KINDER MORGAN
ENERGY PARTNERS, L.P.

SFPP, L.P.
Operating Partnership

February 15, 2017

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Effluent Monitoring Report
October through December 2016
SFPP, L.P. Norwalk Pump Station
15306 Norwalk Boulevard, Norwalk, California
(NPDES No. CA0063509, CI No. 7497)

Attention: Information Technology Unit

In reference to the subject National Pollutant Discharge Elimination System (NPDES) permit, please find enclosed the Fourth Quarter 2016 Effluent Monitoring Report for the subject discharge.

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 day of February 2017.
at 8:09 a.m.

_____ (signature)

Stephen T. Defibaugh (printed name)

Remediation Project Manager (title)

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Mr. Stephen Defibaugh
Kinder Morgan Energy Partners, L.P.
1100 Town and Country Road
Orange, California 92868

February 15, 2017

Subject: Effluent Monitoring Report, October 1 to December 31, 2016 (Fourth Quarter 2016)
SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California
(NPDES No. CA0063509, CI No. 7497)

Dear Mr. Defibaugh,

This report has been prepared by CH2M HILL Engineers, Inc. (CH2M), on behalf of SFPP, L.P. (SFPP), an operating partnership of Kinder Morgan Energy Partners, L.P. (Kinder Morgan), to summarize National Pollutant Discharge Elimination System (NPDES) monitoring related to the discharge of treated groundwater from SFPP's product recovery and groundwater extraction (GWE) system. This system is installed at the SFPP Norwalk Pump Station located within the Defense Fuel Support Point Norwalk, at 15306 Norwalk Boulevard, Norwalk, California (the site; Figure 1).

SFPP performed certain operations, maintenance, and monitoring tasks on the product recovery and GWE systems. SFPP retained CH2M to prepare this report based on the NPDES monitoring performed by SFPP. This report describes NPDES monitoring activities during the period of October 1 to December 31, 2016.

Remediation Systems

SFPP operates remediation systems consisting of soil vapor extraction (SVE), total fluids extraction (TFE; extraction of free product and/or groundwater using a top-loading pump), GWE (extraction of groundwater using a bottom-loading pump), and treatment of extracted soil vapors and groundwater to address the south-central and southeastern areas of the site. Biosparging is also employed in the south-central area to enhance natural attenuation of hydrocarbon constituents.

Operation of the West Side Barrier (WSB) GWE system (WSB system) for remediation of the western offsite area was discontinued in August 2008 based on the reduced lateral extent and low concentrations of volatile organic compounds (VOCs) west of the site.

The objectives of the remediation systems are to contain and control the migration of hydrocarbon constituents in groundwater and soil vapor and to remove hydrocarbon mass from soil and groundwater. The remediation system includes the following wells:

- South-Central Area
  - 20 TFE wells
  - 24 onsite and 6 offsite SVE wells (most collocated with TFE wells)
  - 2 horizontal SVE wells
  - 1 horizontal biosparge well

- Southeastern Area (24-inch Block Valve Area)
  - 4 TFE wells (GMW-O-15, GMW-O-18, GMW-36, and GMW-SF-9)
  - 3 SVE wells (collocated with TFE wells)
  - 1 GWE well (GMW-SF-10)

The remediation system layout is shown on Figure 2. A brief description of each system is provided below.

SVE System

SVE is performed using a blower to remove soil vapors from the south-central and southeastern areas. The extracted vapors are conveyed to a knock-out tank that separates entrained moisture from the soil vapors. Accumulated moisture in the knock-out tank is treated by the main groundwater treatment system (GWTS) described below. The soil vapors are then treated in a regenerative thermal oxidizer (RTO) where VOCs are converted to carbon dioxide and water prior to being discharged to the atmosphere. Operation of the GWTS and SVE system is conducted in accordance with Permits to Construct (Application Nos. 569588 and 567723, respectively; ID 110835) issued by the South Coast Air Quality Management District (SCAQMD).

Groundwater Treatment System

The main GWTS handles free product and groundwater recovered from the south-central and southeastern parts of the site. Free product and groundwater recovered by pneumatically operated top-loading total fluid pumps and bottom-loading groundwater pumps are piped to an oil-water separator (OWS). Free product, if any, from the OWS is collected in a storage tank and recycled at an offsite location. Water from the OWS is treated using liquid-phase granular activated carbon (LGAC). Treated water is routed through an onsite 3,000-gallon equalization tank. Two fluidized bed bioreactors (FBBRs) installed downstream of the equalization tank treat fuel oxygenates such as tertiary butyl alcohol (TBA) and methyl tertiary butyl ether (MTBE). The treated groundwater then passes through polishing LGAC units prior to discharge to a storm drain that leads to Coyote Creek. Discharge to Coyote Creek is performed in accordance with a NPDES permit (No. CA0063509; Order R4-2016-0309). Order R4-2016-0309 was issued to SFPP on September 19, 2016, and became effective on November 1, 2016; it replaces Order No. R4-2011-0095, which expired on May 10, 2016.

Horizontal Biosparge System

SFPP recently completed installation of a horizontal biosparge system in the south-central area of the site. The biosparge well is constructed of 4-inch-diameter Schedule 80 polyvinyl chloride (PVC) casing and screen completed to a vertical depth of approximately 45 feet below ground surface. The lateral distance of the screen interval is 600 feet, which is centered below the central portion of the south-central area hydrocarbon plume. Further details regarding the construction of the biosparge well are documented in the report titled, *Horizontal Biosparge Well and Soil Vapor Monitoring Probe Completion Report, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California* (prepared by CH2M, dated February 8, 2015).

The compressor used to deliver ambient air to the biosparge well has a maximum design rate of approximately 500 standard cubic feet per minute (scfm). SFPP's SVE system has an interlock that ensures the biosparge system cannot operate unless the SVE system is operating. Operation of the SVE system reduces the potential for offgassing of VOCs during biosparge operations. Pilot testing of the biosparge system commenced in early January 2016 and continued through October 2016. Soil vapor data collected as part of the pilot testing have been submitted to the Regional Water Quality Control Board (RWQCB) and Restoration Advisory Board (RAB) under separate cover. Preparation of a

comprehensive evaluation report that incorporates soil vapor and groundwater data is currently in process.

A summary of the GWTS operations is presented below. Operations of the SVE and biosparge systems are presented separately in quarterly remediation progress reports that are provided to the RWQCB and RAB.

Summary of Quarterly GWTS Operations

A total of 586,485 gallons of groundwater were extracted from the south-central and southeastern areas during the fourth quarter 2016. Wells that were in operation included MW-SF-3, GMW-9, and GMW-10 in the south-central area, and GMW-36, GMW-O-15, GMW-O-18, and GMW-SF-9 in the southeastern area. No groundwater was extracted from the WSB area during this period. Table 1 summarizes the average daily flow rate during the reporting period. The GWTS operated throughout the quarter, with the following exceptions:

- The GWTS was turned off on September 27, 2016, to facilitate gauging and sampling activities for the second semiannual groundwater monitoring event. The GWTS was restarted on October 13, 2016.
- The GWTS was turned off on November 10, 2016, to facilitate the removal of components associated with the old OWS. The system was restarted on December 8, 2016.
- The GWTS was turned off on December 22, 2016, for a carbon changeout of the lead LGAC vessel and the two polishing vessels. They GWTS was restarted on December 23, 2016.

No free product accumulated in the product holding tank of the GWTS during the fourth quarter 2016. A total of 4 gallons of free product were hand bailed from southeastern well GMW-O-18 on December 13, 2016.

