (MSD) recovery is outside acceptance limits.
ft/sec	Feet per second.
G	Gallons.
gpd	Gallons per day.
H	Holding time was exceeded.
Hardness	Equivalent of calcium carbonate (CaCO ₃).
Hp	Hepta.
Hx	Hexa.
ICP	Interference check solution results were unsatisfactory.
J	Estimated value.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
J, DX	Estimated value, value < lowest standard method quantitation limit (MQL), but > than method detection limit (MDL).
K	The sample dilution's set-up did not meet the oxygen depletion criteria of at least 2 milligrams per liter (mg/L); therefore, the reported result is an estimated value only.
L	Laboratory control sample percent recovery (%R) was outside control limits.
L1	Laboratory control standard (LCS)/laboratory control standard duplicate (LCSD), relative percent difference (RPD) was outside the control limit.
L2	The laboratory control sample percent recovery (%R) was below the method control limits.
LBS/DAY	Pounds per day.
LCS	Laboratory control standard.
LCSD	Laboratory control standard duplicate.
LQ	Laboratory control standard (LCS)/ laboratory control standard duplicate (LCSD) recovery above method control limits.
M1	Matrix spike (MS) and/or matrix spike duplicate (MSD) were above the acceptance limits due to sample matrix interference.
M2	The matrix spike (MS) and/or matrix spike duplicate (MSD) were below the acceptance limits due to sample matrix interference.
Max	Maximum.
MB	Analyte present in the method blank.
MDA/MDC	Minimum detectable activity/minimum detectable concentration.

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

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

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

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

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

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

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

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

**ARROYO SIMI
DISCHARGE MONITORING DATA SUMMARY TABLE**

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

October 1 through December 31, 2022

				12/20/2022 07:25		
ANALYTE	UNITS	DAILY MAXIMUM PERMIT LIMIT	SAMPLE FREQUENCY	SAMPLE TYPE	RESULT	LABORATORY/ VALIDATION QUALIFIER
POLLUTANTS WITH LIMITS						
4,4'-DDD	µg/L	0.0014	1/Quarter	Grab	ND < 0.0044	U
4,4'-DDE	µg/L	0.001	1/Quarter	Grab	ND < 0.0019	U
4,4'-DDT	µg/L	0.001	1/Quarter	Grab	ND < 0.0016	U
Aroclor 1016	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U
Aroclor 1221	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U
Aroclor 1232	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U
Aroclor 1242	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U
Aroclor 1248	µg/L	0.0003	1/Quarter	Grab	ND < 0.044	U
Aroclor 1254	µg/L	0.0003	1/Quarter	Grab	ND < 0.052	U
Aroclor 1260	µg/L	0.0003	1/Quarter	Grab	ND < 0.052	U
Chlordane	µg/L	0.001	1/Quarter	Grab	ND < 0.026	U
Chlorpyrifos	µg/L	0.02	1/Quarter	Grab	ND < 0.0013	U
Diazinon	µg/L	0.16	1/Quarter	Grab	ND < 0.0010	UJ (H)
Dieldrin	µg/L	0.0002	1/Quarter	Grab	ND < 0.0013	U
E. coli	mpn/100mL	235	1/Year	ANR	ANR	ANR
pH (Field)	s.u.	6.5-8.5	1/Quarter	Grab	7.71	*
Toxaphene	µg/L	0.0003	1/Quarter	Grab	ND < 0.054	U
POLLUTANTS WITHOUT LIMITS						
Hardness (as CaCO3)	mg/L	-	1/Quarter	Grab	680	*
Priority Pollutants	NA	-	1/5 Years	ANR	ANR	ANR
Temperature (Field)	Deg F	-	1/Quarter	Grab	44.3	*
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	0.0	*

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

APPENDIX D
**Fourth Quarter 2022 Analytical Laboratory Reports, Chain of Custody Forms and
Validation Reports**

APPENDIX D

TABLE OF CONTENTS

Section No.

- | | |
|---|--|
| 1 | Arroyo Simi– 570-121437-1 – December 20, 2022, Eurofins Calscience Analytical Report |
| 2 | Arroyo Simi– 570-121437-2 – December 20, 2022, Eurofins Calscience Analytical Report |
| 3 | Data Usability Summary Report |

 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 1/6/2023 9:24:22 AM

JOB DESCRIPTION

Boeing NPDES SSFL Outfall - Arroyo Dry

JOB NUMBER

570-121437-1

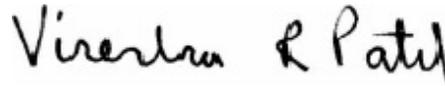
Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

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

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

Authorization



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1/6/2023 9:24:22 AM

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



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Definitions/Glossary

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

Job ID: 570-121437-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
PI	Primary and confirm results varied by > than 40% RPD

Glossary

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

Case Narrative

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

Job ID: 570-121437-1

Job ID: 570-121437-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-121437-1

Comments

No additional comments.

