



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

Via Email to losangeles@waterboards.ca.gov

November 15, 2018

In reply refer to SHEA-115948

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

Subject: Third Quarter 2018 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 1 July through 30 September 2018 (Third Quarter 2018). This DMR was prepared as required by, and in accordance with, National Pollutant Discharge Elimination System Permit No. CA0001309 (NPDES Permit) issued by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) in 2015 and under the regulatory oversight of the Regional Board.

Hard copies of this DMR are available to the public at California State University at Northridge Library, Simi Valley Public Library, and the Platt Branch of the Los Angeles Public Library. An electronic version of this DMR is located at:

<http://www.boeing.com/principles/environment/santa-susana/monitoring-reports.page>

THIRD QUARTER 2018 DMR CONTENTS

This DMR includes the following sections and appendices:

- **Discharge and Sample Collection Summary:** This section describes the number of rain events, number of samples collected, sample dates, and sample locations during the Third Quarter 2018. Table I summarizes the Third Quarter 2018 sampling record by outfall, location, and sample type collected per the requirements of the NPDES Permit.
- **Third Quarter 2018 Receiving Water Surveys:** This section summarizes the receiving water surveys required by the NPDES Permit.

- **Third Quarter 2018 Summary of Non-Compliance:** This section summarizes the sample results that exceeded NPDES Permit limits, daily maximum benchmark limits, and receiving water limits in the Third Quarter 2018.
- **Third Quarter 2018 Santa Susana Site Stormwater Pollution Prevention Plan (SWPPP)/Best Management Practices (BMP) Activities:** This section presents the Santa Susana Site SWPPP activities and other BMP related activities associated with NASA, DOE, Expert Panel, the Northern Drainage, and the Outfall 001/002 BMP Compliance Report implemented in the Third Quarter 2018. Table II summarizes typical BMP-related activities that occur at outfalls every quarter. Table III summarizes specific BMP activities by outfall location that were completed during the Third Quarter 2018.
- **Data Validation and Quality Control:** This section discusses data validation results and any laboratory or field corrective actions.
- **Figure 1** shows the stormwater collection conveyance system, location of Bell Creek Receiving Water sampling location (RSW-001, Outfall 002), and Santa Susana Site features; **Figure 2** shows the Arroyo Simi Receiving Water (RSW-002, Frontier Park) sampling location and upstream monitoring location.
- **Appendix A** summarizes the rainfall measured during the Third Quarter 2018 at the Santa Susana Site.
- **Appendix B** tabulates waste shipment details.
- **Appendix C** presents chemical analytical results from the Third Quarter 2018 stormwater and/or receiving water and sediment samples in tabular form by outfall location, 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.

DISCHARGE AND SAMPLE COLLECTION SUMMARY

The Santa Susana Site measured no qualifying rain events that produced greater than 0.1 inch of rainfall within a 24-hour period and were preceded by at least 72 hours of dry weather during the Third Quarter 2018 (Appendix A). Automated flow-weighted composite samplers (autosamplers) were set in preparation for all rain events. No discharge occurred at any of the outfalls; therefore, no samples were collected.

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

Table I summarizes the Third Quarter 2018 sampling record by location, sample frequency, and sample type collected per NPDES Permit requirements.

TABLE I: Sampling Record during the Third Quarter 2018

Date	Outfall/Location	Sample Frequency	Sample Type
7/31/2018	Arroyo Simi Receiving Water (RSW-002, Frontier Park)	Quarterly Surface Water	Grab

All analyses were conducted at analytical laboratories certified for such analyses by the State Water Resources Control Board (i.e., all have current certification from the Environmental Laboratory Accreditation Program [ELAP] established by the California Environmental Laboratory Improvement Act) or are approved by the State Water Resources Control Board Executive Officer and in accordance with current USEPA guideline procedure or as specified in the NPDES Permit.

THIRD QUARTER 2018 RECEIVING WATER SURVEYS

The receiving water monitoring program required by the 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 Third Quarter 2018, Outfalls 002, 008, and 009 did not discharge, thus, no receiving water surveys were conducted.

THIRD QUARTER 2018 SUMMARY OF NON-COMPLIANCE

No surface water discharges occurred from the Santa Susana Site during Third Quarter 2018. As such, there are no onsite compliance issues to report for this period. Additionally, in the quarterly surface water sample collected at Arroyo Simi sample location RSW-002 in Simi Valley, no constituents exceeded receiving water limits.

THIRD QUARTER 2018 SANTA SUSANA SITE SWPPP/BMP ACTIVITIES

Boeing implemented significant activities related to the Site-Wide SWPPP (Haley & Aldrich, 2017) and BMP-related activities 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, 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	X	

Notes:

X = BMP activity is applicable to the outfall and was completed in Third Quarter 2018.

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

Table III summarizes the additional activities completed during the Third Quarter 2018 by outfall or BMP location.

TABLE III: Additional Third Quarter 2018 BMP Activities

OUTFALL OR BMP LOCATION	BMP ACTIVITIES DURING THIRD QUARTER 2018
Area II Roadway	Replaced fiber rolls along Area II roadway. Installed fiber rolls around the base of telephone poles.
CM-1	Filtration media at CM-1 was removed and replaced with new media in September 2018.
CM-1 and CM-3	Removed sediment from the drop inlet structure.
001 002 004 009	Painted stairs and handrails at outfalls.

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

OTHER BMP ACTIVITIES

BMP observations and maintenance inspections were conducted in conformance with the Site-Wide SWPPP (Haley & Aldrich, 2017) at and around the former active test stands Alfa and Bravo and former Advanced Propulsion Test Facility.

NASA-RELATED ACTIVITIES

Demolition activities covered by NASA's Construction SWPPP (dated 16 May 2017) are inspected in accordance with the Construction General Permit (CGP). During the Second Quarter 2018, NASA completed planned demolition activities in the Alfa and Bravo Test Stand Areas. During the Third Quarter 2018, NASA maintained wattles as linear sediment controls, maintained silt fencing, and maintained hydroseeded areas within these sites where construction activities had been completed.

Demolition and stormwater control activities covered by NASA's Construction SWPPP (dated 21 February 2017) are inspected in accordance with the CGP. During the Second Quarter 2018, BMPs including wattles, sandbags, riprap, and hydroseed were placed within the Delta Test Stand Area where construction activities had been completed. Construction activities within Delta were completed in January 2018 and a request for notice of termination (NOT) was filed in February 2018. During the Third Quarter 2018, BMPs and hydroseed were maintained.

Demolition activities covered by NASA's Construction SWPPP (dated 04 December 2017) are inspected in accordance with the CGP. During the Third Quarter 2018, NASA continued demolition activities in the Coca Test Stand Area. NASA maintained wattles as linear sediment controls, sandbags, and hydroseed within active demolition areas.

DOE-RELATED ACTIVITIES

DOE reported no BMP related activities during the Third Quarter 2018.

EXPERT PANEL-RELATED ACTIVITIES

The BMP activities discussed below were performed, commenced, or completed during the Third Quarter 2018 in coordination with the Expert Panel.

B-1 Area

The B-1 Area BMPs consists of:

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

The Third Quarter 2018 activities included continued inspections of the BMPs and cleaning the areas free of sediment and debris.

Culvert Modifications

Twelve culvert modifications (CMs) were constructed in 2009 at various locations at or along the main road adjacent to the Northern Drainage. The CMs were designed to treat stormwater road runoff and/or stormwater from the surrounding hillside. The Third Quarter 2018 activities included inspections of the BMPs, including the culvert inlets and rip-rap check dams.

Road Runoff Diversion to CM-3

The construction of a new Service Area road runoff diversion to CM-3 was completed during the Second Quarter 2017. This BMP included a new curb installed on the north side of the road meant to convey flow to a new drop inlet and trench under the road, which then directs the collected runoff to CM-3 for treatment before entering the Northern Drainage. The Third Quarter 2018 activities included inspections of the BMPs and removed sediment from the drop inlet structure.

Road Runoff Diversion to CM-1

The construction of a new road runoff diversion to CM-1 was completed during Fourth Quarter 2017 and the rip-rap berm was increased in height to treat the additional road runoff. The Third Quarter 2018 activities included inspections of the BMPs and removed sediment from the drop inlet structure. Filtration media at CM-1 was removed and replaced with new media in September 2018.

Former Building 1436 Detention Bioswales

Two detention bioswales were constructed at the former Building 1436 following its removal in Third Quarter 2014. The graded surface was hydroseeded and more than 2,900 native plantings were installed in December 2014. The bioswales were designed to capture, pretreat, and detain runoff from the adjacent parking lot and from approximately 13.9 acres of drainage area east and upgradient prior to releasing the stormwater to the former Instrument and Equipment Laboratories (IEL) storm drain, where flow is diverted to the lower lot biofilter for treatment. The Third Quarter 2018 activities included inspections of the BMPs.

Lower Lot Biofilter

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

The Third Quarter 2018 activities included inspections to verify that the sedimentation basin and biofilter were free of sediment and debris, checks of the Cistern area and pump, and inspections of surrounding BMPs. No stormwater was pumped from the Cistern to the sedimentation basin during the Third Quarter 2018.

NASA Expendable Launch Vehicle (ELV) Area BMPs

BMPs and drainage improvements were installed between June and October 2013 at the NASA ELV to improve the quality of stormwater from the ELV area. Stormwater is gravity-driven through the tank system, starting with the settling tanks, then through the filter media tank, before discharging to a tributary that flows to Outfall 009. In the Second Quarter 2016, a sand bag berm was placed across the ELV asphalt swale, to divert runoff from directly discharging to the Northern Drainage to instead flow toward CM-1 for treatment. The Third Quarter 2018 activities included inspections of the BMPs.

Administration Area Inlet Filters

Four storm drain inlets were modified with either drop inlet filters or weighted wattles filled with media mixtures during the Second Quarter 2017. At the inlet closest to the lower lot, a storm drain filter sock was also placed upstream of the inlet to increase the settling of solids. The Third Quarter 2018 activities included inspections of the BMPs.