Routine Effluent Monitoring

During the fourth quarter 2016, effluent water samples were collected pursuant to the Waste Discharge Requirements (WDRs) under Order Nos. R4-2011-0095 and R4-2016-0309. Samples were collected at the Order-designated monitoring point EFF-001 (Remediation System Effluent) and RSW-001 (50 feet upstream of the discharge in Coyote Creek) for monthly, quarterly, and annual analysis. Samples were also collected at EFF-001, RSW-001, and RSW-002 (50 feet downstream of the discharge in Coyote Creek) as part of the Initial Investigation Toxicity Reduction Evaluation (TRE), discussed during the first quarter 2016 effluent monitoring report.

Toxicity samples were shipped to CH2M's Applied Sciences Laboratory (ASL) in Corvallis, Oregon, for testing. All other compliance samples were shipped to Asset Laboratories in Las Vegas, Nevada, for analyses. ASL and Asset Laboratories are certified by the National Environmental Laboratory Accreditation Program and the California Department of Public Health Environmental Laboratory Accreditation Program. The samples were analyzed in accordance with current U.S. Environmental Protection Agency (EPA) guidelines or as specified in the WDRs for the site.

Atherinops affinis (topsmelt) was used in lieu of the previously used toxicity test species under this permit due to the slightly brackish (saline) water conditions of the effluent and receiving water (greater than 1 part per thousand practical salinity units), as allowed by the permit. The rationale for using this test species was documented in the report titled, *Cause of Apparent Chronic Toxicity and Planned Corrective Action Plan*, prepared by CH2M and submitted to the RWQCB on December 11, 2013.

Summary of Compliance Results

Monthly, Quarterly and Annual Sampling

Analytical results for the October 2016 sampling event at the effluent are summarized in Table 2. The results were compared with monthly discharge limits under Order No. R4-2011-0095. Analytical results for October and November 2016 sampling events are summarized in Table 3. These results were compared with monthly, quarterly, and annual discharge limits under Order No. R4-2016-0309. Analytical results for remaining priority pollutants at the effluent are summarized in Table 4. Results for priority pollutants at sample point RSW-001 (50 feet upstream of the discharge in Coyote Creek) are summarized in Table 5. The tetrachlorodibenzo-p-dioxins (TCDD) equivalents for the effluent and RSW-001 (50 feet upstream of the discharge in Coyote Creek) are summarized in Table 6. As shown in the tables, all discharge limits for the treatment system effluent were met during the reporting period. There are no receiving water discharge limitations under the WDRs.

The maximum daily flow in Coyote Creek, at the Los Angeles County Department of Public Works' Coyote Creek Gauge Station below Spring Street (F-354-R), is reported in Table 7. Based on these data, it has been determined that all sampling events conducted during the fourth quarter 2016 occurred during dry weather conditions.

Toxicity Sampling

Toxicity sampling was performed as part of the Initial Investigation TRE, which was triggered as a result of effluent toxicity in September 2015. As previously discussed in the first quarter 2016 effluent monitoring report, there was no receiving water toxicity in the first or second TRE sampling. The TRE would have been ended except that all test acceptability criteria were not met. Control fish did not meet minimum growth requirements (0.85 milligrams [mg]/fish) in the first set of TRE samples. Reference toxicity test results were outside of the cumulative summary chart limits during the second set of TRE samples. One additional round of toxicity testing was conducted at the effluent and receiving waters in 2016 to confirm the absence of toxicity. The third round of TRE samples was collected from EFF-001, RSW-001, and RSW-002 between October 19 and October 24, 2016, and analyzed for acute and chronic toxicity. This event also satisfied the annual requirement to perform toxicity sampling at the treatment system effluent. As shown in Table 8, acute toxicity was in compliance (100 percent survival) in the effluent and both the upstream and downstream receiving water samples. Chronic toxicity at the effluent was 1.0 chronic toxicity units (NOEC[1] TUc), and downstream chronic toxicity was 1.0 NOEC TUc, indicating that the effluent does not cause or contribute to downstream chronic toxicity. Upstream chronic toxicity was also 1.0 NOEC TUc.

The laboratory reports and chain-of-custody documents for the effluent and receiving water samples collected during the fourth quarter 2016 are included in Appendix A.

Waste Hauling

Approximately 1,700 gallons of flammable liquid waste was removed from the site on November 11, 2016, by Patriot Environmental Services of 508 East E Street, Wilmington, California 90744. The waste included a mixture of recovered fuel product and water generated from cleaning out the OWS transfer tank, equalization tank, and sumps. The waste was transported to Demenno Kerdoon located at 2000 North Alameda Street, Compton, California 90222. A copy of the waste manifest is included in Appendix B.

[1] NOEC = no observed effect concentration

Annual Review of Stormwater Pollution Prevention Plan (SWPPP), Best Management Practices Plan (BMPP), and Spill Contingency Plan (SCP)

As required in Section X.D.1 of the Monitoring and Reporting Program, the project SWPPP, BMPP, and SCP are reviewed annually and updated as needed to ensure all actual and potential sources of pollutants in wastewater and stormwater discharged from the facility are addressed in the plans. The existing SWPPP/BMPP and SCP documents have been reviewed and revised to incorporate the following changes:

- Installation of a new dissolved air floatation oil-water separator (DAF/OWS): Groundwater, stormwater from the treatment pads, free product, and condensate from the SVE knock-out tank and biosparging condensate tank are pumped through the DAF/OWS as part of the initial phase of the GWTS process. The DAF/OWS has a storage capacity of 1,855 gallons.

The above changes are now reflected in the SWPPP/BMPP and SCP documents, which were submitted to the RWQCB on January 30, 2017. A copy of these documents will be maintained onsite for reference.

Should you require any further information, please contact me at (714) 435-6255.

Regards,
CH2M HILL Engineers, Inc.

Vidal Cortes
Project Engineer

Attachments:

Table 1 – Effluent Flow Rate Measurements, Fourth Quarter 2016
Table 2 – NPDES Effluent Monitoring, October 2016
Table 3 – NPDES Effluent Monitoring, November and December 2016
Table 4 – NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2016
Table 5 – NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2016
Table 6 – NPDES TCDD Equivalent Calculation, Fourth Quarter 2016
Table 7 – Maximum Daily Flow in Coyote Creek, Fourth Quarter 2016
Table 8 – NPDES Effluent and Receiving Water Acute and Chronic Toxicity Monitoring, Fourth Quarter 2016
Figure 1 – Site Location Map
Figure 2 – Remediation System Layout
Appendix A – Laboratory Analytical Reports and Chain-of-Custody Documents
Appendix B – Waste Manifests

Tables

Table 1. Effluent Flow Rate Measurements, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Date	Average Flow Rate (gpd) (Maximum Daily Discharge Limit = 150,000 gpd[a])
10/01/16	0
10/02/16	0
10/03/16	0
10/04/16	0
10/05/16	0
10/06/16	0
10/07/16	0
10/08/16	0
10/09/16	0
10/10/16	0
10/11/16	0
10/12/16	0
10/13/16	0
10/14/16	3,847
10/15/16	2
10/16/16	4,707
10/17/16	4,141
10/18/16	7,167
10/19/16	9,525
10/20/16	11,859
10/21/16	13,838
10/22/16	14,362
10/23/16	13,680
10/24/16	13,313
10/25/16	13,251
10/26/16	12,953
10/27/16	13,082
10/28/16	13,567
10/29/16	13,301
10/30/16	13,246
10/31/16	13,336
11/01/16	10,929
11/02/16	7,377
11/03/16	9,156
11/04/16	9,049
11/05/16	9,448
11/06/16	9,783
11/07/16	9,807
11/08/16	9,922
11/09/16	9,784
11/10/16	5,511
11/11/16	0
11/12/16	0
11/13/16	0
11/14/16	0
11/15/16	0
11/16/16	0
11/17/16	0
11/18/16	0
11/19/16	0
11/20/16	0
11/21/16	0
11/22/16	0
11/23/16	0
11/24/16	0
11/25/16	0