Receipt

The samples were received on 12/20/2022 1:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

GC Semi VOA

Method 608.3: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-290927 and analytical batch 570-292260 recovered outside control limits for the following analytes: Aroclor-1016.

Laboratory control sample / laboratory control sample duplicate (LCS/LCSD) percent recovery is in control for affected analytes.

Method 608.3: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-290927 and analytical batch 570-291681 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 608.3: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-290927 and analytical batch 570-292052 recovered outside control limits for the following analytes: Aldrin and Alpha-BHC.

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

Metals

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

Organic Prep

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

Detection Summary

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

Job ID: 570-121437-1

Client Sample ID: Arroyo_Simi_20221220_Grab

Lab Sample ID: 570-121437-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	680		7.1	1.0	mg/L	1		SM 2340B	Total Recoverable

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 570-121437-1

Method: 40CFR136A 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Arroyo_Simi_20221220_Grab

Date Collected: 12/20/22 07:25

Date Received: 12/20/22 12:00

Lab Sample ID: 570-121437-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		12/21/22 07:59	12/27/22 16:46	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		12/21/22 07:59	12/27/22 16:46	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		12/21/22 07:59	12/27/22 16:46	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		12/21/22 07:59	12/27/22 16:46	1
Dieldrin	ND		0.0033	0.0013	ug/L		12/21/22 07:59	12/27/22 16:46	1
Toxaphene	ND		0.067	0.054	ug/L		12/21/22 07:59	12/27/22 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	73		20 - 139	12/21/22 07:59	12/27/22 16:46	1

Client Sample Results

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

Job ID: 570-121437-1

Method: 40CFR136A 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: Arroyo_Simi_20221220_Grab
Date Collected: 12/20/22 07:25
Date Received: 12/20/22 12:00

Lab Sample ID: 570-121437-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:25	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:25	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:25	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:25	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:25	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/21/22 07:59	12/23/22 18:25	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/21/22 07:59	12/23/22 18:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene (Surr)</i>	63		20 - 139				12/21/22 07:59	12/23/22 18:25	1
<i>DCB Decachlorobiphenyl (Surr)</i>	35	PI	20 - 154				12/21/22 07:59	12/23/22 18:25	1

Client Sample Results

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

Job ID: 570-121437-1

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

Client Sample ID: Arroyo_Simi_20221220_Grab

Date Collected: 12/20/22 07:25

Date Received: 12/20/22 12:00

Lab Sample ID: 570-121437-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	680		7.1	1.0	mg/L			12/22/22 12:31	1

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Surrogate Summary

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

Job ID: 570-121437-1

Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (20-139)
570-121437-1	Arroyo_Simi_20221220_Grab	73
570-121437-1 MS	Arroyo_Simi_20221220_Grab	76
570-121437-1 MSD	Arroyo_Simi_20221220_Grab	91

Surrogate Legend

TCX = Tetrachloro-m-xylene

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-121437-1	Arroyo_Simi_20221220_Grab	63	35 PI
LCS 570-290927/4-A	Lab Control Sample	71	70
LCSD 570-290927/5-A	Lab Control Sample Dup	82	81
MB 570-290927/1-A	Method Blank	63	66

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

QC Sample Results

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

Job ID: 570-121437-1

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: 570-121437-1 MS

Matrix: Water

Analysis Batch: 291681

Client Sample ID: Arroyo_Simi_20221220_Grab

Prep Type: Total/NA

Prep Batch: 290927

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
4,4'-DDD	ND		0.0333	0.0257		ug/L		77		31 - 141
4,4'-DDE	ND		0.0333	0.0239		ug/L		72		30 - 145
4,4'-DDT	ND		0.0333	0.0259		ug/L		78		25 - 160
Dieldrin	ND		0.0333	0.0243		ug/L		73		36 - 146

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	76		20 - 139

Lab Sample ID: 570-121437-1 MSD

Matrix: Water

Analysis Batch: 291681

Client Sample ID: Arroyo_Simi_20221220_Grab

Prep Type: Total/NA

Prep Batch: 290927

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
4,4'-DDD	ND		0.0333	0.0314		ug/L		94		31 - 141	20	39
4,4'-DDE	ND		0.0333	0.0291		ug/L		87		30 - 145	20	35
4,4'-DDT	ND		0.0333	0.0294		ug/L		88		25 - 160	13	42
Dieldrin	ND		0.0333	0.0288		ug/L		87		36 - 146	17	49

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	91		20 - 139

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

Lab Sample ID: MB 570-290927/1-A

Matrix: Water

Analysis Batch: 291678

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 290927

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor 1016	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:07	1
Aroclor 1221	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:07	1
Aroclor 1232	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:07	1
Aroclor 1242	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:07	1
Aroclor 1248	ND		0.10	0.044	ug/L		12/21/22 07:59	12/23/22 18:07	1
Aroclor 1254	ND		0.10	0.052	ug/L		12/21/22 07:59	12/23/22 18:07	1
Aroclor 1260	ND		0.10	0.052	ug/L		12/21/22 07:59	12/23/22 18:07	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	63		20 - 139	12/21/22 07:59	12/23/22 18:07	1
DCB Decachlorobiphenyl (Surr)	66		20 - 154	12/21/22 07:59	12/23/22 18:07	1