Well 13 Road

The sandbag berms located near the culvert inlet and downgradient of the hydroseeded area were reinforced and increased in height during Fourth Quarter 2017. The Third Quarter 2018 activities included inspections of the BMPs.

Upper Parking Lot Media Filter

The construction of a media filter at the northeast corner of the upper parking lot was completed during the Second Quarter 2017. This BMP included a new media filter, similar in style to the B-1 media filter, designed to treat runoff from parts of the parking lot, as well as parts of the adjacent Entrance Road. The Third Quarter 2018 activities included inspections of the BMPs.

Creosote Treated Wood Poles

During Fourth Quarter 2017, creosote treated wood poles had fiber roll installed around the base of the pole. Third Quarter 2018 activities included inspections of the BMPs.

Former Shooting Range

Prior to the Second Quarter 2018, existing BMPs at the Former Shooting Range consisted of:

- Slope stabilization measures (i.e., vegetation planting areas);
- Rip-rap berms along the Northern Drainage;

- A culvert maintenance media filter;
- Fiber rolls;
- Sandbag berm;
- Silt fencing;
- Constructed water bar across the trail;
- Three check structures on the Northern trail;
- Sandbags with fiber rolls;
- A check structure at the dissipater; and
- Hydroseeding.

The Third Quarter 2018 activities included inspections of the BMPs.

Non-Industrial Sources Special Studies

The Expert Panel submitted a Site-Wide Stormwater Work Plan and 2014/15 Annual Report (2015 Work Plan) in September of 2015 (Geosyntec and the Expert Panel, 2015) on behalf of Boeing to meet the requirements of the NPDES Permit (Order No. R4-2015-0033)¹. The 2015 Work Plan also includes recommended non-industrial sources special studies intended to help identify sources of lead and dioxins within the Outfall 009 watershed. The special studies involve vacuum sampling pavement solids, pan sampling atmospheric deposition solids, soil sampling around treated wood poles, lead isotope sampling, and sediment and stormwater sampling at multiple locations along the Northern Drainage. In the Third Quarter 2018, soil and sediment samples were collected in support of the lead isotope sub-study, and atmospheric deposition and pavement solids samples were also collected.

NORTHERN DRAINAGE BMPS

Boeing restored the Northern Drainage following cleanup activities performed under the oversight of the Department of Toxic Substances Control (DTSC) and in accordance with the requirements of Regional Board's Cleanup and Abatement Order No. R4-2007-0054 (Regional Board, 2007). The restoration and mitigation activities proposed in the Northern Drainage Restoration, Mitigation, and Monitoring Plan (RMMP)² were implemented in 2012. In accordance with the RMMP, regular maintenance, monitoring, and reporting were implemented in the Northern Drainage from 2012 through the Third Quarter 2017 for the stream's plant biology and geomorphology. Successful restoration and mitigation of the Northern Drainage per the success criteria of the RMMP were documented in the fifth and final annual mitigation monitoring report submitted in December 2017. Based on the success of the project, Boeing requested that the Regional Board provide written notice stating that Boeing has complied with all terms of the Cleanup and Abatement Order and Boeing's obligations under the Order are terminated. Boeing will continue to inspect the Northern Drainage BMPs annually and will maintain them on an as-needed basis. No RMMP-related inspections of Northern Drainage BMPs were performed during Third Quarter 2018.

¹ Available at: <http://www.boeing.com/principles/environment/santa-susana/permits.page>

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

OUTFALL 001/002 BMP COMPLIANCE REPORT RELATED ACTIVITIES

Boeing submitted a BMP Compliance Report to the Regional Board on 16 June 2017 discussing activities to reduce or eliminate benchmark exceedances for the Outfall 001 and 002 drainages (Boeing, 2017). The BMP activities were completed during the Third Quarter 2017 and are currently included in sitewide BMP inspections.

Boeing and the Expert Panel will continue to monitor and evaluate the effectiveness of BMPs within the watersheds of Outfall 001 and Outfall 002 and discuss in the 2018 Expert Panel Annual Report (Geosyntec and the Expert Panel, 2018).

DATA VALIDATION AND QUALITY CONTROL

In accordance with current federal and state Environmental Protection Agency guidelines and procedures, or as specified in the NPDES Monitoring and Reporting Program, samples were analyzed at a State of California-certified laboratory. Data validation was performed on the analytical results and quality control elements were found to be within acceptable limits for the analytical methods reported, except as noted on the analytical summary tables. Measures were implemented by the analytical laboratory to monitor and/or evaluate low level detections, analyze for interferences, and ensure that cross-contamination did not occur. Laboratory analytical reports, including validation reports and notes, are included in Appendix D.

Attachment H of the NPDES Permit presents the State Board's minimum levels laboratories are expected to achieve for reporting and determining compliance with NPDES Permit limits. The analytical laboratory achieved these minimum levels in the Third Quarter 2018 except when reporting limits were above the minimum levels (generally due to matrix). In cases where the NPDES Permit limit was less than the reporting limit and minimum level, the reporting limit was used to determine compliance.

CONCLUSIONS

Boeing continues 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 and continuing our collaboration with the Expert Panel.

FACILITY CONTACT

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

CERTIFICATION

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

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

Executed on the 15th of November 2018 at The Boeing Company, Santa Susana Site.

Sincerely,



David W. Dassler P.E.
Remediation Program Manager
Environment, Health & Safety

Enclosures:

References

Figure 1 – Site Map with Stormwater Collection and Conveyance System, RSW-001 Sampling Location, and Site Features

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

Appendix A – Third Quarter 2018 Rainfall Data Summary

Appendix B – Third Quarter 2018 Waste Shipment Summary Tables

Appendix C – Third Quarter 2018 Discharge Monitoring Data Summary Tables

Appendix D – Third Quarter 2018 Analytical Laboratory Reports, Chain of Custody Forms, and Validation Reports

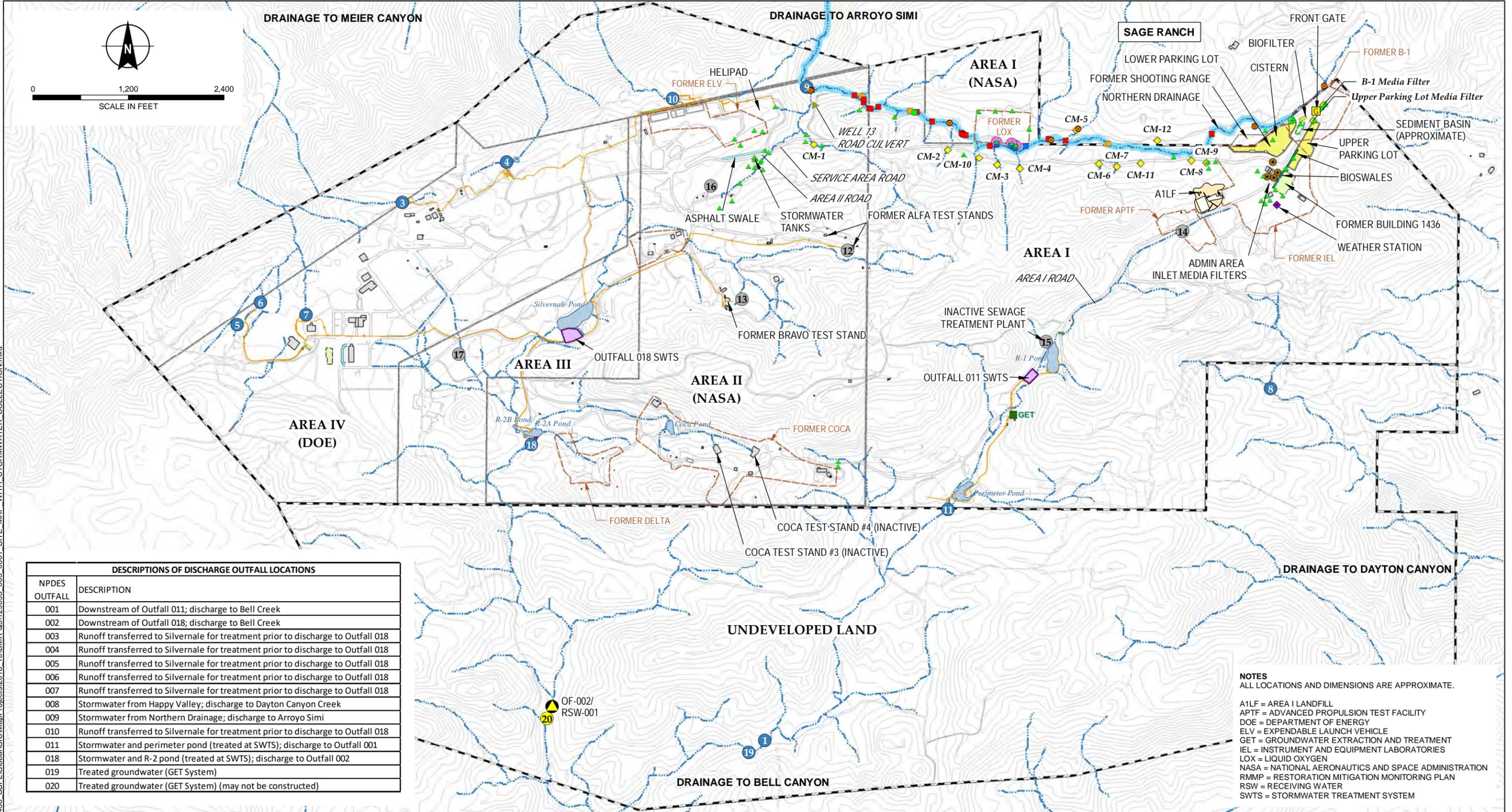
- c: Ms. Cassandra Owens, RWQCB
Mr. Mark Malinowski, DTSC
California State University – Northridge, Library
Simi Valley Public Library
Los Angeles Public Library, Platt Branch

REFERENCES

1. The Boeing Company, 2017. Best Management Practice Compliance Report, Outfalls 001 and 002, The Boeing Company, Santa Susana Site, Ventura County. 16 June.
2. California Regional Water Quality Control Board, 2007. Cleanup and Abatement Order No. R4-2007-0054. 6 November.
3. 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.
4. Geosyntec and the Expert Panel, 2015. Site-Wide Stormwater Work Plan and 2014/15 Annual Report, Santa Susana Field Laboratory, Ventura County, California (NPDES No. CA0001309, CI No.6027). 7 October.
5. Geosyntec and the Expert Panel, 2018. Santa Susana Field Laboratory Site-Wide Stormwater Annual Report, 2017/18 Reporting Year, Ventura County, California (NPDES No. CA0001309, CI No.6027). 31 October.
6. Haley & Aldrich, Inc., 2017. Stormwater Pollution and Prevention Plan (Version 4 for Compliance with 2015 NPDES Permit). 14 December.