Table 1. Effluent Flow Rate Measurements, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Date	Average Flow Rate (gpd) (Maximum Daily Discharge Limit = 150,000 gpd[a])
11/26/16	0
11/27/16	0
11/28/16	0
11/29/16	0
11/30/16	0
12/01/16	0
12/02/16	0
12/03/16	0
12/04/16	0
12/05/16	0
12/06/16	0
12/07/16	0
12/08/16	6,285
12/09/16	10,931
12/10/16	10,529
12/11/16	10,406
12/12/16	10,097
12/13/16	10,097
12/14/16	11,431
12/15/16	12,832
12/16/16	17,469
12/17/16	15,817
12/18/16	15,809
12/19/16	16,174
12/20/16	14,530
12/21/16	12,065
12/22/16	248
12/23/16	10,283
12/24/16	16,006
12/25/16	15,508
12/26/16	15,187
12/27/16	15,080
12/28/16	15,087
12/29/16	14,463
12/30/16	14,945
12/31/16	15,263

Notes:

[a] California Regional Water Quality Control Board Waste Discharge Requirements

gpd = gallons per day

Table 2. NPDES Effluent Monitoring, October 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Sampling Frequency	Analytical Method	Units	MDL[c]	RL[c]	ML[a]	10/21/2016	Discharge Limits[b]	
								Monthly Average	Daily Maximum
Flow	Daily	--	gpd	--	--	--	**13,838**	--	**150,000**
Temperature	Monthly	--	°F	--	--	NE	**72**	--	**86**
Oil and Grease	Monthly	EPA 1664A	mg/L	0.71	4.4	NE	**0.74 J**	**10**	**15**
Oil and Grease	Monthly	EPA 1664A	lbs/day	--	--	--	**8.56E-02**	**13**	**19**
TPH as Gas (C4-C12)	Monthly	EPA 8015B	µg/L	16	50	NE	<16	--	--
TPH as Diesel (C13-C22)	Monthly	EPA 8015B	µg/L	16	27	NE	<16	--	--
TPH as Oil (C23+)	Monthly	EPA 8015B	µg/L	14	27	NE	**22 J**	--	--
Total TPH	Monthly	EPA 8015B	µg/L	16	100	NE	**22 J**	**NE**	**100**
Total TPH	Monthly	EPA 8015B	lbs/day	--	--	--	**2.54E-03**	--	**0.13**
Settleable Solids	Monthly	SM 2540F	mL/L/hr	0.1	0.1	NE	<0.1	**0.1**	**0.3**
Total Suspended Solids	Monthly	SM 2540D	mg/L	10	10.00	NE	<5.0	**50**	**75**
Total Suspended Solids	Monthly	SM 2540D	lbs/day	--	--	--	**5.78E-01**	**63**	**94**
Phenol	Monthly	EPA 8270C	µg/L	0.33	2.0	1.0	**1.9 J**	**300**	--
Phenol	Monthly	EPA 8270C	lbs/day	--	--	--	**2.20E-04**	**0.38**	--
Benzene	Monthly	EPA 8260B	µg/L	0.036	1.0	2.0	<0.036	**1**	--
Benzene	Monthly	EPA 8260B	lbs/day	--	--	--	**4.16E-06**	**0.0013**	--
1,1-Dichloroethane	Monthly	EPA 8260B	µg/L	0.022	0.5	1.0	<0.022	**5**	--
1,1-Dichloroethane	Monthly	EPA 8260B	lbs/day	--	--	--	**2.54E-06**	**0.0063**	--
1,2-Dichloroethane	Monthly	EPA 8260B	µg/L	0.064	0.50	2.0	<0.064	**0.5**	--
1,2-Dichloroethane	Monthly	EPA 8260B	lbs/day	--	--	--	**7.40E-06**	**0.00063**	--
Ethylbenzene	Monthly	EPA 8260B	µg/L	0.036	1.00	2.0	<0.036	**10**	--
Ethylbenzene	Monthly	EPA 8260B	lbs/day	--	--	--	**4.16E-06**	**0.013**	--
Toluene	Monthly	EPA 8260B	µg/L	0.042	2.00	2.0	<0.042	**10**	--
Toluene	Monthly	EPA 8260B	lbs/day	--	--	--	**4.86E-06**	**0.013**	--
Methyl tertiary-butyl ether	Monthly	EPA 8260B	µg/L	0.062	1	NE	**0.13 J**	--	**5.0**
Methyl tertiary-butyl ether	Monthly	EPA 8260B	lbs/day	--	--	--	**1.50E-05**	--	**0.063**
Tertiary butyl alcohol	Monthly	EPA 8260B	µg/L	0.3	5.0	NE	<0.3	--	**12**
Tertiary butyl alcohol	Monthly	EPA 8260B	lbs/day	--	--	--	**3.47E-05**	--	**0.015**
Total Xylenes	Monthly	EPA 8260B	µg/L	1.5	2.0	NE	<1.5	**10**	--
Total Xylenes	Monthly	EPA 8260B	lbs/day	--	--	--	**1.73E-04**	**0.013**	--
Copper (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.26	0.50	0.5	<0.26	**16**	**33**
Copper (total recoverable) (dry weather)	Monthly	EPA 200.8	lbs/day	--	--	--	**3.01E-05**	**0.02**	**0.041**
Copper (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.26	0.50	0.5	<0.26	**13**	**27**
Copper (total recoverable) (wet weather)	Monthly	EPA 200.8	lbs/day	--	--	--	**3.01E-05**	**0.016**	**0.034**
Lead (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.27	2.50	0.5	<0.27	**8.2**	**15**
Lead (total recoverable) (dry weather)	Monthly	EPA 200.8	lbs/day	--	--	--	**3.12E-05**	**0.01**	**0.019**
Lead (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.27	2.50	0.5	<0.27	**34**	**106**
Lead (total recoverable) (wet weather)	Monthly	EPA 200.8	lbs/day	--	--	--	**3.12E-05**	**0.043**	**0.13**
Mercury (total recoverable)	Monthly	EPA 245.1	µg/L	0.018	0.05	0.2	<0.018	**0.051**	**0.14**
Mercury (total recoverable)	Monthly	EPA 245.1	lbs/day	--	--	--	**2.08E-06**	**6.40E-05**	**1.80E-04**
Selenium (total recoverable)	Monthly	EPA 200.8	µg/L	0.07	0.50	2.0	**0.34 J**	**3.4**	**9.2**
Selenium (total recoverable)	Monthly	EPA 200.8	lbs/day	--	--	--	**3.93E-05**	**0.043**	**0.13**