Lab Sample ID: LCS 570-290927/4-A

Matrix: Water

Analysis Batch: 292260

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 290927

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Aroclor 1016	0.133	0.0927	J,DX PI	ug/L		69		50 - 140
Aroclor 1260	0.133	0.126		ug/L		94		8 - 140

Eurofins Calscience

QC Sample Results

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

Job ID: 570-121437-1

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

Lab Sample ID: LCS 570-290927/4-A
Matrix: Water
Analysis Batch: 292260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 290927

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	71		20 - 139
DCB Decachlorobiphenyl (Surr)	70		20 - 154

Lab Sample ID: LCSD 570-290927/5-A
Matrix: Water
Analysis Batch: 292260

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 290927

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Aroclor 1016	0.133	0.137	PI BA	ug/L		102	50 - 140	38		36
Aroclor 1260	0.133	0.149		ug/L		112	8 - 140	1		38

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	82		20 - 139
DCB Decachlorobiphenyl (Surr)	81		20 - 154

QC Association Summary

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

Job ID: 570-121437-1

GC Semi VOA

Prep Batch: 290927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-121437-1	Arroyo_Simi_20221220_Grab	Total/NA	Water	608	
MB 570-290927/1-A	Method Blank	Total/NA	Water	608	
LCS 570-290927/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-290927/5-A	Lab Control Sample Dup	Total/NA	Water	608	
570-121437-1 MS	Arroyo_Simi_20221220_Grab	Total/NA	Water	608	
570-121437-1 MSD	Arroyo_Simi_20221220_Grab	Total/NA	Water	608	

Analysis Batch: 291678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-121437-1	Arroyo_Simi_20221220_Grab	Total/NA	Water	608.3	290927
MB 570-290927/1-A	Method Blank	Total/NA	Water	608.3	290927

Analysis Batch: 291681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-121437-1	Arroyo_Simi_20221220_Grab	Total/NA	Water	608.3	290927
570-121437-1 MS	Arroyo_Simi_20221220_Grab	Total/NA	Water	608.3	290927
570-121437-1 MSD	Arroyo_Simi_20221220_Grab	Total/NA	Water	608.3	290927

Analysis Batch: 292260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-290927/4-A	Lab Control Sample	Total/NA	Water	608.3	290927
LCSD 570-290927/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	290927

Metals

Analysis Batch: 291434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-121437-1	Arroyo_Simi_20221220_Grab	Total Recoverable	Water	SM 2340B	

Lab Chronicle

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

Job ID: 570-121437-1

Client Sample ID: Arroyo_Simi_20221220_Grab

Lab Sample ID: 570-121437-1

Date Collected: 12/20/22 07:25

Matrix: Water

Date Received: 12/20/22 12:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			1500 mL	1 mL	290927	12/21/22 07:59	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	291681	12/27/22 16:46	N5Y3	EET CAL 4
Instrument ID: GC52A										
Total/NA	Prep	608			1500 mL	1 mL	290927	12/21/22 07:59	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	291678	12/23/22 18:25	AJ2Q	EET CAL 4
Instrument ID: GC58										
Total Recoverable	Analysis	SM 2340B		1			291434	12/22/22 12:31	W1BQ	EET CAL 4
Instrument ID: NOEQUIP										

Laboratory References:

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



Accreditation/Certification Summary

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

Job ID: 570-121437-1

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22 *

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



Method Summary

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

Job ID: 570-121437-1

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	40CFR136A	EET CAL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	EET CAL 4
SM 2340B	Total Hardness (as CaCO ₃) by calculation	SM	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	EET CAL 4

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

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

Laboratory References:

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



Sample Summary

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

Job ID: 570-121437-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-121437-1	Arroyo_Simi_20221220_Grab	Water	12/20/22 07:25	12/20/22 12:00

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Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: _____		Lab PM: Patel, Virendra		Carrier Tracking No(s): _____		COC No. 570-202036 1			
Client Contact: Shipping/Receiving		Phone: _____		E-Mail: Virendra.Patel@et.eurofinsus.com		State of Origin: California		Page: Page 1 of 1			
Company: Weck Laboratories Inc.				Accreditations Required (See note): State Program - California				Job #: 570-121437-1			
Address: 14859 E Clark Avenue		Due Date Requested: 1/4/2023		Analysis Requested						Preservation Codes A HCL M Hexane B NaOH N - None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E - NaHSO4 Q Na2SO3 F MeOH R Na2SO3 G Amchlor S H2SO4 H - Ascorbic Acid T TSP Dodecahydrate I - Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z - other (specify)	
City: _____		TAT Requested (days): _____									
State Zip: CA 91745		PO #: _____		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
Phone: _____		WO #: _____									
Email: _____		Project #: 44024446		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
Project Name: Boeing NPDES SSFL Outfall - Arroyo Dry		SSOW#: _____									
Site: _____		SSOW#: _____		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
Sample Identification - Client ID (Lab ID)		Sample Date									
		Sample Time		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
		Sample Type (C=Comp, G=grab)									
		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
		Preservation Code									
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
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				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
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				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
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				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
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				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
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				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L units))		Total Number of containers	
				Field Filtered Sample (Yes or No)							