FIGURES

\\halleyaldrich.com\share\sigd_common\40458_SSF\Global\GIS\Map\Projects\2018_10\DMR_Q3129095_003_0001_SITE_MAP_WITH_STORMWATER_COLLECTION.mxd



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
019	Treated groundwater (GET System)
020	Treated groundwater (GET System) (may not be constructed)

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

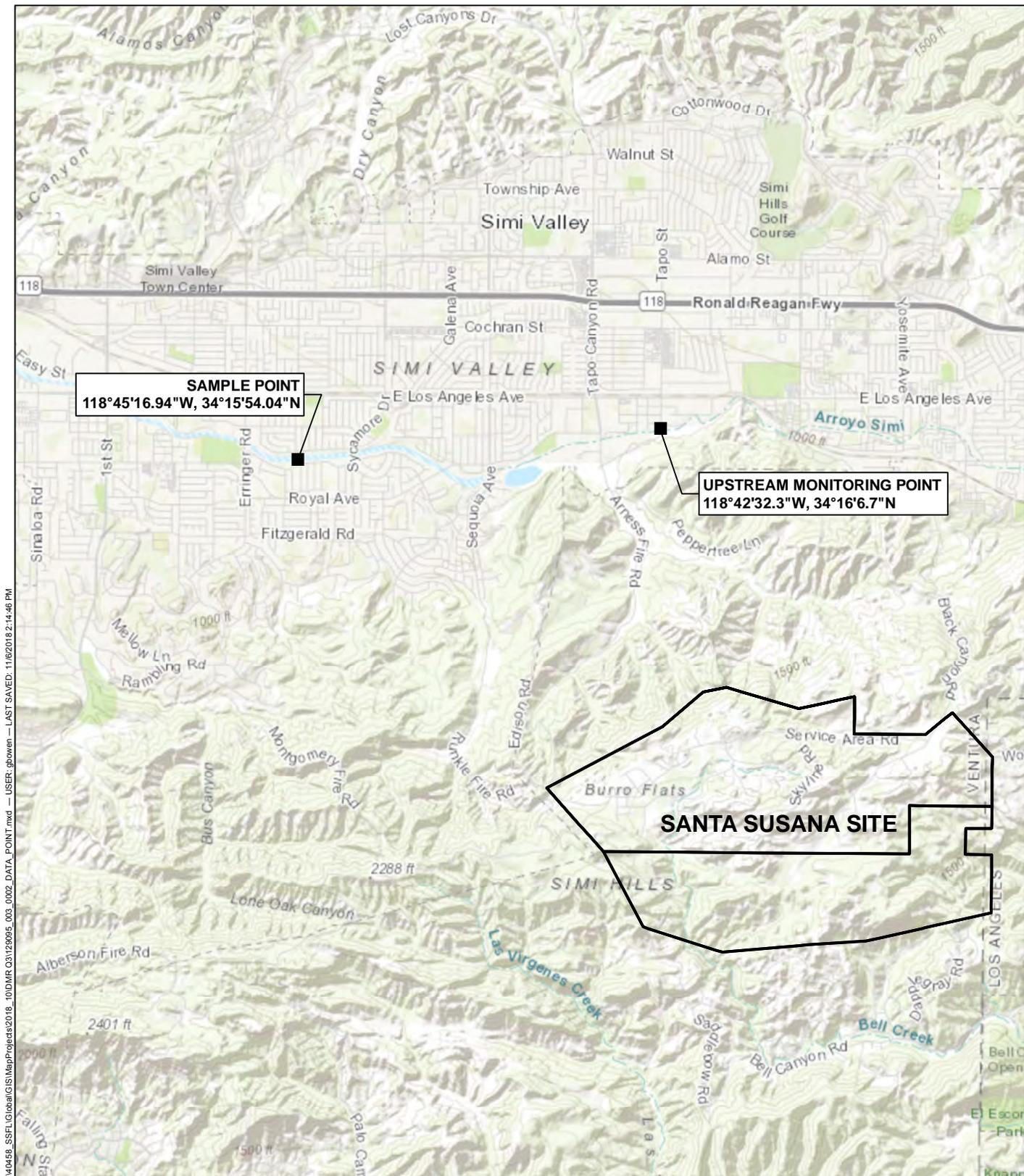
- 19 ACTIVE NPDES OUTFALL LOCATION
 - 17 FORMER NPDES OUTFALL LOCATION
 - 20 POSSIBLE FUTURE NPDES OUTFALL LOCATION
 - BELL CREEK RECEIVING WATER (RSW-001) SAMPLING LOCATION AND OUTFALL 002
 - SLOPE DRAIN DISCHARGE POINT TO NORTHERN DRAINAGE
 - CM-12 CULVERT MODIFICATION
- INLET MEDIA FILTER
 - BMP MONITORING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

NPDES PERMIT COMPLIANCE THIRD QUARTER 2018
 DISCHARGE MONITORING REPORT
 THE BOEING COMPANY
 VENTURA COUNTY, CALIFORNIA

SITE MAP WITH STORMWATER COLLECTION AND CONVEYANCE SYSTEM AND SITE FEATURES

NOVEMBER 2018

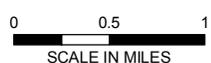
FIGURE 1



GIS FILE PATH: \\haleyaldrich.com\share\sfdr\comm\mon\40458_SSF\GIS\Global\GIS\Map\Projects\2018_10\DMR\0312\2995_003_0002_DATA_POINT.mxd — USER: gbowen — LAST SAVED: 11/6/2018 2:14:46 PM

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.



NPDES PERMIT COMPLIANCE THIRD QUARTER 2018
DISCHARGE MONITORING REPORT
THE BOEING COMPANY VENTURA
COUNTY, CALIFORNIA

**ARROYO SIMI RECEIVING WATER
(RSW-002, FRONTIER PARK)
SAMPLING LOCATION**

NOVEMBER 2018

FIGURE 2

APPENDIX A

Third Quarter 2018 Rainfall Data Summary

**TABLE A
DAILY RAINFALL SUMMARY**

**THE BOEING COMPANY
NPDES PERMIT CA0001309**

Station: AREA 1
Parameter: Rain
Month/Year: July 2018

HOURLY 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	24		
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	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	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	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	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	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	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	0.00
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	0.00
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	0.00
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	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	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	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	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	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	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	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	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	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	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	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	0.00

Flags: d = Off-line part of hour, invalid hour due to semi-annual calibration (July 17). For the off-line event, the rain gauge at Sage Ranch confirmed that no rainfall was recorded on July 17 during hour 07:00-08:00.

APPENDIX B

Third Quarter 2018 Waste Shipment Summary Table

**TABLE B
LIQUID WASTE SHIPMENTS**

**THIRD QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309**

DATE SHIPPED	MANIFEST OR JOB TRACKING NUMBER	TYPE OF WASTE	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	TRANSPORTER 3	DESTINATION
7/12/2018	011210781FLE	NA3082, Hazardous Waste, Liquid (Trichloroethylene)	4800	G	O.C. Vacuum Inc. 5900 Cherry Avenue Long Beach, CA 90805	n/a	n/a	US Ecology Vernon Inc. 5375 South Boyle Avenue Los Angeles, CA 90058
7/20/2018	0722180036	Non-Hazardous Waste, Liquid (Decon Water)	4000	G	American Integrated Services, Inc. 1502 E Opp St Wilmington, CA 90744	n/a	n/a	Crosby and Overton, Inc. 1610 W. 17th Street Long Beach, CA 90813
7/26/2018	007813701FLE	UN2922 Waste Corrosive Liquids, Toxic (Sodium Hydroxide, Sodium Cyanide)	6	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
8/3/2018	010790813JJK	UN3082, Hazardous Waste, Liquid	780	G	Patriot Environmental Services 508 East E. Street Wilmington, CA 90744	n/a	n/a	US Ecology Vernon Inc. 5375 South Boyle Avenue Los Angeles, CA 90058
8/15/2018	007813948FLE	NA3082, Hazardous Waste, Liquid (Trichloroethylene)	4300	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
	NH1804125393	Non Hazardous, Non D.O.T. Regulated, (Water)	650	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
8/24/2018	017253048JJK	UN2315, Polychlorinated Biphenyl	408	K	WM Enviroserv 10633 Ruchti Road South Gate, CA 90280	Ecology Control Industries, Inc. 20846 Normandie Ave. Torrance, CA 90502	n/a	US Ecology Nevada Hwy 95, 11 Miles South Beatty, NV 89003
8/31/2018	017253164JJK	NAS082, Hazardous Waste, Liquid (Trichloroethylene)	275	G	WM Enviroserv 10633 Ruchti Road South Gate, CA 90280	n/a	n/a	US Ecology Vernon Inc. 5375 South Boyle Avenue Los Angeles, CA 90058
		NAS082, Hazardous Waste, Liquid (Trichloroethylene)	50	G	WM Enviroserv 10633 Ruchti Road South Gate, CA 90280	n/a	n/a	US Ecology Vernon Inc. 5375 South Boyle Avenue Los Angeles, CA 90058
9/19/2018	019409826JJK	UN2735, WasteAmines, Liquid, Corrosive,(Nonylphenol)	5	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
		NA3082, Hazardouse Waste, Liquid (Trichloroethylene)	6	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
		NA3082, Hazardouse Waste, Liquid (Trichloroethylene)	1930	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029