Table 2. NPDES Effluent Monitoring, October 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Sampling Frequency	Analytical Method	Units	MDL[c]	RL[c]	ML[a]	10/21/2016	Discharge Limits[b]	
								Monthly Average	Daily Maximum
Thallium (total recoverable)	Monthly	EPA 200.8	µg/L	0.17	2.5	1.0	<0.17	**6.3**	**13**
Thallium (total recoverable)	Monthly	EPA 200.8	lbs/day	--	--	--	**1.97E-05**	**0.0079**	**0.016**
Zinc (total recoverable) (wet weather) [d]	Monthly	EPA 200.8	µg/L	0.039	1	1.0	**5.6 J**	**79**	**158**
Zinc (total recoverable) (wet weather) [d]	Monthly	EPA 200.8	lbs/day	--	--	--	**6.47E-04**	**0.1**	**0.2**
Chromium VI	Monthly	EPA 7199	µg/L	0.066	0.20	0.5	<0.066	**8.1**	**16**
Chromium VI	Monthly	EPA 7199	lbs/day	--	--	--	**7.63E-06**	**0.01**	**0.02**
pH	Quarterly	--	s.u.	0.1	0.10	NE	**6.5**	**--**	**6.5/8.5**
Ammonia Nitrogen (as N)	Quarterly	SM 4500 NH3G	mg/L	0.082	0.20	NE	--	**--**	**--**
Di-isopropyl Ether	Quarterly	EPA 8260B	µg/L	0.017	1.0	NE	--	**--**	**--**
Methylene Blue Active Substances	Quarterly	SM 5540C	mg/L	0.03	0.20	NE	--	**--**	**--**
Tert-amyl-methyl Ether	Quarterly	EPA 8260B	µg/L	0.039	1.0	NE	--	**--**	**--**
Turbidity	Quarterly	SM 2130B	NTU	0.1	0.10	NE	--	**50**	**75**
Methyl ethyl ketone	Quarterly	EPA 8260B	µg/L	0.48	10	NE	--	**50**	**--**
Methyl ethyl ketone	Quarterly	EPA 8260B	lbs/day	--	--	--		**0.063**	**--**
Other Priority Pollutants (see Table 4)	Quarterly [e]	--	see Table 4	--	--	--	--	**--**	**--**
BOD	Annually	SM 5210B	mg/L	1.5	1.5	NE	--	**20**	**30**
BOD	Annually	SM 5210B	lbs/day	--	--	--		**25**	**38**
Nitrate + Nitrite as N	Annually	EPA 300.0	mg/L	--	--	NE	**--**	**--**	**--**
Sulfides	Annually	SM 4500 SD	mg/L	0.05	0.1	NE	--	**--**	**--**

Notes:

[a] ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is also the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

[b] California Regional Water Quality Control Board Waste Discharge Requirements (WDRs) under Order No. R4-2011-0095.

[c] The highest MDL and RL during this reporting period are shown.

[d] There are no dry weather limitations for zinc.

[e] Effluent monitoring will occur quarterly for the first 2 years after the Order is adopted. After the first 2 years, effluent will be monitored once per year.

-- = not measured or not analyzed

Reported value is estimated.

< = not detected above the MDL

° F = degrees Fahrenheit

µg/L = micrograms per liter

J = detected at a concentration below the RL and above the MDL.

MDL = laboratory method detection limit

mg/L = milligrams per liter

ML = minimum level. See note a.

mL/L/hr = milliliters per liter per hour

NE = not established

RL = reporting limit

TPH = total petroleum hydrocarbons

Table 3. NPDES Effluent Monitoring, November and December 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Sampling Frequency	Analytical Method	Units	MDL[c]	RL[c]	ML[a]	11/8/2016	12/27/2016	Discharge Limits[b]	
									Monthly Average	Daily Maximum
Flow	Daily	--	gpd	--	--	--	**9,922**	**15,187**	--	**150,000**
TPH as gas (C4-C12)	Monthly	EPA 8015B	µg/L	16	50	NE	<16	**33 J**	--	--
TPH as Diesel (C13-C22)	Monthly	EPA 8015B	µg/L	16	27	NE	<16	<16	--	--
TPH as Oil (C23+)	Monthly	EPA 8015B	µg/L	14	27	NE	**22 J**	**26 J**	--	--
Total TPH	Monthly	EPA 8015B	µg/L	16	100	NE	**22 J**	**59 J**	--	**100**
Total TPH	Monthly	Calculated	lb/day	--	--	--	**0.0018**	**0.0075**	--	**0.13**
Benzene	Monthly	EPA 8260B	µg/L	0.036	1	2.0	<0.036	<0.036	--	--
1,1-Dichloroethane	Monthly	EPA 8260B	µg/L	0.022	0.5	1.0	<0.022	<0.022	--	--
1,2-Dichloroethane	Monthly	EPA 8260B	µg/L	0.064	0.5	2.0	<0.064	<0.064	--	--
Ethylbenzene	Monthly	EPA 8260B	µg/L	0.036	1.0	2.0	<0.036	<0.036	--	--
Phenol	Monthly	EPA 8270C	µg/L	0.33	2.0	1.0	<0.33	**2.9**	--	--
Toluene	Monthly	EPA 8260B	µg/L	0.042	2.0	2.0	**0.1 J**	<0.042	--	--
Methyl tertiary-butyl ether	Monthly	EPA 8260B	µg/L	0.062	1.0	NE	<0.062	<0.062	--	--
Tertiary butyl alcohol	Monthly	EPA 8260B	µg/L	0.3	5.0	NE	<0.3	<0.3	--	--
Total Xylenes	Monthly	EPA 8260B	µg/L	1.5	2.0	NE	<1.5	<1.5	--	--
Copper (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.26	0.5	0.5	<0.26	<0.26	**9.7**	**32**
Copper (total recoverable) (dry weather)	Monthly	Calculated	lb/day	--	--	--	**2.20E-05**	**3.30E-05**	**0.012**	**0.04**
Copper (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.26	0.50	0.5	<0.26	<0.26	**8.3**	**27**
Copper (total recoverable) (wet weather)	Monthly	Calculated	lb/day	--	--	--	**2.20E-05**	**3.30E-05**	**0.010**	**0.034**
Lead (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.27	2.50	0.5	<0.27	<0.037	**33**	**106**
Lead (total recoverable) (wet weather)	Monthly	Calculated	lb/day	--	--	--	**2.20E-05**	**5.00E-06**	**0.041**	**0.13**
Mercury (total recoverable)	Monthly	EPA 245.1	µg/L	0.018	0.050	0.2	<0.018	<0.018	**0.051**	**0.10**
Mercury (total recoverable)	Monthly	Calculated	lb/day	--	--	--	**1.00E-06**	**2.00E-06**	**6.40E-05**	**1.30E-04**
Zinc (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.27	1.0	1.0	**2.6**	**8.5 J**	**64**	**220**
Zinc (total recoverable) (dry weather)	Monthly	Calculated	lb/day	--	--	--	**2.15E-04**	**1.08E-03**	**0.080**	**0.28**
Zinc (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.27	1.0	1.0	**2.6**	**8.5 J**	**46**	**158**
Zinc (total recoverable) (wet weather)	Monthly	Calculated	lb/day	--	--	--	**2.15E-04**	**1.08E-03**	**0.058**	**0.2**
BOD	Quarterly	SM 5210B	mg/L	1.5	1.5	NE	<1.5	--	**20**	**30**
BOD	Quarterly	Calculated	lb/day	--	--	--	**0.1241**	--	**25**	**38**
Total Suspended Solids	Quarterly	SM 2540D	mg/L	10	10.00	NE	<10	--	**50**	**75**
Total Suspended Solids	Quarterly	Calculated	lb/day	--	--	--	**0.8275**	--	**63**	**94**
pH	Quarterly	--	s.u.	0.1	0.10	NE	6.9	7	--	**6.5/8.5**
Oil and Grease	Quarterly	EPA 1664A	mg/L	0.71	4.40	NE	<0.71	--	**10**	**15**
Oil and Grease	Quarterly	Calculated	lb/day	--	--	--	**0.0588**	--	**13**	**19**
Ammonia Nitrogen (as N)	Quarterly	SM 4500 NH3G	mg/L	0.082	0.20	NE	<0.082	--	--	--
Settleable Solids	Quarterly	SM 2540F	mL/L/hr	0.1	0.10	NE	<0.091	--	**0.1**	**0.3**
Temperature	Quarterly	Temperature	°F	--	--	NE	**77**	**71**	--	**86**
Turbidity	Quarterly	SM 2130B	NTU	0.1	0.10	NE	**0.24**	--	**50**	**75**
Salinity	2x/year	SM 2520B	--	2	2.00	NE	**1.37**	--	--	--
Chronic Toxicity (see Table 7)	2x/year	--	See Table 7	--	--	NE	--	--	--	--