ICOC No:
570-202036

Containers

Count	Container Type	Preservative
8	Amber Glass 1 liter - Hydrochloric	Hydrochloric Acid

Subcontract Method Instructions

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



(121437)

CHAIN OF CUSTODY FORM

Model W-500

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2015 Quarterly Arroyo Simi-Frontier Park Dry Weather				ANALYSIS REQUIRED				Field Readings		Meter serial # <i>No serial #</i>
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #44024446				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)				Hardness as CaCO ₃ , Recoverable (SM2340B) Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E606)				Field Readings: (Include units) Time of Readings: <i>0715</i>		cut back on unit
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement # 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.				Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)								pH <i>7.71</i> pH unit Temp <i>44.3</i> °C/F Velocity <i>0.0</i> ft/sec		
Sampler: Adrien Mobeka				Field Readings QC Checked by: <i>Mark Dominick</i> Date/Time: <i>12-20-2022/0715</i>				Comments						
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD						
Arroyo Simi Page 20 of 21	① Arroyo_Simi_20221220_Grab	12/20/2022 <i>1045</i>	WS	250 mL Poly	3	HNO ₃	100	Yes	X					
			WS	1L Glass Amber	6	HCl	275	Yes		X				Extract within 24-Hours of sampling at Weck Labs
	② Arroyo_Simi_20221220_Grab_Extra	12/20/2022 <i>1045</i>	WS	1L Glass Amber	6	None	285	Yes			X			
			WS	1L Glass Amber	2	HCl	275	No			H			Hold
WS	1L Glass Amber	2	None	285	No					H			Hold	
Relinquished By: <i>Mark Dominick</i> Date/Time: <i>12/20/2022/1045</i> Company: <i>H&A</i>				Received By: <i>EC</i> Date/Time: <i>12/20/22 1045</i>				Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day <input checked="" type="checkbox"/> 48 Hour _____ 5 Day _____ Normal: _____						
Relinquished By: <i>Mark Dominick</i> Date/Time: <i>12/20/22 1345</i> Company: <i>EC</i>				Received By: <i>Mark Dominick</i> Date/Time: <i>12/20/2022 1345</i>				Sample Integrity (Check) Intact: _____ On Ice: _____						
Relinquished By: _____ Date/Time: _____ Company: _____				Received By: _____ Date/Time: _____				Store samples for 6 months: Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>						



570-121437 Chain of Custody

1.9/1.7 sc12



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-121437-1

Login Number: 121437

List Number: 1

Creator: Patel, Virendra

List Source: Eurofins Calscience

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



 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 2/2/2023 2:36:34 PM

JOB DESCRIPTION

Boeing NPDES SSFL Outfall - Arroyo Dry

JOB NUMBER

570-121437-2

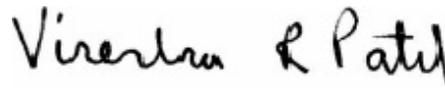
Job Notes

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

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

Authorization

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



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Definitions/Glossary

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

Job ID: 570-121437-2

Glossary

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

Case Narrative

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

Job ID: 570-121437-2

Job ID: 570-121437-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-121437-2

Comments

No additional comments.

Receipt

The samples were received on 12/20/2022 1:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

Lab Admin

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

Subcontract Work

Method Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units): This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.



Method Summary

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

Job ID: 570-121437-2

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

Protocol References:

None = None

Laboratory References:

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



Sample Summary

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

Job ID: 570-121437-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-121437-1	Arroyo_Simi_20221220_Grab	Water	12/20/22 07:25	12/20/22 12:00

1

2

3

4

5

6

7

8

9

Work Orders: 2L20155

Project: 570-121437-1

Attn: Virendra Patel

Client: Eurofins Calscience - Tustin
2841 Dow Avenue, Suite 100
Tustin, CA 92780

Report Date: 2/02/2023

Received Date: 12/20/2022

Turnaround Time: Normal

Phones: (949) 261-1022

Fax: (949) 260-3297

P.O. #: 570-121437-1

Billing Code:

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 12/20/22 with the Chain-of-Custody document. The samples were received in good condition, at 3.7 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: Arroyo_Simi_20221220_Grab
2L20155-01 (Water) Sampled: 12/20/22 7:25 by Client