**TABLE B
LIQUID WASTE SHIPMENTS**

**THIRD QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309**

DATE SHIPPED	MANIFEST OR JOB TRACKING NUMBER	TYPE OF WASTE	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	TRANSPORTER 3	DESTINATION
7/2/2018	18534	Flush Water with Trace Sewage, (Holding Tank)	5000	G	Southwest Processors 4120 Bandini Blvd. Vernon, CA 90058	n/a	n/a	Southwest Processors 4120 Bandini Blvd. Vernon, CA 90058
	18535	Flush Water with Trace Sewage, (Clarifier)	5000	G				
7/18/2018	18612	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
	18613	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
7/31/2018	18673	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
	18674	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
8/15/2018	18748	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
	18749	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
8/29/2018	18827	Flush Water with Trace Sewage, (Clarifier)	5000	G				
	18828	Flush Water with Trace Sewage, (Clarifier)	5000	G				
9/12/2018	18898	Flush Water with Trace Sewage, (Clarifier)	5000	G				
9/26/2018	19030	Flush Water with Trace Sewage, (Holding Tank)	5000	G				
	19031	Flush Water with Trace Sewage, (Holding Tank)	5000	G				

Notes:
G = Gallons
K = Kilos
n/a = Not Applicable
P = Pounds

**TABLE B
SOLID WASTE SHIPMENTS**

**THIRD QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309**

DATE SHIPPED	MANIFEST OR JOB TRACKING NUMBER	TYPE OF WASTE	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	TRANSPORTER 3	DESTINATION
7/3/2018	018446303JJK	UN3077 Waste, Environmetally Hazardous Substances, Solid	10	T	Patriot Environmental Services 508 East E. Street Wilmington, CA 90744	n/a	n/a	US Ecology Nevada Hwy 95, 11 Miles South Beatty, NV 89003
7/26/2018	007813701FLE	NA3077, Hazardous Waste, Solid (Benzene, Alcohol Acetone)	16	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
		Non-RCRA Hazardous Waste, Solids, (Toner Cartridges)	20	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
	007813702FLE	UN1490 Waste Potassium Permanganate	989	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
		Non-RCA Hazardous Waste, Solid, (Debris/Oil)	11	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
		Non-RCA Hazardous Waste, Solid, (Soil)	11	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
		Non-RCA Hazardous Waste, Solid (Empty Containers)	148	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
NH1803492466	UN2800, Batteries, Wet, Non-Spillable, 8, (Universal Waste)	15	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744	
8/15/2018	007813948FLE	UN3262, Corrosive Solid, Basic, Inorganic, (Sodium Hydroxide)	24	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
		Non-RCA Hazardous Waste, Solids, (Debris, Sulfuric Acid)	16	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Aptus Road Grantsville, Utah 84029
	NH1804125147	Non Hazardous, Non D.O.T. Regulated Material, (Debris)	187	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029
8/28/2018	018446299JJK	Non RCRA Hazardous Waste, Solid (Concrete)	15	T	S V Trucking 9243 Camulos Ave Montclair, CA 91763	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
9/4/2018	018328859JJK	Non RCRA Hazardous Waste , Solid (Oily Debris)	15	P	American Integrated Services, Inc. 1502 E Opp St Wilmington, CA 90744	n/a	n/a	Crosby & Overton 1630 West 17th Street Long Beach, CA 90813
9/13/2018	018446287JJK	Non RCRA Hazardous Waste , Solid (C + D Debris)	4	T	Martin Espinosa DBA Espinosa M Trucking 1127 Meadowside St West Covina, CA 91792	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
	018446288JJK	Non RCRA Hazardous Waste , Solid (C + D Debris)	5.7	T	ZEPEDA BROTHERS TRUCKING 1781 VIRGINIA SR Colton, CA 92324	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
	018446290JJK	Non RCRA Hazardous Waste , Solid (C + D Debris)	5	T	Mike & Son Trucking 1821 W Durness Street West Covina, CA 91790	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
	018446291JJK	Non RCRA Hazardous Waste Solid (C+D Debris)	6	T	S V Trucking 9243 Camulos Ave Montclair, CA 91763	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365

**TABLE B
SOLID WASTE SHIPMENTS**

**THIRD QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309**

DATE SHIPPED	MANIFEST OR JOB TRACKING NUMBER	TYPE OF WASTE	QTY.	UNITS	TRANSPORTER 1	TRANSPORTER 2	TRANSPORTER 3	DESTINATION
9/17/2018	018446292JJK	Non RCRA Hazardous Waste, Solid (C+ D Debris)	7	T	Martin Espinosa DBA Espinosa M Trucking 1127 Meadowside St West Covina, CA 91792	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
	018446293JJK	Non RCRA Hazardous Waste, Solid (C+ D Debris)	7	T	Illegible on Manifest	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
	018446294JJK	Non RCRA Hazardous Waste, Solid (C+ D Debris)	6	T	Illegible on Manifest	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
	018446295JJK	Non RCRA Hazardous Waste, Solid (C+ D Debris)	7	T	Mike & Son Trucking 1821 W Durness Street West Covina, CA 91790	n/a	n/a	South Yuma County Landfill 19536 South Avenue 1E YUMA, AZ 85365
9/19/2018	019409826JJK	UN3099 Waste Environmentally Hazardous Substances, Solid (Trichloroethylene, Perchloroethylene)	164	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	Tristate Motor Transit Co. 8141 East 7th Street Joplin, MO 64801	n/a	Clean Harbors Aragonite LLC 11600 North Apts Road Grantsville, Utah 84029
	019409827JJK	Non-RCA Hazardous Waste, Solid, (Empty Containers)	124	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
		Non-RCA Hazardous Waste, Solid, (Soil)	54	P	Clean Harbors Environmental Services, Inc. 42 Longwater Drive Norwell, MA 02061	n/a	n/a	Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744
9/26/2018	018506205JJK	UN3432 Waste Polychlorinated Biphenyls, Solid, (TSCA Tank & Debris)	10696	K	Patriot Environmental Services 508 East E. Street Wilmington, CA 90744	n/a	n/a	US Ecology Nevada Hwy 95, 11 Miles South Beatty, NV 89003

Notes:
K = Kilos
n/a = Not Applicable
P = Pounds
T = tons

APPENDIX C

Third Quarter 2018 Discharge Monitoring Data Summary Table

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

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

1. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalents (TEQs) for the purpose of determining permit compliance are the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). The resulting compliance TCDD TEQ does not include those congener concentrations that are reported as detected but not quantified (DNQ), as specified on page 26 of the NPDES permit (Water Board, 2015).
2. Temperature, total residual chlorine (TRC), dissolved oxygen (DO), and pH are measured in the field and are not validated.
3. pH and temperature are identified on the table as daily maximum discharge limits. The NPDES permit limit has an instantaneous minimum (6.5) and maximum (8.5) for pH and an instantaneous maximum of 86°F for temperature.
4. Exceedances are defined on page 6 of the NPDES permit as constituents in excess of daily maximum benchmark limits, daily maximum permit limits, or receiving water limits. Analytical concentrations or calculations to determine compliance to the NPDES permit are reported with 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 counting 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 monthly average.
<(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).
*II *III	Unusual problems found with the data that have been described in Section II, "sample management", or Section III, "method analysis". The number following the asterisk (*) will indicated the validation report section where a description of the problem can be found.
ANR	Analysis not required; e.g., constituent or outfall was not required by the NPDES permit to be sampled and analyzed over the reporting period (annual, 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
Comp	Composite sample type.
C5	Calibration verification percent recovery (%R) was outside method control limits.
CEs/100 ml	Cell equivalents per 100 milliliters.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
%D	Percent difference between the initial and continuing calibration relative response factors.
Deg C	Degrees Celsius.
Deg F	Degrees Fahrenheit.
DL	Detection limit.
DNQ	Detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less than the laboratory reporting limit).
E	E in validation qualifier indicates that duplicates show poor agreement.
EB	Equipment blank.

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

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.
MDL	Method detection limit.

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

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/hr	Milliliters per liter per hour.
MPN/100 mL	Most probable number per 100 milliliters.
MQL	Method quantitation limit.
MS	Matrix spike.
MSD	Matrix spike duplicate.
mS/cm	MilliSiemens per centimeter
NA	Not applicable; no NPDES permit limit established for the constituent and/or outfall or analyte not required per receiving water monitoring requirements.
ND	Analyte not detected.
NM	Not measured or determined or minimum detectable activities (MDAs) are not calculated as there is no statistical method for combining MDAs.
NPDES	National Pollutant Discharge Elimination System.
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.
RL-1	Reporting limit raised due to sample matrix effects.
RPD	Relative percent difference.
%R	Percent recovery.

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

%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.
(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.

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

(a)	Based on Order No. R4-2015-0033, page 17, footnote 7, sampling event is a dry discharge. Effluent limitations for Cadmium are not applicable for discharges during dry weather.
(b)	Based on Order No. R4-2015-0033, page 17, footnote 7, sampling event is a wet discharge. Effluent limitations for Cadmium are applicable for discharges during wet weather.
(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 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 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. Effluent limitations for Selenium are applicable for discharges during dry weather discharges.
(f)	Based on Order No. R4-2015-0033, page 17, footnote 8, sampling event is a wet discharge. Effluent limitations for Selenium are not applicable for discharges during wet weather.
(g)	The frequency of Iron at Outfall 002 is increased from once per year to once per discharge until four consecutive sample results demonstrate compliance per the NPDES permit.
(h)	The frequency of Iron and Manganese at Outfall 001 is increased from once per year to once per discharge until four consecutive sample results demonstrate compliance per the NPDES permit.
(i)	Analyte does not have a receiving water limit for Bell Creek Receiving Water (RSW-001, OF002).
(j)	Total Ammonia is reported in wet weight units milligrams per kilogram (mg/kg).
(k)	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).