Table 3. NPDES Effluent Monitoring, November and December 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Sampling Frequency	Analytical Method	Units	MDL[c]	RL[c]	ML[a]	11/8/2016	12/27/2016	Discharge Limits[b]	
									Monthly Average	Daily Maximum
Di-isopropyl Ether	Annually	EPA 8260B	µg/L	0.017	1.00	NE	<0.017	--	--	--
Methyl ethyl ketone	Annually	EPA 8260B	µg/L	0.48	10.00	NE	<0.48	--	--	--
Methylene Blue Active Substances	Annually	SM 5540C	mg/L	0.03	0.20	NE	<0.03	--	--	--
Nitrate + Nitrite as N	Annually	EPA 300.0	mg/L	0.077	0.50	NE	<0.077	--	--	--
Sulfides	Annually	SM 4500 SD	mg/L	0.05	0.10	NE	<0.05	--	--	--
Tert-amyl-methyl Ether	Annually	EPA 8260B	µg/L	0.039	1.00	NE	<0.039	--	--	--
TCDD Equivalents	Annually	EPA 8290	pg/L	--	--	NE	<0.0	--	--	--
Other Priority Pollutants (see Table 4)	Annually	--	See Table 4	--	--	--	--	--	--	--

Notes:

[a] ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is also the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

[b] California Regional Water Quality Control Board Waste Discharge Requirements (WDRs) under Order No. R4-2016-0309.

[c] The highest MDL and RL during this reporting period are shown.

-- = not measured or not analyzed

Reported value is estimated.

< = not detected above the MDL

° F = degrees Fahrenheit

µg/L = micrograms per liter

J = detected at a concentration below the RL and above the MDL.

lb/day = pounds per day

MDL = laboratory method detection limit

mg/L = milligrams per liter

ML = minimum level. See note a.

mL/L/hr = milliliters per liter per hour

NE = not established

pg/L = picograms per liter

RL = reporting limit

TPH = total petroleum hydrocarbons

TABLE 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/8/2016	ML[a]
Antimony	EPA 200.8	µg/L	0.026	0.5	**0.47 J**	0.50
Arsenic	EPA 200.8	µg/L	0.016	0.1	**12**	2
Beryllium	EPA 200.8	µg/L	0.026	0.5	<0.026	0.50
Cadmium	EPA 200.8	µg/L	0.0098	0.25	<0.0098	0.25
Nickel	EPA 200.8	µg/L	0.038	1	**1.5**	1
Selenium	EPA 200.8	µg/L	0.07	0.5	**0.20 J**	2.0
Silver	EPA 200.8	µg/L	0.023	0.25	<0.023	0.25
Thallium	EPA 200.8	µg/L	0.17	2.5	<5.0	1.0
Total Chromium	EPA 200.8	µg/L	0.086	0.5	<0.086	0.50
Chromium (III) (Total Cr - Cr VI)	Calculated	µg/L	0.086	0.5	<0.086	NA
Aroclor-1016	EPA 8082	µg/L	0.061	0.2	<0.061	0.5
Aroclor-1221	EPA 8082	µg/L	0.2	0.2	<0.2	0.5
Aroclor-1232	EPA 8082	µg/L	0.12	0.2	<0.12	0.5
Aroclor-1242	EPA 8082	µg/L	0.15	0.2	<0.15	0.5
Aroclor-1248	EPA 8082	µg/L	0.06	0.2	<0.06	0.5
Aroclor-1254	EPA 8082	µg/L	0.06	0.2	<0.06	0.5
Aroclor-1260	EPA 8082	µg/L	0.051	0.2	<0.051	0.5
4,4'-DDD	EPA 8081A	µg/L	0.00033	0.001	<0.00033	0.05
4,4'-DDE	EPA 8081A	µg/L	0.00037	0.001	<0.00037	0.05
4,4'-DDT	EPA 8081A	µg/L	0.00016	0.001	<0.00016	0.01
Aldrin	EPA 8081A	µg/L	0.00025	0.001	<0.00025	0.005
Alpha Endosulfan	EPA 8081A	µg/L	0.00031	0.001	<0.00031	0.02
Alpha-BHC	EPA 8081A	µg/L	0.00022	0.001	<0.00022	0.01
Beta Endosulfan	EPA 8081A	µg/L	0.00027	0.001	<0.00027	0.01
Beta-BHC	EPA 8081A	µg/L	0.00041	0.001	<0.00041	0.005
Chlordane	EPA 8081A	µg/L	0.076	0.1	<0.076	0.1
Delta-BHC	EPA 8081A	µg/L	0.00027	0.001	<0.00027	0.005
Dieldrin	EPA 8081A	µg/L	0.00024	0.001	<0.00024	0.01
Endosulfan Sulfate	EPA 8081A	µg/L	0.00051	0.001	<0.00051	0.05
Endrin	EPA 8081A	µg/L	0.00017	0.001	<0.00017	0.01
Endrin Aldehyde	EPA 8081A	µg/L	0.00064	0.002	<0.00064	0.01
Gamma-BHC	EPA 8081A	µg/L	0.00019	0.001	<0.00019	0.02
Heptachlor	EPA 8081A	µg/L	0.00023	0.001	<0.00023	0.01
Heptachlor Epoxide	EPA 8081A	µg/L	0.0002	0.001	<0.00020	0.01
Toxaphene	EPA 8081A	µg/L	0.084	0.4	<0.084	0.5
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.068	1	<0.068	2
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.031	1	<0.031	1
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.062	1	<0.062	2
1,1-Dichloroethene	EPA 8260B	µg/L	0.087	1	<0.087	2
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.06	1	<0.06	5
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.04	1	<0.04	2
1,2-Dichloropropane	EPA 8260B	µg/L	0.062	1	<0.062	1
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.057	1	<0.057	1
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.03	1	<0.03	1
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	0.14	0.5	<0.14	1
Acrolein	EPA 8260B	µg/L	0.56	5	<0.56	5
Acrylonitrile	EPA 8260B	µg/L	0.3	2	<0.3	2
Bromodichloromethane	EPA 8260B	µg/L	0.031	1	<0.031	2
Bromoform	EPA 8260B	µg/L	0.32	1	<0.32	2
Bromomethane	EPA 8260B	µg/L	0.32	1	<0.32	2
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.044	1	<0.044	2
Carbon Tetrachloride	EPA 8260B	µg/L	0.057	0.5	<0.057	2
Chlorobenzene	EPA 8260B	µg/L	0.036	1	<0.036	2
Chloroethane	EPA 8260B	µg/L	0.099	1	<0.099	2
Chloroform	EPA 8260B	µg/L	0.036	1	<0.036	2
Chloromethane	EPA 8260B	µg/L	0.12	1	<0.12	2
Dibromochloromethane	EPA 8260B	µg/L	0.072	1	<0.072	2
Hexachlorobutadiene	EPA 8260B	µg/L	0.11	1	<0.11	1
Methylene Chloride	EPA 8260B	µg/L	0.28	2	<0.28	2
Naphthalene	EPA 8260B	µg/L	0.048	1	<0.048	1