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M		Instr: GCMS13					
Batch ID: W2L1928		Preparation: EPA 525.2/SPE		Prepared: 12/27/22 08:11		Analyst: EFC	
Chlorpyrifos	ND	0.0013	0.010	ug/l	1	01/03/23	
Diazinon	ND	0.0010	0.010	ug/l	1	01/03/23	
<i>Surrogate(s)</i>							
1,3-Dimethyl-2-nitrobenzene	71%		50-141	Conc: 0.356		01/03/23	
Triphenyl phosphate	97%		63-200	Conc: 0.484		01/03/23	

Quality Control Results

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

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Blank (W2L1928-BLK1)					Prepared: 12/27/22 Analyzed: 01/03/23						
Chlorpyrifos	ND	0.0013	0.010	ug/l							
Diazinon	ND	0.0010	0.010	ug/l							
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.364			ug/l	0.500		73	50-141			
Triphenyl phosphate	0.487			ug/l	0.500		97	63-200			
LCS (W2L1928-BS1)					Prepared: 12/27/22 Analyzed: 01/03/23						
Chlorpyrifos	0.0485	0.0013	0.010	ug/l	0.0500		97	63-145			
Diazinon	0.0351	0.0010	0.010	ug/l	0.0500		70	25-180			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.471			ug/l	0.500		94	50-141			
Triphenyl phosphate	0.481			ug/l	0.500		96	63-200			
Matrix Spike (W2L1928-MS1)					Source: 2L20155-01		Prepared: 12/27/22 Analyzed: 01/03/23				
Chlorpyrifos	0.0435	0.0013	0.010	ug/l	0.0500	ND	87	37-168			
Diazinon	0.0382	0.0010	0.010	ug/l	0.0500	ND	76	36-153			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.353			ug/l	0.500		71	50-141			
Triphenyl phosphate	0.492			ug/l	0.500		98	63-200			
Matrix Spike Dup (W2L1928-MSD1)					Source: 2L20155-01		Prepared: 12/27/22 Analyzed: 01/03/23				
Chlorpyrifos	0.0491	0.0013	0.010	ug/l	0.0500	ND	98	37-168	12	30	
Diazinon	0.0427	0.0010	0.010	ug/l	0.0500	ND	85	36-153	11	30	
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.456			ug/l	0.500		91	50-141			
Triphenyl phosphate	0.499			ug/l	0.500		100	63-200			

Notes and Definitions

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

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

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

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

Reviewed by:



Rahul R. Nair
Project Manager



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

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

Chain of Custody Record



Chlor
eurofins
2/20/23

Client Information (Sub Contract Lab)	Sampler: Patel, Virendra	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-202036.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California	Page: Page 1 of 1

Company: Weck Laboratories, Inc.	Accreditations Required (See note): State Program - California	Job #: 570-121437-1
-------------------------------------	---	------------------------

Address: 14859 E. Clark Avenue,	Due Date Requested: 1/4/2023	Analysis Requested	Preservation Codes:
City: City of Industry	TAT Requested (days):		
State, Zip: CA, 91745	PO #:		
Phone:	WO #:		
Project Name: Boeing NPDES SSFL Outfall - Arroyo Dry	Project #: 44024446	Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested										Total Number of Containers	Special Instructions/Note:	
Arroyo Simi_220221220_Grab (570-121437-1)	12/20/22	07:25 Pacific		Water		X												2	See Attached Instructions
Arroyo Simi_220221220_Grab (570-121437-1MS)	12/20/22	07:25 Pacific	MS	Water		X												2	See Attached Instructions
Arroyo Simi_220221220_Grab (570-121437-1MSD)	12/20/22	07:25 Pacific	MSD	Water		X												2	See Attached Instructions
Arroyo Simi_220221220_Grab_Extra (570-121437-2)	12/20/22	07:25 Pacific		Water		H												2	Hold for analyses

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:
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Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	Date/Time: 12/20/22 12:58	Company: EL	Received by: <i>[Signature]</i>
Relinquished by:	Date/Time:	Company:	Received by:
Relinquished by:	Date/Time:	Company:	Received by:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Page 11 of 17	Cooler Temperature(s) °C and Other Remarks: 3.7C 1-0209	2/2/2023
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ICOC No:
570-202036

Containers

Count	Container Type	Preservative
8	Amber Glass 1 liter - Hydrochloric	Hydrochloric Acid

Subcontract Method Instructions

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





WECK LABORATORIES, INC.