Arroyo Simi Receiving Water (RSW-002, Frontier Park Sampling Location)

Third Quarter 2018 Reporting Summary
 The Boeing Company
 Santa Susana Field Laboratory
 NPDES Permit CA0001309

July 1 through September 30, 2018

Analyte	Units	Permit Limit Daily Max/Monthly Ave	Sample Frequency	07/31/2018 08:20		
				Sample Type	Result	Laboratory/ Validation Qualifier
Pollutants With Limits						
4,4'-DDD	µg/L	0.0014/-	1/Quarter	Grab	ND < 0.0040	U
4,4'-DDE	µg/L	0.001/-	1/Quarter	Grab	ND < 0.0030	U
4,4'-DDT	µg/L	0.001/-	1/Quarter	Grab	ND < 0.0040	U
Aroclor 1016	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	U
Aroclor 1221	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	U
Aroclor 1232	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	U
Aroclor 1242	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	U
Aroclor 1248	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	UJ (C)
Aroclor 1254	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	U
Aroclor 1260	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.100	U
Chlordane	µg/L	0.001/-	1/Quarter	Grab	ND < 0.081	U
Chlorpyrifos	µg/L	0.02/-	1/Quarter	Grab	ND < 0.0069	U
Diazinon	µg/L	0.16/-	1/Quarter	Grab	ND < 0.0052	U
Dieldrin	µg/L	0.0002/-	1/Quarter	Grab	ND < 0.0020	U
E. Coli	MPN/100mL	235/-	1/Year	Grab	ANR	ANR
pH (Field)	s.u.	6.5-8.5/-	1/Quarter	Grab	7.78	*
Toxaphene	µg/L	0.0003/-	1/Quarter	Grab	ND < 0.25	U
Pollutants Without Limits						
Hardness (as CaCO ₃)	mg/L	-/-	1/Quarter	Grab	700	--
Priority Pollutants	NA	-/-	1/5 Years	Grab	ANR	ANR
Temperature (Field)	Deg F	-/-	1/Quarter	Grab	76.3	*
TCDD - Equivalents	µg/L	-/-	1/Year	Grab	ANR	ANR
Total Suspended Solids	mg/L	-/-	1/Year	Grab	ANR	ANR
Water Velocity	ft/sec	-/-	1/Quarter	Meas	0.0	*

APPENDIX D

**Third Quarter 2018 Analytical Laboratory Reports, Chain of Custody Forms, and
Validation Reports**

APPENDIX D

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Section No.

- 1 Arroyo Simi – 440-216971-1, July 31, 2018, MECx Data Validation Report
- 2 Arroyo Simi – J216971-1, July 31, 2018, TestAmerica Analytical Report

DATA VALIDATION REPORT

Boeing SSFL Arroyo Simi

SAMPLE DELIVERY GROUP: 440-216971-1

Prepared for
Haley & Aldrich

3 October 2018

MEC^x, Inc.
12269 East Vassar Drive
Aurora, Colorado 80014

www.mecx.net





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



I. INTRODUCTION

Task Order Title: Boeing SSFL Arroyo Simi

Contract: 40458-078 and 40458-083

MEC^x Project No.: 1272.003D.01 002

Sample Delivery Group: 440-216971-1

Project Manager: K. Miller

Matrix: Water

QC Level: IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Laboratory: TestAmerica - Irvine

TABLE 1 - SAMPLE IDENTIFICATION

Sample Name	Lab Sample Name	Matrix	Collection	Method
ARROYO_SIMI_20180731_GRAB	440-216971-1 WW 9734877 8G31051-01	Water	7/31/2018 8:20:00 AM	E608, SM2340, E608 (PCBs) E525.2



II. SAMPLE MANAGEMENT

According to the case narratives, sample condition upon receipt forms and the chains-of-custody (COC) provided by the laboratories for sample delivery group (SDG) 440-216971-1:

- With one exception, the laboratories received the sample in this sample delivery group (SDG) on ice and within the temperature limits of ≤ 6 degrees Celsius ($^{\circ}\text{C}$) and $> 0^{\circ}\text{C}$. The sample was received at Weck Laboratories on ice, at 6.8°C . As the sample was delivered directly from the field to the laboratory on the same day as collection, and the cooling process had begun, no qualification was necessary.
- The laboratories received the sample containers intact and properly preserved, as applicable.
- Field and laboratory personnel signed and dated the original COC.
- Analysis of Method 608 for PCBs was subcontracted to Eurofins Lancaster Laboratories. The 525.2 analysis was subcontracted and sent directly to Weck Laboratories, via courier from the field.
- According to the TA-Irvine and Lancaster sample receipt forms, custody seals were absent, however; there was no evidence of sample compromise or tampering, and Lancaster's receipt log indicated the shipping container was sealed. The transfer COC to Weck did not indicate the presence or absence of custody seals.

**TABLE 2 - DATA QUALIFIER REFERENCE**

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



TABLE 3 - REASON CODE REFERENCE

Reason Code	Organic	Inorganic
H	Holding time was exceeded.	Holding time was exceeded.
S	Surrogate recovery was outside control limits.	Not applicable.
C	Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r^2) was <0.990.	Correlation coefficient (r) was <0.995.
R	Calibration relative response factor (RRF) was <0.05.	Percent recovery (%R) for calibration was outside control limits.
B	The analyte was detected in an associated blank as well as in the sample.	The analyte was detected in an associated blank as well as in the sample.
L	Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits.	LCS or LCSD %R was outside the control limits.
L1	LCS/LCSD relative percent difference (RPD) was outside the control limit.	LCS/LCSD RPD was outside the control limit.
Q	Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits.	MS or MSD %R was outside the control limit.
Q1	MS/MSD RPD was outside the control limit.	MS/MSD RPD was outside the control limit.
E	Result was reported as an estimated maximum possible concentration (EMPC).	Laboratory duplicate RPD was outside the control limit.
I	Internal standard recovery was outside control limits.	Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits.
I1	Not applicable.	ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits.
A	Not applicable.	Serial dilution %D was outside control limits.
M	Tuning (BFB or DFTPP) was not compliant.	ICPMS tune was not compliant.
T	The analyte was detected in an associated trip blank as well as in the sample.	Not applicable.



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



III. EPA METHODS 2340B — HARDNESS

Marcia Hilchey of MECX reviewed the SDG on October 3, 2018.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MECX Data Validation Procedure for Metals (DVP-5, Rev. 2)*, *EPA Method 200.7, Standard Methods for the Examination of Water and Wastewater 2340B*, and the *National Functional Guidelines for Inorganic Data Review (2014)*.

III.1. HOLDING TIMES

The analytical holding time, six months for calcium and magnesium, were met.

III.2. MS TUNING AND CALIBRATION

Instrument tuning review is not applicable to this method.

QAPP calibration criteria were met. A blank and three standards were used for calibration of calcium and magnesium. The initial calibration r values were ≥ 0.995 . CRQL recoveries were within the laboratory control limits of 50-150%. ICV and CCV recoveries were within control limits of 90-110%.

III.3. QUALITY CONTROL SAMPLES

III.3.1. METHOD BLANKS

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

III.3.2. INTERFERENCE CHECK SAMPLES:

ICP ICSAB recoveries were within the control limits of 80-120% or $\pm 2\times$ the reporting limit, whichever is greater. The target analytes were spiked to the ICSA as interferences; therefore, matrix interference was not evaluated.

III.3.3. LABORATORY CONTROL SAMPLES

Laboratory control sample recoveries were within the method control limits of 85-115%.

III.3.4. LABORATORY DUPLICATES:

Laboratory duplicate analysis was performed on the sample in this SDG. The RPD was $\leq 20\%$.

III.3.5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the sample in this SDG for Method 200.7 (supporting Method 2340B). Results were not assessed because the parent sample concentration exceeded the spike amount by $4\times$ for both target analytes.

III.4. SERIAL DILUTION

No serial dilution analyses were reported.

III.5. INTERNAL STANDARDS PERFORMANCE

Sample internal standard recovery is not applicable to this method.



III.6. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Calculations were verified and the reported sample results were verified against the raw data. No transcription errors or calculation errors were noted. Nondetects are valid to the MDL.

III.7. FIELD QC SAMPLES

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

III.7.1. FIELD BLANKS AND EQUIPMENT BLANKS

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

III.7.2. FIELD DUPLICATES

There were no field duplicate samples identified for this SDG.

IV. EPA METHOD 608 –PESTICIDES AND PCBs

L. Calvin of MEC^X reviewed the SDG on October 3, 2018

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 1)*, *EPA Method 608*, and the *National Functional Guidelines for Superfund Organic Methods Data Review (2014)*.

IV.1. HOLDING TIMES

Extraction and analytical holding times were met. The sample was extracted within seven days of collection and analyzed within 40 days of extraction.

IV.2. CALIBRATION

The initial calibrations had %RSDs of $\leq 10\%$ or r^2 of ≥ 0.990 on both analytical columns except for the average %RSD of 11.2% for Aroclor 1242 on the primary column. The nondetect for Aroclor 1242 was qualified as estimated (UJ). The initial calibration verification (ICV) and continuing calibration verification (CCV) %Ds were within the control limit of $\leq 15\%$.

IV.3. QUALITY CONTROL SAMPLES

IV.3.1. METHOD BLANKS

Target compounds were not detected in method blanks.

IV.3.2. LABORATORY CONTROL SAMPLES

Recoveries were within the laboratory control limits. Chlordane and toxaphene were not spiked in the pesticide LCS.

IV.3.3. SURROGATE RECOVERY

Pesticide surrogate tetrachloro-m-xylene (TCMX) and PCB surrogate decachlorobiphenyl (DCB) were recovered within the laboratory control limits of 10-150% and 10-148%, respectively, in the site sample.



IV.3.4. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

Matrix spike (MS)/MS duplicate (MSD) analyses were performed on the sample of this SDG. The recovery was below the control limits of 50-125% in the MSD only for 4,4'-DDT (48%). Qualifications were not assigned for the single outlier not occurring in both the MS and MSD. Remaining pesticide recoveries and RPDs and all PCB recoveries and RPDs were within the laboratory control limits. Chlordane and toxaphene were not spiked in the pesticide MS/MSD.

IV.4. **FIELD QC SAMPLES**

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

IV.4.1. **FIELD BLANKS AND EQUIPMENT BLANKS**

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

IV.4.2. **FIELD DUPLICATES**

Field duplicate samples were not identified in this SDG.