TABLE 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/8/2016	ML[a]
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.07	1	<0.07	1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.039	1	<0.039	2
Tetrachloroethene	EPA 8260B	µg/L	0.16	1	<0.16	2
Trichloroethene	EPA 8260B	µg/L	0.12	1	<0.12	2
Vinyl Chloride	EPA 8260B	µg/L	0.095	0.5	<0.095	2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	0.7	1	<0.7	1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	0.43	5	<0.43	10
2,4-Dichlorophenol	EPA 8270C	µg/L	0.6	1	<0.6	5
2,4-Dimethylphenol	EPA 8270C	µg/L	0.52	1	<0.52	2
2,4-Dinitrophenol	EPA 8270C	µg/L	2.4	5	<2.4	5
2,4-Dinitrotoluene	EPA 8270C	µg/L	0.99	2	<0.99	5
2,6-Dinitrotoluene	EPA 8270C	µg/L	0.74	2	<0.74	5
2-Chloronaphthalene	EPA 8270C	µg/L	0.5	2	<0.5	10
2-Chlorophenol	EPA 8270C	µg/L	0.65	2	<0.65	5
2-Nitrophenol	EPA 8270C	µg/L	0.42	2	<0.42	10
3,3'-Dichlorobenzidine	EPA 8270C	µg/L	0.88	5	<0.88	5
4,6-Dinitro-2-Methylphenol	EPA 8270C	µg/L	2.2	5	<2.2	5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	0.69	2	<0.69	5
4-Chloro-3-Methylphenol	EPA 8270C	µg/L	0.67	1	<0.67	1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	µg/L	0.68	2	<0.68	5
4-Nitrophenol	EPA 8270C	µg/L	1.7	2	<1.7	10
Acenaphthene	EPA 8270C	µg/L	0.48	1	<0.48	1
Acenaphthylene	EPA 8270C	µg/L	0.64	2	<0.64	10
Anthracene	EPA 8270C	µg/L	0.79	2	<0.79	10
Benzidine	EPA 8270C	µg/L	1	5	<1	5
Benzo (a) Anthracene	EPA 8270C	µg/L	0.52	2	<0.52	5
Benzo (a) Pyrene	EPA 8270C	µg/L	0.73	2	<0.73	10
Benzo (b) Fluoranthene	EPA 8270C	µg/L	0.66	2	<0.66	10
Benzo (g,h,i) Perylene	EPA 8270C	µg/L	0.94	2	<0.94	5
Benzo (k) Fluoranthene	EPA 8270C	µg/L	0.8	2	<0.8	10
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	0.58	2	<0.58	5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	0.52	1	<0.52	1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	0.73	2	<0.73	2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	1.1	3	<1.1	5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	0.59	2	<0.59	10
Chrysene	EPA 8270C	µg/L	0.73	2	<0.73	10
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	0.92	3	<0.92	10
Diethyl Phthalate	EPA 8270C	µg/L	0.85	2	<0.85	2
Dimethyl Phthalate	EPA 8270C	µg/L	0.55	2	<0.55	2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	0.74	2	<0.74	10
Di-n-Octyl Phthalate	EPA 8270C	µg/L	0.85	2	<0.85	10
Fluoranthene	EPA 8270C	µg/L	0.7	1	<0.7	1
Fluorene	EPA 8270C	µg/L	0.73	2	<0.73	10
Hexachlorobenzene	EPA 8270C	µg/L	0.71	1	<0.71	1
Hexachlorocyclopentadiene	EPA 8270C	µg/L	0.26	1	<0.26	5
Hexachloroethane	EPA 8270C	µg/L	0.52	1	<0.52	1
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/L	0.92	2	<0.92	10
Isophorone	EPA 8270C	µg/L	0.51	1	<0.51	1
Nitrobenzene	EPA 8270C	µg/L	0.55	1	<0.55	1
N-Nitrosodimethylamine	EPA 8270C	µg/L	0.45	2	<0.45	5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	0.59	2	<0.59	5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	0.8	1	<0.8	1

TABLE 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/8/2016	ML[a]
Pentachlorophenol	EPA 8270C	µg/L	0.45	1	<0.45	5
Phenanthrene	EPA 8270C	µg/L	0.6	2	<0.6	5
Pyrene	EPA 8270C	µg/L	0.62	2	<0.62	10
2,3,7,8-TCDD	EPA 8290	pg/L	0.98	10	<10	NE
Asbestos	EPA 600 94 134, 100.2	MFL	0.2	0.2	<0.2	NE
Cyanide (Total)	EPA 335.4	mg/L	0.0019	0.005	<0.0019	NE

Notes:

[a] ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is also the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

< = not detected above the MDL

µg/L = micrograms per liter

J = detected at a concentration below the RL and above the MDL. Reported value is estimated.

MDL = laboratory method detection limit

MFL = million fibers per liter

mg/L = milligrams per liter

ML = minimum level. See note 1.

NE = not established

NPDES = National Pollutant Discharge Elimination System

pg/L = picograms per liter

RL = laboratory reporting limit

TABLE 5. NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/8/2016	ML[a]
pH	SM 4500 HB	s.u.	0.1	0.1	**9.6**	NE
Temperature	Temperature	°F	--	--	**82.5**	NE
Hardness (as CaCO3)	SM 2340B	mg/L	1	1	**300**	NE
2,3,7,8-TCDD	EPA 8290	pg/L	0.66	11	<11	NE
Arsenic	EPA 200.8	µg/L	0.016	0.10	**5.4**	2
Lead	EPA 200.8	µg/L	0.053	0.5	**0.17 J**	0.5
Aroclor-1016	EPA 8082	µg/L	0.061	0.20	<0.061	0.5
Aroclor-1221	EPA 8082	µg/L	0.2	0.2	<0.2	0.5
Aroclor-1232	EPA 8082	µg/L	0.12	0.20	<0.12	0.5
Aroclor-1242	EPA 8082	µg/L	0.15	0.20	<0.15	0.5
Aroclor-1248	EPA 8082	µg/L	0.06	0.20	<0.06	0.5
Aroclor-1254	EPA 8082	µg/L	0.06	0.20	<0.06	0.5
Aroclor-1260	EPA 8082	µg/L	0.051	0.20	<0.051	0.5
Cadmium	EPA 200.8	µg/L	0.0098	0.25	**0.12 J**	0.25
Mercury	EPA 245.1	µg/L	0.018	0.05	<0.018	0.2
Antimony	EPA 200.8	µg/L	0.026	0.50	**1**	0.50
Beryllium	EPA 200.8	µg/L	0.026	0.50	<0.026	0.50
Total Chromium	EPA 200.8	µg/L	0.086	0.50	**0.32 J**	0.50
Chromium (III) (Total Cr - Cr VI)	CALCCR3	µg/L	0.086	0.50	<0.086	NA
Copper	EPA 200.8	µg/L	0.26	0.5	**4.7**	0.5
Nickel	EPA 200.8	µg/L	0.038	1.0	**1.6**	1
Selenium	EPA 200.8	µg/L	0.07	0.5	**2.4**	2.0
Silver	EPA 200.8	µg/L	0.023	0.25	<0.023	0.25
Thallium	EPA 200.8	µg/L	0.034	0.5	**0.058 J**	1.0
Zinc	EPA 200.8	µg/L	0.039	1	**10**	1.0
Chromium (VI)	EPA 7199	µg/L	0.066	0.2	**0.24**	0.5
4,4'-DDD	EPA 8081A	µg/L	0.00033	0.001	<0.00033	0.05
4,4'-DDE	EPA 8081A	µg/L	0.00037	0.001	<0.00037	0.05
4,4'-DDT	EPA 8081A	µg/L	0.00016	0.001	<0.00016	0.01
Aldrin	EPA 8081A	µg/L	0.00025	0.001	<0.00025	0.005
Alpha Endosulfan	EPA 8081A	µg/L	0.0003	0.001	<0.00031	0.02
Alpha-BHC	EPA 8081A	µg/L	0.00022	0.001	<0.00022	0.01
Beta Endosulfan	EPA 8081A	µg/L	0.00027	0.001	<0.00027	0.01
Beta-BHC	EPA 8081A	µg/L	0.00041	0.001	<0.00041	0.005
Chlordane	EPA 8081A	µg/L	0.076	0.10	<0.076	0.1
Delta-BHC	EPA 8081A	µg/L	0.00027	0.001	<0.00027	0.005
Dieldrin	EPA 8081A	µg/L	0.00024	0.001	<0.00024	0.01
Endosulfan Sulfate	EPA 8081A	µg/L	0.00051	0.001	<0.00051	0.05
Endrin	EPA 8081A	µg/L	0.00017	0.001	<0.00017	0.01
Endrin Aldehyde	EPA 8081A	µg/L	0.00064	0.002	<0.00064	0.01
Gamma-BHC	EPA 8081A	µg/L	0.00019	0.001	<0.00019	0.02
Heptachlor	EPA 8081A	µg/L	0.00023	0.001	<0.00023	0.01
Heptachlor Epoxide	EPA 8081A	µg/L	0.0002	0.001	<0.0002	0.01
Toxaphene	EPA 8081A	µg/L	0.084	0.4	<0.084	0.5
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.068	1.0	<0.068	2
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.031	1.0	<0.031	1
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.062	1.0	<0.062	2
1,1-Dichloroethane	EPA 8260B	µg/L	0.022	0.50	<0.022	1.0
1,1-Dichloroethene	EPA 8260B	µg/L	0.087	1.00	<0.087	2
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.060	1.0	<0.06	5
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.04	1.0	<0.04	2
1,2-Dichloroethane	EPA 8260B	µg/L	0.064	0.50	<0.064	2.0
1,2-Dichloropropane	EPA 8260B	µg/L	0.062	1.0	<0.062	1
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.057	1.0	<0.057	1
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.03	1.0	<0.03	1
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	0.14	0.5	<0.14	1
Acrolein	EPA 8260B	µg/L	0.56	5	<0.56	5
Acrylonitrile	EPA 8260B	µg/L	0.30	2	<0.3	2
Benzene	EPA 8260B	µg/L	0.036	1.0	**0.04 J**	2.0