Sample Receipt Checklist

2/2/2023

Weck WKO: 2L20155
 WKO Logged by: Jerico Bolotano
 Samples Checked by: Jerico Bolotano

Date/Time Received: 12/21/22 @ 12:58
 # of Samples: 02
 Delivered by: Client

Task	Yes	No	N/A	Comments	
COC	COC present at receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	COC properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	COC matches sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Receipt Information	Sample Temperature	3.7 °C			
	Samples received on ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	Ice Type (Blue/Wet)	Wet			
	All samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	Samples in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	Sufficient sample volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Sample Preservation Verification?	Sample labels checked for correct preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	VOC Headspace: (No) none, If Yes (See comment) 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <6mm/Pea size?
	pH verified upon receipt?				pH paper Lot# 2071882
	Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 508.1, 525.2<2; 6710B<2; 608.3 5-9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Free Chlorine Tested <0.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cl Test Strip Lot# 061221E
	O&G pH <2 verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH paper Lot#
	pH adjusted for O&G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH Reading: Acid Lot# Amt added:
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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PM Comments

Sample Receipt Checklist Prepared by:

Signature: Jerico Bolotano

Date: 12/20/22

ICOC No:
570-202036

Containers

Count	Container Type	Preservative
8	Amber Glass 1 liter - Hydrochloric	Hydrochloric Acid

Subcontract Method Instructions

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



(121437)

CHAIN OF CUSTODY FORM

Model W-500

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2015 Quarterly Arroyo Simi-Frontier Park Dry Weather				ANALYSIS REQUIRED				Field Readings		Meter serial # <i>No serial #</i>							
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #44024446				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)				Hardness as CaCO ₃ , Recoverable (SM2340B)	Chlorpyrifos, Diazinon (E525.2) Weck Labs in Hacienda Heights, CA	Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E606)					Field Readings: (Include units)		<i>cut back on unit</i>				
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement # 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.				Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)											Time of Readings: <i>0715</i>						
Sampler: Adrien Mobeka				Field Readings QC											pH <i>7.71</i> pH unit			Temp <i>44.3</i> °C/F		Velocity <i>0.0</i> ft/sec	
				Checked by: <i>Mark Dominick</i>											Date/Time: <i>12-20-2022/0715</i>			Comments			
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
Arroyo Simi Page 16 of 17	① Arroyo_Simi_20221220_Grab	12/20/2022 <i>1045</i>	WS	250 mL Poly	3	HNO ₃	100	Yes	X												
			WS	1L Glass Amber	6	HCl	275	Yes		X							Extract within 24-Hours of sampling at Weck Labs				
	② Arroyo_Simi_20221220_Grab_Extra	12/20/2022 <i>1045</i>	WS	1L Glass Amber	6	None	285	Yes			X										
			WS	1L Glass Amber	2	HCl	275	No			H						Hold				
WS	1L Glass Amber	2	None	285	No					H						Hold					
Relinquished By: <i>Mark Dominick</i> Date/Time: <i>12/20/2022/1045</i> Company: <i>H&A</i>				Received By: <i>EC</i> Date/Time: <i>12/20/22 1045</i>				Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day <input checked="" type="checkbox"/> 48 Hour _____ 5 Day _____ Normal: _____													
Relinquished By: <i>EC</i> Date/Time: <i>12/20/22 1345</i> Company: <i>EC</i>				Received By: <i>Adrien</i> Date/Time: <i>12/20/2022 1345</i>				Sample Integrity (Check) Intact: _____ On Ice: _____													
Relinquished By: _____ Date/Time: _____ Company: _____				Received By: _____ Date/Time: _____				Store samples for 6 months: Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>													



570-121437 Chain of Custody

1.9/1.7 sc12



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-121437-2

Login Number: 121437

List Number: 1

Creator: Patel, Virendra

List Source: Eurofins Calscience

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



Data Usability Summary Report

Project Name: Boeing NPDES SSFL

Project Description: Q4 2022 Stormwater Samples

Sample Date(s): 20 December 2022

Analytical Laboratory: Eurofins Calscience – Tustin, CA

Validation Performed by: Sean Fischer

Validation Reviewed by: Vanessa Godard

Validation Date: 23 January 2023

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for Sample Delivery Group(s) (SDG) listed. This DUSR is organized into the following sections:

- 1. Sample Delivery Group Number 570-121437-1**
 - 2. Explanations**
 - 3. Glossary**
 - 4. Abbreviations**
 - 5. Qualifiers**
- References**

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- National Functional Guidelines (NFG) for Inorganic Data Review.
- National Functional Guidelines (NFG) for Organic Data Review.
- The project-specific Quality Assurance Project Plan (QAPP), herein referred to as the specified limits (see references section). Written in 2015, the QAPP referenced the NFG written at the time. Data in this report has been reviewed against the most recent NFG.

Data reported in this sampling event were reported to the laboratory method detection limit (MDL). Results found between the MDL and the laboratory reporting limit (RL) are flagged J as estimated.