IV.5. **COMPOUND IDENTIFICATION**

Compound identification was verified. Review of the sample chromatograms and retention times indicated no issues with target compound identification. The laboratory analyzed for select pesticides and seven Aroclors by EPA Method 608. The laboratory also reported a result for total PCBs. The sample had no reported detects.

IV.6. **COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS**

Compound quantification was verified. The reporting limits were supported by the low point of the initial calibrations and the laboratory MDLs. Reported nondetects are valid to the reporting limit. The sample analyses did not require dilution.

IV.7. **SYSTEM PERFORMANCE**

Review of the raw data indicated no problems with system performance.

V. EPA METHODS 525.2— CHLORPYRIFOS AND DIAZINON

L. Calvin of MEC^x reviewed the SDG on October 17, 2018

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^x *Data Validation Procedure for Semivolatile Organics* (DVP-3, Rev. 1), *EPA Method 525.2*, and the *National Functional Guidelines for Superfund Organic Methods Data Review* (2014).

V.1. **HOLDING TIMES**

Extraction and analytical holding times were met. The water sample was extracted within 24 hours of collection and analyzed within 30 days of extraction.



V.2. GC/MS TUNING AND CALIBRATION

The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

Calibration criteria were met. The initial calibration average RRFs were ≥ 0.05 and %RSDs $\leq 30\%$ or $r^2 \geq 0.990$. The continuing calibration RRFs were ≥ 0.05 and recoveries were within the method QC limits of 70-130%.

V.3. QUALITY CONTROL SAMPLES

V.3.1. METHOD BLANKS

Target compounds were not detected in the method blank.

V.3.2. LABORATORY CONTROL SAMPLES

LCS recoveries were within the laboratory control limits of 37-169% for chlorpyrifos and 43-152% for diazinon.

V.3.3. SURROGATE RECOVERY

Recoveries were within laboratory control limits.

V.3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the sample in this SDG. Recoveries were within the laboratory control limits of 37-168% for chlorpyrifos and 36-153% for diazinon, and RPDs were within the laboratory control limit of $\leq 30\%$.

V.4. FIELD QC SAMPLES

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

V.4.1. FIELD BLANKS AND EQUIPMENT BLANKS

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

V.4.2. FIELD DUPLICATES

Field duplicate samples were not identified in this SDG.

V.5. INTERNAL STANDARDS PERFORMANCE

The internal standard area counts were within the method control limits established by the continuing calibration standards of $\pm 30\%$ for areas and ± 10 seconds for retention times.

V.6. COMPOUND IDENTIFICATION

Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 525.2. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

**V.7. COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS**

Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.

V.8. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

The laboratory did not report TICs for this SDG.

V.9. SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance.

Validated Sample Result Forms 4402169711

Analysis Method E525.2

Sample Name ARROYO_SIMI_20180731_GRAB Matrix Type: WS Result Type: TRG
Sample Date: 7/31/2018 8:20:00 AM Validation Level: 8
Lab Sample Name: 8G31051-01

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chlorpyrifos		2921-88-2	ND	10	6.9	ng/L	U	U	
Diazinon		333-41-5	ND	10	5.2	ng/L	U	U	

Analysis Method E608

Sample Name ARROYO_SIMI_20180731_GRAB Matrix Type: WS Result Type: TRG
Sample Date: 7/31/2018 8:20:00 AM Validation Level: 8
Lab Sample Name: 440-216971-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
4,4'-DDD	N	72-54-8	ND	0.0051	0.0040	ug/L	U	U	
4,4'-DDE	N	72-55-9	ND	0.0051	0.0030	ug/L	U	U	
4,4'-DDT	N	50-29-3	ND	0.010	0.0040	ug/L	U	U	
Chlordane	N	57-74-9	ND	0.10	0.081	ug/L	U	U	
Dieldrin	N	60-57-1	ND	0.0051	0.0020	ug/L	U	U	
Toxaphene	N	8001-35-2	ND	0.51	0.25	ug/L	U	U	

Lab Sample Name: WW9734877

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016 (PCB-1016)		12674-11-2	ND	0.500	0.100	ug/L	UD1	U	
Aroclor-1221 (PCB-1221)		11104-28-2	ND	0.500	0.100	ug/L	UD1	U	
Aroclor-1232 (PCB-1232)		11141-16-5	ND	0.500	0.100	ug/L	UD1	U	
Aroclor-1242 (PCB-1242)		53469-21-9	ND	0.500	0.100	ug/L	UD1	U	
Aroclor-1248 (PCB-1248)		12672-29-6	ND	0.500	0.100	ug/L	UD1	UJ	C
Aroclor-1254 (PCB-1254)		11097-69-1	ND	0.500	0.100	ug/L	UD1	U	
Aroclor-1260 (PCB-1260)		11096-82-5	ND	0.500	0.100	ug/L	UD1	U	
Total PCBs			ND	0.500	0.074	ug/L	U	U	

Analysis Method *SM2340*

Sample Name ARROYO_SIMI_20180731_GRAB **Matrix Type:** WS **Result Type:** TRG

Sample Date: 7/31/2018 8:20:00 AM **Validation Level:** 8

Lab Sample Name: 440-216971-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness as CaCO3	N	HARDNESS CACO3	700		0.17	mg/L			

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-216971-1

Client Project/Site: Quarterly Arroyo Simi-Frontier Park

For:

Haley & Aldrich, Inc.

400 E Van Buren St.

Suite 545

Phoenix, Arizona 85004

Attn: Katherine Miller



Authorized for release by:

8/16/2018 3:48:00 PM

Urvashi Patel, Manager of Project Management

(949)261-1022

urvashi.patel@testamericainc.com

LINKS

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results through

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Have a Question?



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www.testamericainc.com

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

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

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

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



Urvashi Patel
Manager of Project Management
8/16/2018 3:48:00 PM

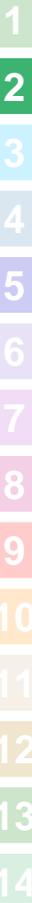


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Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-216971-1	Arroyo_Simi_20180731_Grab	Water	07/31/18 08:20	07/31/18 16:40

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- 2
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Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Job ID: 440-216971-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-216971-1

Comments

No additional comments.

Receipt

The samples were received on 7/31/2018 4:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.5° C and 3.0° C.

GC Semi VOA

Method(s) 608: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-490857 and analytical batch 440-490959 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Metals

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

Subcontract non-Sister

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

Organic Prep

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

Subcontract Work

Method 608_LL-PCB- Lancaster Labs: This method was subcontracted to Eurofins Lancaster Laboratories Env LLC. The subcontract laboratory certification is different from that of the facility issuing the final report.

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

Client Sample Results

Client: Haley & Aldrich, Inc.
 Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Client Sample ID: Arroyo_Simi_20180731_Grab

Lab Sample ID: 440-216971-1

Date Collected: 07/31/18 08:20

Matrix: Water

Date Received: 07/31/18 16:40

Method: 608 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.10	0.081	ug/L		08/01/18 06:08	08/01/18 15:21	1
Dieldrin	ND		0.0051	0.0020	ug/L		08/01/18 06:08	08/01/18 15:21	1
Toxaphene	ND		0.51	0.25	ug/L		08/01/18 06:08	08/01/18 15:21	1
4,4'-DDD	ND		0.0051	0.0040	ug/L		08/01/18 06:08	08/01/18 15:21	1
4,4'-DDE	ND		0.0051	0.0030	ug/L		08/01/18 06:08	08/01/18 15:21	1
4,4'-DDT	ND		0.010	0.0040	ug/L		08/01/18 06:08	08/01/18 15:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	69		10 - 150	08/01/18 06:08	08/01/18 15:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	700		0.33	0.17	mg/L			08/06/18 19:51	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Method	Method Description	Protocol	Laboratory
608	Organochlorine Pesticides in Water	40CFR136A	TAL IRV
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL IRV
Subcontract	608_LL-PCB- Lancaster Labs	None	SC0103
Subcontract	Weck-525.2-Diazinon and Chlorpyrifos	None	Weck Lab
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL IRV

Protocol References:

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

None = None

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

Laboratory References:

SC0103 = Eurofins Lancaster Laboratories Env LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

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

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Client Sample ID: Arroyo_Simi_20180731_Grab

Lab Sample ID: 440-216971-1

Date Collected: 07/31/18 08:20

Matrix: Water

Date Received: 07/31/18 16:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			990 mL	2 mL	490857	08/01/18 06:08	L1H	TAL IRV
Total/NA	Analysis	608		1			490959	08/01/18 15:21	IVA	TAL IRV
Total Recoverable	Analysis	SM 2340B		1			491847	08/06/18 19:51	P1R	TAL IRV

Laboratory References:

SC0103 = Eurofins Lancaster Laboratories Env LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

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

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Method: 608 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-490857/1-A

Matrix: Water

Analysis Batch: 490959

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 490857

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.10	0.080	ug/L		08/01/18 06:08	08/01/18 12:11	1
Dieldrin	ND		0.0050	0.0020	ug/L		08/01/18 06:08	08/01/18 12:11	1
Toxaphene	ND		0.50	0.25	ug/L		08/01/18 06:08	08/01/18 12:11	1
4,4'-DDD	ND		0.0050	0.0040	ug/L		08/01/18 06:08	08/01/18 12:11	1
4,4'-DDE	ND		0.0050	0.0030	ug/L		08/01/18 06:08	08/01/18 12:11	1
4,4'-DDT	ND		0.010	0.0040	ug/L		08/01/18 06:08	08/01/18 12:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		10 - 150	08/01/18 06:08	08/01/18 12:11	1

Lab Sample ID: LCS 440-490857/2-A

Matrix: Water

Analysis Batch: 490959

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 490857

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dieldrin	0.250	0.222		ug/L		89	36 - 146
4,4'-DDD	0.250	0.220		ug/L		88	31 - 141
4,4'-DDE	0.250	0.205		ug/L		82	30 - 145
4,4'-DDT	0.250	0.222		ug/L		89	25 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	68		10 - 150