TABLE 5. NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/8/2016	ML[a]
Bromodichloromethane	EPA 8260B	µg/L	0.031	1.0	<0.031	2
Bromoform	EPA 8260B	µg/L	0.32	1.0	<0.32	2
Bromomethane	EPA 8260B	µg/L	0.32	1	<0.32	2
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.04	1.0	<0.044	2
Carbon Tetrachloride	EPA 8260B	µg/L	0.06	0.5	<0.057	2
Chlorobenzene	EPA 8260B	µg/L	0.036	1.0	<0.036	2
Chloroethane	EPA 8260B	µg/L	0.099	1.0	<0.099	2
Chloroform	EPA 8260B	µg/L	0.036	1.0	<0.036	2
Chloromethane	EPA 8260B	µg/L	0.12	1.0	**0.19 J**	2
Dibromochloromethane	EPA 8260B	µg/L	0.072	1.0	<0.072	2
Ethylbenzene	EPA 8260B	µg/L	0.0	1	<0.036	2.0
Hexachlorobutadiene	EPA 8260B	µg/L	0.1	1	<0.11	1
Hexachlorobenzene	EPA 8270C	µg/L	0.7	1	<0.71	1
Hexachloroethane	EPA 8270C	µg/L	0.52	1	<0.52	1
Methylene Chloride	EPA 8260B	µg/L	0.28	2.0	<0.28	2
Naphthalene	EPA 8260B	µg/L	0.048	1	<0.048	1
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.070	1.0	<0.07	1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.04	1.0	<0.039	2
Tetrachloroethene	EPA 8260B	µg/L	0.16	1.0	<0.16	2
Toluene	EPA 8260B	µg/L	0.042	2.0	**0.06 J**	2.0
Trichloroethene	EPA 8260B	µg/L	0.120	1.0	<0.12	2
Vinyl Chloride	EPA 8260B	µg/L	0.095	0.5	<0.095	2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	0.7	1	<0.7	1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	0.43	5	<0.43	10
2,4-Dichlorophenol	EPA 8270C	µg/L	0.6	1	<0.6	5
2,4-Dimethylphenol	EPA 8270C	µg/L	0.52	1	<0.52	2
2,4-Dinitrophenol	EPA 8270C	µg/L	2.4	5	<2.4	5
2,4-Dinitrotoluene	EPA 8270C	µg/L	1.0	2	<0.99	5
2,6-Dinitrotoluene	EPA 8270C	µg/L	0.7	2	<0.74	5
2-Chloronaphthalene	EPA 8270C	µg/L	0.5	2	<0.5	10
2-Chlorophenol	EPA 8270C	µg/L	0.7	2	<0.65	5
2-Nitrophenol	EPA 8270C	µg/L	0.42	2	<0.42	10
3,3'-Dichlorobenzidine	EPA 8270C	µg/L	0.88	5	<0.88	5
4,6-Dinitro-2-Methylphenol	EPA 8270C	µg/L	2.2	5	<2.2	5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	0.69	2	<0.69	5
4-Chloro-3-Methylphenol	EPA 8270C	µg/L	0.67	1	<0.67	1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	µg/L	0.68	2	<0.68	5
4-Nitrophenol	EPA 8270C	µg/L	1.7	2	<1.7	10
Acenaphthene	EPA 8270C	µg/L	0.48	1	<0.48	1
Acenaphthylene	EPA 8270C	µg/L	0.64	2	<0.64	10
Anthracene	EPA 8270C	µg/L	0.79	2	<0.79	10
Benzidine	EPA 8270C	µg/L	1	5	<1	5
Benzo (a) Anthracene	EPA 8270C	µg/L	0.52	2	<0.52	5
Benzo (a) Pyrene	EPA 8270C	µg/L	0.73	2	<0.73	10
Benzo (b) Fluoranthene	EPA 8270C	µg/L	0.66	2	<0.66	10
Benzo (g,h,i) Perylene	EPA 8270C	µg/L	0.94	2	<0.94	5
Benzo (k) Fluoranthene	EPA 8270C	µg/L	0.8	2	<0.8	10
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	0.58	2	<0.58	5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	0.5	1	<0.52	1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	0.73	2	<0.73	2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	1.1	3	<1.1	5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	0.6	2	<0.59	10
Chrysene	EPA 8270C	µg/L	0.73	2	<0.73	10
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	0.92	3	<0.92	10
Diethyl Phthalate	EPA 8270C	µg/L	0.85	2	<0.85	2
Dimethyl Phthalate	EPA 8270C	µg/L	0.55	2	<0.55	2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	0.7	2	<0.74	10
Di-n-Octyl Phthalate	EPA 8270C	µg/L	0.9	2	<0.85	10

TABLE 5. NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/8/2016	ML[a]
Fluoranthene	EPA 8270C	µg/L	0.7	1	<0.7	1
Fluorene	EPA 8270C	µg/L	0.73	2	<0.73	10
Hexachlorocyclopentadiene	EPA 8270C	µg/L	0.26	1	<0.26	5
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/L	0.92	2	<0.92	10
Isophorone	EPA 8270C	µg/L	0.51	1	<0.51	1
Nitrobenzene	EPA 8270C	µg/L	0.55	1	<0.55	1
N-Nitrosodimethylamine	EPA 8270C	µg/L	0.45	2	<0.45	5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	0.59	2	<0.59	5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	0.8	1	<0.8	1
Pentachlorophenol	EPA 8270C	µg/L	0.5	1	<0.45	5
Phenanthrene	EPA 8270C	µg/L	0.6	2	<0.6	5
Phenol	EPA 8270C	µg/L	0.37	1	<0.37	1
Pyrene	EPA 8270C	µg/L	0.62	2	<0.62	10
Cyanide (Total)	EPA 335.4	mg/L	0.0019	0.005	**0.002 J**	NE
Asbestos	EPA 600 94 134, 100.2	MFL	0.99	0.99	<0.99	NE
Salinity	SM 2520B	ppt	2	2	**0.83**	NE