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOP). The results presented in each laboratory report were found to be compliant with the data quality objectives (DQO) for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Number 570-121437-1

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG number 570-121437-1, dated 6 January 2023 and SDG number 2L20155, dated 20 January 2023. Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Chlorpyrifos, Diazinon by E525 subcontracted to Weck Labs in Hacienda Heights, California.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
Arroyo_Simi_20221220_Grab	N	570-121437-1	12/20/2022	WS	A, B, C
	N	2L20155-01*	12/20/2022	WS	D

Method Holding Times			
A.	E200.7	Metals, Total	180 days for liquid, preserved
B.	E608.3	Organochlorine Pesticides and Polychlorinated Biphenyls (PCBs) by Gas Chromograph (GC)	14 days extraction/ 40 days analysis for liquid, unpreserved
C.	SM2340	Total Hardness (as CaCO ₃)	180 days for liquid, unpreserved
D.	E525.2M	Diazinon and Chlorpyrifos*	14 days extraction / 30 days analysis for liquid, preserved

*Subcontracted to Weck Labs, Hacienda Heights, California

1.2 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol:

- Previous DUSRs note a holding time for extraction of 24 hours for Diazinon. Due to the infeasibility of this extraction in the field, the lab sought consensus guidance from their various accrediting bodies. Per the laboratory, “the consensus decision is that these samples should be extracted as soon as possible, since there is no specific guidance provided in the method.” The lab also notes that the nature of diazinon and other relatively unstable target compounds listed under method 525.2 means “Only qualitative identification of these analytes is possible because of their instability in aqueous matrices.” However, the laboratory did not prepare the sample until a week after receipt and did not analyze until 14 days following receipt. Therefore, qualify Diazinon UJ.

1.3 REPORTING LIMITS AND SAMPLE DILUTIONS

The MDLs/RLs for the samples within this SDG met or were below the minimum reporting limit (RL) requirements specified by the project specific QAPP with the following exceptions:

- MDLs/RLs for Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene, and PCBs did not meet National Pollutant Discharge Elimination System (NPDES) Permit Discharge Limits but did meet State Waterboard Minimum Levels.

1.4 SURROGATE RECOVERY COMPLIANCE

[Refer to section E 1.2.](#) The percent recovery (%R) for each surrogate compound added to each project sample were determined to be within the laboratory specified quality control (QC) limits.

1.5 LABORATORY CONTROL SAMPLES

[Refer to section E 1.3.](#) Compounds associated with the laboratory control samples/laboratory control sample duplicates (LCS/LCSD) analyses associated with client samples exhibited recoveries and relative percent differences (RPDs) within the specified limits with the following exceptions:

Sample Type	Method	Batch ID	Analyte	%R/RPD	Qualifier	Affected Samples
LCSD	E608.3	292260	Aroclor 1016	RPD = 38	NA	None, samples are ND

1.6 MATRIX SPIKE SAMPLES

[Refer to section E 1.4.](#) The sample(s) below were used for matrix spike/matrix spike duplicate (MS/MSD):

Lab Sample Number	Matrix Spike/Matrix Spike Duplicate Sample Client ID	Method(s)
570-121437-1 MS/MSD	Arroyo_Simi_20221220_Grab	E608.3

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits.

1.7 BLANK SAMPLE ANALYSIS

[Refer to section E 1.5.](#) Method blank samples had no detections, indicating that no contamination from laboratory activities occurred.

1.8 DUPLICATE SAMPLE ANALYSIS

[Refer to section E 1.6.](#) No client samples were used for laboratory or field duplicate analysis.

1.9 PRECISION AND ACCURACY

[Refer to section E 1.7.](#) Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

1.10 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the DQOs for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable as no data was rejected. The qualifiers applied to this data set are summarized in the table below.

Sample ID	Analyte	Reported Result	Validated Result	Reason for Qualifier
Arroyo_Simi_20221220_Grab	Diazinon	10 U	10 UJ	Holding Time Exceedance

2. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.2 Surrogate Recovery Compliance
 - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determine the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds.
- E 1.3 Laboratory Control Samples
 - The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
- E 1.4 Matrix Spike Samples
 - Matrix spike/matrix spike duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
 - For inorganic methods, when a matrix spike recovery falls outside of the control limits and the sample result is less than four times the spike added, a post digestion spike (PDS) is performed.
- E 1.5 Blank Sample Analysis
 - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
- E 1.6 Laboratory and Field Duplicate Sample Analysis
 - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
- E 1.7 Precision and Accuracy
 - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
 - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%R) of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.

3. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
 - EB Equipment Blank Sample
 - FB Field Blank Sample
 - FD Field Duplicate Sample
 - N Primary Sample
 - TB Trip Blank Sample
- Units:
 - $\mu\text{g}/\text{kg}$ microgram per kilogram
 - $\mu\text{g}/\text{L}$ microgram per liter
 - $\mu\text{g}/\text{m}^3$ microgram per cubic meter
 - mg/kg milligram per kilogram
 - mg/L milligram per liter
 - ppb v/v parts per billion volume/volume
 - pCi/L picocuries per liter
 - pg/g picograms per gram
- Matrices:
 - AA Ambient Air
 - GS Soil Gas
 - GW/WG Groundwater
 - QW Water Quality
 - IA Indoor Air
 - SE Sediment
 - SO Soil
 - WQ Water Quality control matrix
 - WS Surface Water
- Table Footnotes:
 - NA Not applicable
 - ND Non-detect
 - NR Not reported
- Common Symbols:
 - % percent
 - < less than
 - \leq less than or equal to
 - > greater than
 - \geq greater than or equal to
 - = equal
 - $^{\circ}\text{C}$ degrees Celsius
 - \pm plus or minus
 - \sim approximately
 - x times (multiplier)