Lab Sample ID: 440-216971-1 MS

Matrix: Water

Analysis Batch: 490959

Client Sample ID: Arroyo_Simi_20180731_Grab

Prep Type: Total/NA

Prep Batch: 490857

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Dieldrin	ND		0.239	0.182		ug/L		76	50 - 120
4,4'-DDD	ND		0.239	0.205		ug/L		86	50 - 125
4,4'-DDE	ND		0.239	0.167		ug/L		70	45 - 125
4,4'-DDT	ND		0.239	0.124		ug/L		52	50 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	59		10 - 150

Lab Sample ID: 440-216971-1 MSD

Matrix: Water

Analysis Batch: 490959

Client Sample ID: Arroyo_Simi_20180731_Grab

Prep Type: Total/NA

Prep Batch: 490857

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Dieldrin	ND		0.242	0.209		ug/L		87	50 - 120	14	30
4,4'-DDD	ND		0.242	0.230		ug/L		95	50 - 125	12	30
4,4'-DDE	ND		0.242	0.192		ug/L		79	45 - 125	14	30
4,4'-DDT	ND		0.242	0.117	LN	ug/L		48	50 - 125	6	30

TestAmerica Irvine

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Method: 608 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: 440-216971-1 MSD
Matrix: Water
Analysis Batch: 490959

Client Sample ID: Arroyo_Simi_20180731_Grab
Prep Type: Total/NA
Prep Batch: 490857

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>Tetrachloro-m-xylene</i>	78		10 - 150

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

GC Semi VOA

Prep Batch: 490857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216971-1	Arroyo_Simi_20180731_Grab	Total/NA	Water	608	
MB 440-490857/1-A	Method Blank	Total/NA	Water	608	
LCS 440-490857/2-A	Lab Control Sample	Total/NA	Water	608	
440-216971-1 MS	Arroyo_Simi_20180731_Grab	Total/NA	Water	608	
440-216971-1 MSD	Arroyo_Simi_20180731_Grab	Total/NA	Water	608	

Analysis Batch: 490959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216971-1	Arroyo_Simi_20180731_Grab	Total/NA	Water	608	490857
MB 440-490857/1-A	Method Blank	Total/NA	Water	608	490857
LCS 440-490857/2-A	Lab Control Sample	Total/NA	Water	608	490857
440-216971-1 MS	Arroyo_Simi_20180731_Grab	Total/NA	Water	608	490857
440-216971-1 MSD	Arroyo_Simi_20180731_Grab	Total/NA	Water	608	490857

Metals

Analysis Batch: 491847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-216971-1	Arroyo_Simi_20180731_Grab	Total Recoverable	Water	SM 2340B	

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Qualifiers

GC Semi VOA

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

Glossary

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

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-216971-1

Laboratory: TestAmerica Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

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Work Orders: 8G31051

Report Date: 8/15/2018

Project: 440-216971-1

Received Date: 7/31/2018

Turnaround Time: Normal

Phones: (949) 261-1022

Fax: (949) 260-3297

Attn: TestAmerica, Irvine

P.O. #:

Client: TestAmerica - Irvine CA
17461 Derian Ave, Suite 100
Irvine, CA 92614

Billing Code:

Dear TestAmerica, Irvine,

Enclosed are the results of analyses for samples received 7/31/18 with the Chain-of-Custody document. The samples were received in good condition, at 6.8 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Case Narrative

This is a Supplement to the Certificate of Analysis previously issued 8-8-18 for the above referenced Project to correct project number.

Sample Results

Sample: Arroyo_Simi_20180731_Grab (440-216971-1) Sampled: 07/31/18 8:20 by Dan Smith
8G31051-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 525.2M							
Batch ID: W8G1796							
Instr: GCMS13							
Prepared: 07/31/18 16:07							
Analyst: EFC							
Chlorpyrifos	ND	6.9	10	ng/l	1	08/03/18 13:15	
Diazinon	ND	5.2	10	ng/l	1	08/03/18 13:15	
<i>Surrogate(s)</i>							
1,3-Dimethyl-2-nitrobenzene	105%		76-128	Conc: 524		08/03/18 13:15	
Triphenyl phosphate	125%		40-163	Conc: 627		08/03/18 13:15	



WECK LABORATORIES, INC.

Certificate of Analysis

SUPPLEMENTAL REPORT

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 (W8G1796-BLK1)					Prepared: 07/31/18 Analyzed: 08/03/18						
Chlorpyrifos	ND	6.9	10	ng/l							
Diazinon	ND	5.2	10	ng/l							
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene			489	ng/l	500		98	76-128			
Triphenyl phosphate			654	ng/l	500		131	40-163			
LCS (W8G1796-BS1)					Prepared: 07/31/18 Analyzed: 08/03/18						
Chlorpyrifos	48.5	6.9	10	ng/l	50.0		97	37-169			
Diazinon	35.3	5.2	10	ng/l	50.0		71	43-152			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene			469	ng/l	500		94	76-128			
Triphenyl phosphate			610	ng/l	500		122	40-163			
Matrix Spike (W8G1796-MS1)					Source: 8G31051-01		Prepared: 07/31/18 Analyzed: 08/03/18				
Chlorpyrifos	66.5	6.9	10	ng/l	50.0	ND	133	37-168			
Diazinon	43.6	5.2	10	ng/l	50.0	ND	87	36-153			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene			529	ng/l	500		106	76-128			
Triphenyl phosphate			771	ng/l	500		154	40-163			
Matrix Spike Dup (W8G1796-MSD1)					Source: 8G31051-01		Prepared: 07/31/18 Analyzed: 08/03/18				
Chlorpyrifos	68.7	6.9	10	ng/l	50.0	ND	137	37-168	3	30	
Diazinon	49.7	5.2	10	ng/l	50.0	ND	99	36-153	13	30	
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene			516	ng/l	500		103	76-128			
Triphenyl phosphate			762	ng/l	500		152	40-163			



WECK LABORATORIES, INC.

Certificate of Analysis

SUPPLEMENTAL REPORT

Notes and Definitions

Item	Definition
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.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
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) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
 An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
 All results are expressed on wet weight basis unless otherwise specified.
 All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:



Regina Giancola
Project Manager



DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

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



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Test America
17461 Derian Ave
Suite #100
Irvine CA 92614

Report Date: August 09, 2018 11:45

Project: Quarterly Arroyo-Simi-Frontier Park

Account #: 41440
Group Number: 1972463
SDG: SSF10
PO Number: 440-171028-1
State of Sample Origin: CA

Electronic Copy To Test America

Attn: Urvashi Patel

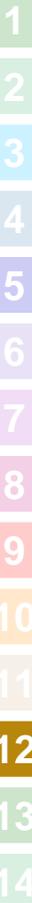
Respectfully Submitted,



Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. Historical copies may be requested through your project manager.





SAMPLE INFORMATION

Client Sample Description

Sample Collection
Date/Time

ELLE#

Arroyo_Simi_20180731_Grab(440-216971-1) Water	07/31/2018 08:20	9734877
Arroyo_Simi_20180731_Grab(440-216971-1MS) Water	07/31/2018 08:20	9734878
Arroyo_Simi_20180731_Grab(440-216971-1MSD) Water	07/31/2018 08:20	9734879

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



Sample Description: Arroyo_Simi_20180731_Grab(440-216971-1) Water
Quarterly Arroyo Simi-Frontier Park

Test America
ELLE Sample #: WW 9734877
ELLE Group #: 1972463
Matrix: Water

Project Name: Quarterly Arroyo-Simi-Frontier Park

Submittal Date/Time: 08/02/2018 10:10
Collection Date/Time: 07/31/2018 08:20
SDG#: SSF10-01BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
PCBs		EPA 608.3 Dec. 2016	ug/l	ug/l	ug/l	
14188	PCB-1016	12674-11-2	N.D. D1	0.100	0.500	1
14188	PCB-1221	11104-28-2	N.D. D1	0.100	0.500	1
14188	PCB-1232	11141-16-5	N.D. D1	0.100	0.500	1
14188	PCB-1242	53469-21-9	N.D. D1	0.100	0.500	1
14188	PCB-1248	12672-29-6	N.D. D1	0.100	0.500	1
14188	PCB-1254	11097-69-1	N.D. D1	0.100	0.500	1
14188	PCB-1260	11096-82-5	N.D. D1	0.100	0.500	1
14188	Total PCBs	1336-36-3	N.D.	0.0740	0.500	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14188	PCB (608.3) 250 ml	EPA 608.3 Dec. 2016	1	182180024A	08/07/2018 22:44	Kirby B Turner	1
11960	Method 608 PCB Water Ext.	EPA 608	1	182180024A	08/07/2018 12:00	Kayla A Yuditsky	1

*=This limit was used in the evaluation of the final result

Sample Description: Arroyo_Simi_20180731_Grab(440-216971-1MS) Water
Quarterly Arroyo Simi-Frontier Park

Test America
ELLE Sample #: WW 9734878
ELLE Group #: 1972463
Matrix: Water

Project Name: Quarterly Arroyo-Simi-Frontier Park

Submittal Date/Time: 08/02/2018 10:10
Collection Date/Time: 07/31/2018 08:20
SDG#: SSF10-01MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
PCBs		EPA 608.3 Dec. 2016	ug/l	ug/l	ug/l	
14188	PCB-1016	12674-11-2	3.66 D2	0.100	0.500	1
14188	PCB-1221	11104-28-2	N.D. D1	0.100	0.500	1
14188	PCB-1232	11141-16-5	N.D. D1	0.100	0.500	1
14188	PCB-1242	53469-21-9	N.D. D1	0.100	0.500	1
14188	PCB-1248	12672-29-6	N.D. D1	0.100	0.500	1
14188	PCB-1254	11097-69-1	N.D. D1	0.100	0.500	1
14188	PCB-1260	11096-82-5	3.39 D2	0.100	0.500	1
14188	Total PCBs	1336-36-3	7.06	0.0740	0.500	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14188	PCB (608.3) 250 ml	EPA 608.3 Dec. 2016	1	182180024A	08/07/2018 22:56	Kirby B Turner	1
11960	Method 608 PCB Water Ext.	EPA 608	1	182180024A	08/07/2018 12:00	Kayla A Yuditsky	1

*=This limit was used in the evaluation of the final result

Sample Description: Arroyo_Simi_20180731_Grab(440-216971-1MSD) Water
Quarterly Arroyo Simi-Frontier Park

Test America
ELLE Sample #: WW 9734879
ELLE Group #: 1972463
Matrix: Water

Project Name: Quarterly Arroyo-Simi-Frontier Park

Submittal Date/Time: 08/02/2018 10:10
Collection Date/Time: 07/31/2018 08:20
SDG#: SSF10-01MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
PCBs		EPA 608.3 Dec. 2016	ug/l	ug/l	ug/l	
14188	PCB-1016	12674-11-2	3.68 D2	0.100	0.500	1
14188	PCB-1221	11104-28-2	N.D. D1	0.100	0.500	1
14188	PCB-1232	11141-16-5	N.D. D1	0.100	0.500	1
14188	PCB-1242	53469-21-9	N.D. D1	0.100	0.500	1
14188	PCB-1248	12672-29-6	N.D. D1	0.100	0.500	1
14188	PCB-1254	11097-69-1	N.D. D1	0.100	0.500	1
14188	PCB-1260	11096-82-5	3.45 D2	0.100	0.500	1
14188	Total PCBs	1336-36-3	7.13	0.0740	0.500	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14188	PCB (608.3) 250 ml	EPA 608.3 Dec. 2016	1	182180024A	08/07/2018 23:07	Kirby B Turner	1
11960	Method 608 PCB Water Ext.	EPA 608	1	182180024A	08/07/2018 12:00	Kayla A Yuditsky	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Test America
Reported: 08/09/2018 11:45

Group Number: 1972463

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: 182180024A	Sample number(s): 9734877-9734879		
PCB-1016	N.D.	0.0740	0.500
PCB-1221	N.D.	0.0740	0.500
PCB-1232	N.D.	0.0740	0.500
PCB-1242	N.D.	0.0740	0.500
PCB-1248	N.D.	0.0740	0.500
PCB-1254	N.D.	0.0740	0.500
PCB-1260	N.D.	0.0740	0.500
Total PCBs	N.D.	0.0740	0.500

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 182180024A	Sample number(s): 9734877-9734879								
PCB-1016	5.00	3.67			73		50-140		
PCB-1260	5.05	3.66			73		50-140		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 182180024A	Sample number(s): 9734877-9734879 UNSPK: 9734877									
PCB-1016	N.D.	5.00	3.66	5.00	3.68	73	74	50-140	0	36
PCB-1260	N.D.	5.05	3.39	5.05	3.45	67	68	50-140	2	38

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Test America
Reported: 08/09/2018 11:45

Group Number: 1972463

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PCB (608.3) 250 ml
Batch number: 182180024A

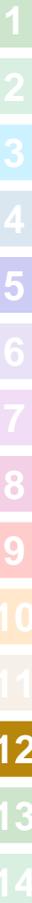
	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9734877	72	56	71	54
9734878	80	55	80	53
9734879	78	56	77	52
Blank	81	76	80	68
LCS	72	51	71	49
MS	80	55	80	53
MSD	78	56	77	52
Limits:	33-137	10-148	33-137	10-148

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



TestAmerica Irvine

17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

41440/1972463/9734877-79



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Sampler:		Lab PM: Patel, Urvashi		Carrier Tracking No(s):		COC No: 440-124559.1			
Client Contact: Shipping/Receiving		Phone:		E-Mail: urvashi.patel@testamericainc.com		State of Origin: California		Page: Page 1 of 1			
Company: Eurofins Lancaster Laboratories Env LLC				Accreditations Required (See note): State Program - California				Job #: 440-216971-1			
Address: 2425 New Holland Pike, City: Lancaster State, Zip: PA, 17601		Due Date Requested: 8/10/2018		Analysis Requested						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
TAT Requested (days):		Project #: 44009879									
PO #:		SSOW#:									
WO #:		Project #: 44009879									
Project Name: Quarterly Arroyo Simi-Frontier Park		SSOW#:		Field Filtered Sample (Yes or No)		Total Number of containers		Special Instructions/Note:			
Site:		SSOW#:		Perform MS/MSD (Yes or No)		SUB (608_LL-PCB-Lancaster Labs)/608_LL-PCB-Lancaster Labs					
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	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 (608_LL-PCB-Lancaster Labs)/608_LL-PCB-Lancaster Labs	Total Number of containers	Special Instructions/Note:	
Arroyo_Simi_20180731_Grab (440-216971-1)		7/31/18	08:20 Pacific		Water		X		1		
Arroyo_Simi_20180731_Grab (440-216971-1MS)		7/31/18	08:20 Pacific	MS	Water		X		1		
Arroyo_Simi_20180731_Grab (440-216971-1MSD)		7/31/18	08:20 Pacific	MSD	Water		X		1		

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

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:			
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <i>[Signature]</i>		Date/Time: 8/16/18 @ 17:00		Company: <i>[Signature]</i>		Received by: <i>[Signature]</i>	
Relinquished by: <i>[Signature]</i>		Date/Time:		Company:		Received by: <i>[Signature]</i>	
Relinquished by: <i>[Signature]</i>		Date/Time:		Company:		Received by: <i>[Signature]</i>	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 10.3			





Client: Test America Irvine

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 08/02/2018 10:10
 Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Wanita Curry (14057) at 15:33 on 08/02/2018

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.3	DT	Wet	Y	Bagged	N



The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Road, Suite 300 San Diego, CA 92108-5860				Project: Boeing-SSFL NPDES Permit 2015 Quarterly Arroyo Simi-Frontier Park Dry Weather					ANALYSIS REQUIRED				Field Readings Meter serial # <u>W4272596</u>
Test America Contact: <u>Urvashi Patel</u> 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 Cell 949-333-9055				Project Manager: <u>Katherine Miller</u> 520.289.8608, 520.904.6944 (cell)					Hardness as CaCO3, Recoverable (SM2340B) Chlorpyrifos, Diazinon (ES25 2) Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E608)				Field Readings: (Include units) Time of Readings: <u>5:20</u>
Test America's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2016-18-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc													Field Manager: <u>Mark Dominick</u> 978.234.5033, 818.599.0702 (cell)
Sampler: <u>Dan Smith</u>				Sample Description Sample I.D. Sampling Date/Time Sample Matrix Container Type # of Cont Preservative Bottle # MS/MSD					Field readings QC Checked by: <u>[Signature]</u> Date/Time: <u>7/31/18 2:40</u>				Comments
Arroyo Simi Arroyo_Simi_20180731_Grab 7/31/2018 WS 250 mL Poly 3 HNO ₃ 100 Yes													
Arroyo_Simi_20180731_Grab_Extra 7/31/2018 WS 1L Glass Amber 2 HCl 275 No				Arroyo_Simi_20180731_Grab_Extra 7/31/2018 WS 1L Glass Amber 2 None 285 No				Hold Hold					
Relinquished By: <u>[Signature]</u> Date/Time: <u>7/31/18/1005</u> Company: <u>H&A</u>												Received By: <u>[Signature]</u> Date/Time: <u>7/31/18</u> Company: <u>1005</u>	
Relinquished By: <u>[Signature]</u> Date/Time: <u>7/31/18</u> Company: <u>1640 TA-100</u>				Received By: <u>[Signature]</u> Date/Time: <u>7/31/18</u> Company: <u>1640</u>					Sample Integrity (Check) Intact. _____ On Ice _____				
Relinquished By: _____ Date/Time: _____ Company: _____				Received By: _____ Date/Time: _____ Company: _____					Store samples for 6 months Data Requirements: (Check) No Level IV _____ All Level IV <u>X</u>				



440-216971 Chain of Custody

2.8/3.0 .3/1.5 12.89

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8/16/2018



CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Road, Suite 300 San Diego, CA 92108-5860			Project: Boeing-SSFL NPDES Permit 2015 Quarterly Arroyo Simi-Frontier Park Dry Weather				ANALYSIS REQUIRED				Field Readings Meter serial # WYR7RS9C				
Test America Contact: Urvashi Patel 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 Cell 949-333-9055			Project Manager: Katherine Miller 520 289 8606, 520.904 6944 (cell)				Hardness as CaCO3, Recoverable (SM23-40B) Chlorpyrifos, Diazinon (E525 2) Pesticides: Chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, Dieldrin, Toxaphene + PCBs only (E609)				Field Readings: (Include units) Time of Readings: 0.820				
Test America's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2015-18-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Test America Laboratories Inc			Field Manager: Mark Dominick 978.234.5033, 818 599 0702 (cell)								pH 7.78 pH unit Temp 24.60 °F Velocity 0.0 ft/sec				
Sampler: Dan Smith			Field Manager: Mark Dominick 978.234.5033, 818 599 0702 (cell)								Field readings QC Checked by: [Signature] Date/Time: 7/31/18 0840				
Sample Description	Sample I D	Sampling Date/Time	Sample Matrix	Container Type	# of Cont	Preservative	Bottle #	MS/MSD							Comments
Arroyo Simi	Arroyo_Simi_20180731_Grab	7/31/2018 <i>6:00</i>	WS 250 mL Poly	3	3	HNO3	166	Yes	X	X	X	X	X	X	Extract within 24-Hours of sampling
			WS 1L Glass Amber	6	6	HCl	275	Yes		X					
Arroyo Simi	Arroyo_Simi_20180731_Grab_Extra	7/31/2018 <i>6:10</i>	WS 1L Glass Amber	6	6	None	285	Yes	X	X	X	X	X	Hold	[Signature]
			WS 1L Glass Amber	2	2	HCl	276	No		X					Hold
			WS 1L Glass Amber	2	2	None	285	No	X	X	X	X	X	Hold	[Signature]

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525 already at Neck



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-216971-1

Login Number: 216971

List Number: 1

Creator: Soderblom, Tim

List Source: TestAmerica Irvine

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