4. Abbreviations

%D	Percent Difference	MS/MSD	Matrix Spike/Matrix Spike Duplicate
%R	Percent Recovery	NA	not applicable
%RSD	Percent Relative Standard Deviation	ND	Non-Detect
%v/v	Percent volume by volume	NFG	National Functional Guidelines
µg/L	micrograms per liter	NH ₃	Ammonia
2s	2 sigma	NPDES	National Pollutant Discharge Elimination System
4,4-DDT	4 4-dichlorodiphenyltrichloroethane		
Abs Diff	Absolute Difference	NYSDEC	New York State Department of Environmental Conservation
amu	atomic mass unit		
BPJ	Best Professional Judgement	PAH	polycyclic aromatic hydrocarbon
BS	Blank Spike	PCB	Polychlorinated Biphenyl
CCB	Continuing Calibration Blank	PDS	Post Digestion Spike
CCV	Continuing Calibration Verification	PEM	Performance Evaluation Mixture
CCVL	Continuing Calibration Verification Low	PFAS	Per- and Polyfluoroalkyl Substances
		PFBA	Perfluorbutanoic Acid
COC	Chain of Custody	PFD	Perfluorodecalin
COM	Combined Isotope Calculation	PFOA	Perfluorooctanoic Acid
Cr (VI)	Hexavalent Chromium	PFOS	Perfluorooctane sulfonate
CRI	Collision Reaction Interface	PFPeA	Perfluoropentanoic Acid
DoD	Department of Defense	QAPP	Quality Assurance Project Plan
DQO	data quality objective	QC	Quality Control
DUSR	Data Usability Summary Report	QSM	Quality Systems Manual
EMPC	Estimated Maximum Possible Concentration	R ²	R-squared value
		Ra-226	Radium-226
FBK	Field Blank Contamination	Ra-228	Radium-228
FDP	Field Duplicate	RESC	Resolution Check Measure
GC	Gas Chromatograph	RL	Laboratory Reporting Limit
GC/MS	Gas Chromatography/Mass Spectrometry	RPD	Relative Percent Difference
		RRF	Relative Response Factors
GPC	Gel Permeation Chromatography	RT	Retention Time
H ₂	Hydrogen gas	SAP	sampling analysis plan
HCl	Hydrochloric Acid	SDG	Sample Delivery Group
ICAL	Initial Calibration	SIM	Selected ion monitoring
ICB	Initial Calibration Blank	SOP	Laboratory Standard Operating Procedures
ICP/MS	Inductively Coupled Plasma/ Mass Spectrometry	SPE	Solid Phase Extraction
ICV	Initial Calibration Verification	SVOC	Semi-Volatile Organic Compounds
ICVL	Initial Calibration Verification Low	TIC	Tentatively Identified Compound
IPA	Isopropyl Alcohol	TKN	Total Kjeldahl Nitrogen
LC	Laboratory Control	TPH	Total Petroleum Hydrocarbon
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate	TPU	Total Propagated Uncertainty
		amu	atomic mass unit
MBK	Method Blank Contamination	USEPA	U.S. Environmental Protection Agency
MDC	Minimum Detectable Concentration	VOC	Volatile Organic Compounds
MDL	Laboratory Method Detection Limit	WP	Work Plan
mg/kg	milligrams per kilogram		

5. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and BEDMS database and the data in the DUSR may contain these qualifiers:

Validation Note:

- *III Unusual problems found with the data that have been described in the validation report.
- H Holding times were exceeded.
- DNQ Detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less than the laboratory reporting limit).

Validation Qualifiers:

- U The compound was analyzed for but not detected. The associated value is either the compound quantitation limit if not detected by the analytical instrument or could be the reported or blank concentration if qualified by blank contamination. This can also be displayed as less than the associated compound quantitation limit (<RL or <MDL), or "ND".
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- UJ The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.
- R The sample results were rejected as unusable; the compound may or may not be present in the sample.
- = No Qualifier

References

1. United States Environmental Protection Agency (USEPA). 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November 2020.
2. USEPA. 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November 2020.
3. Haley & Aldrich, Inc. 2015. Quality Assurance Project Field Plan for Santa Susana Field Laboratory Stormwater Sampling Program. December.
4. California Regional Water Quality Control Board Los Angeles Region. 2015. Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for The Boeing Company Santa Susana Field Laboratory, Canoga Park, CA, NPDES NO. CA0001309, CI NO. 6027, ORDER NO. R4-2015-0033. February.