Notes:

[a] ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is also the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

< = not detected above the MDL
µg/L = micrograms per liter
J = detected at a concentration below the RL and above the MDL. Reported value is estimated.
MDL = laboratory method detection limit
MFL = million fibers per liter
mg/L = milligrams per liter
ML = minimum level. See note 1.
NE = not established
NPDES = National Pollutant Discharge Elimination System
pg/L = picograms per liter
ppt = parts per trillion
RL = laboratory reporting limit

Table 6. NPDES TCDD Equivalent Calculation, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Dioxin or Furan Congener [a]	Analysis Method	Units	Effluent Concentration (11/08/16)[b]	Receiving Water Concentration (11/08/16)[b]	TEF	BEF	Effluent Concentration x TEF x BEF[c]	Receiving Water Concentration x TEF x BEF[c]
1,2,3,4,6,7,8-Hepta CDD	EPA 8290	pg/L	< 21	< 21	0.01	0.05	5.25E-03	5.25E-03
1,2,3,4,6,7,8-Hepta CDF	EPA 8290	pg/L	< 21	< 21	0.01	0.01	1.05E-03	1.05E-03
1,2,3,4,7,8,9-Hepta CDF	EPA 8290	pg/L	< 21	< 21	0.01	0.4	4.20E-02	4.20E-02
1,2,3,4,7,8-Hexa CDD	EPA 8290	pg/L	< 21	< 21	0.1	0.3	3.15E-01	3.15E-01
1,2,3,4,7,8-Hexa CDF	EPA 8290	pg/L	< 21	< 21	0.1	0.08	8.40E-02	8.40E-02
1,2,3,6,7,8-Hexa CDD	EPA 8290	pg/L	< 21	< 21	0.1	0.1	1.05E-01	1.05E-01
1,2,3,6,7,8-Hexa CDF	EPA 8290	pg/L	< 21	< 21	0.1	0.2	2.10E-01	2.10E-01
1,2,3,7,8,9-Hexa CDD	EPA 8290	pg/L	< 21	< 21	0.1	0.1	1.05E-01	1.05E-01
1,2,3,7,8,9-Hexa CDF	EPA 8290	pg/L	< 21	< 21	0.1	0.6	6.30E-01	6.30E-01
1,2,3,7,8-Penta CDD	EPA 8290	pg/L	< 21	< 21	1	0.9	9.45E+00	9.45E+00
1,2,3,7,8-Penta CDF	EPA 8290	pg/L	< 21	< 21	0.05	0.2	1.05E-01	1.05E-01
2,3,4,6,7,8-Hexa CDF	EPA 8290	pg/L	< 21	< 21	0.1	0.7	7.35E-01	7.35E-01
2,3,4,7,8-Penta CDF	EPA 8290	pg/L	< 21	< 21	0.5	1.6	8.40E+00	8.40E+00
2,3,7,8-Tetra CDD	EPA 8290	pg/L	< 4.2	< 4.2	1	1	2.10E+00	2.10E+00
2,3,7,8-Tetra CDF	EPA 8290	pg/L	< 4.2	< 4.2	0.1	0.8	1.68E-01	1.68E-01
Octa CDD	EPA 8290	pg/L	< 42	< 42	0.0001	0.01	2.10E-05	2.10E-05
Octa CDF	EPA 8290	pg/L	< 42	< 42	0.0001	0.02	4.20E-05	4.20E-05
Tetra CDD-Equivalent							22.5	22.5

Notes:

[a] Congeners per California Regional Water Quality Control Board Waste Discharge Requirements

[b] If the result is not detected, the data are shown as less than (<) the method detection limit.

[c] If the result is not detected, half the method detection limit for the respective congener is used to calculate TCDD-Equivalent

BEF = bioaccumulation equivalency factor
CDD = chlorodibenzodioxin
CDF = chlordibenzofuran
pg/L = picograms per liter
TCDD = tetrachlorodibenzodioxin
TEF = toxicity equivalency factor

Table 7. Maximum Daily Flow in the Coyote Creek, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Date	Maximum Daily Flow Rate (cfs)[a]	Comments
10/01/16	8	
10/02/16	8	
10/03/16	13	
10/04/16	9	
10/05/16	9	
10/06/16	9	
10/07/16	11	
10/08/16	7	
10/09/16	6	
10/10/16	8	
10/11/16	8	
10/12/16	8	
10/13/16	17	
10/14/16	7	
10/15/16	5	
10/16/16	5	
10/17/16	522	
10/18/16	14	
10/19/16	6	
10/20/16	5	
10/21/16	9	October 2016 sampling conducted.
10/22/16	29	
10/23/16	114	
10/24/16	437	
10/25/16	27	
10/26/16	19	
10/27/16	18	
10/28/16	24	
10/29/16	13	
10/30/16	23	
10/31/16	12	
11/01/16	14	
11/02/16	15	
11/03/16	11	
11/04/16	14	
11/05/16	17	
11/06/16	8	
11/07/16	13	
11/08/16	10	November 2016 sampling conducted.
11/09/16	11	
11/10/16	18	
11/11/16	23	
11/12/16	26	
11/13/16	20	
11/14/16	33	
11/15/16	27	
11/16/16	32	
11/17/16	42	
11/18/16	40	
11/19/16	24	
11/20/16	476	
11/21/16	2,750	
11/22/16	42	
11/23/16	17	
11/24/16	9	
11/25/16	58	
11/26/16	1,180	
11/27/16	208	

Table 7. Maximum Daily Flow in the Coyote Creek, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

Date	Maximum Daily Flow Rate (cfs)[a]	Comments
11/28/16	18	
11/29/16	11	
11/30/16	15	
12/01/16	11	
12/02/16	21	
12/03/16	15	
12/04/16	12	
12/05/16	12	
12/06/16	15	
12/07/16	13	
12/08/16	14	
12/09/16	28	
12/10/16	11	
12/11/16	15	
12/12/16	22	
12/13/16	25	
12/14/16	27	
12/15/16	2,750	
12/16/16	6,620	
12/17/16	90	
12/18/16	28	
12/19/16	21	
12/20/16	12	
12/21/16	3,630	
12/22/16	4,760	
12/23/16	136	
12/24/16	359	
12/25/16	81	
12/26/16	17	
12/27/16	11	
12/28/16	12	December 2016 sampling conducted.
12/29/16	18	
12/30/16	18	
12/31/16	28	

Notes:

[a] A Wet Weather Event is any day when the maximum daily flow of the Coyote Creek is greater than or equal to 156 cfs. A Dry Weather Event is any day when the maximum daily flow of the Coyote Creek is less than 156 cfs.

cfs = cubic feet per second

Table 8. NPDES Effluent and Receiving Water Acute and Chronic Toxicity Monitoring, Fourth Quarter 2016

SFPP Norwalk Pump Station, Norwalk, California

			Sampling Dates	10/19, 10/21, 10/24	
			Test dates	10/20 to 10/27	
				2016 Annual Toxicity/TRE 3	
Analyte[a]	Accelerated Trigger[b]	Units	EFF-001 (Effluent)	RSW-001 (Upstream)	RSW-002 (Downstream)
Acute - *A. affinis* (top smelt) – Survival	<90% / <70%	% survival	100	100	100
Chronic - *A. affinis* (top smelt) – Growth	>1.0	NOEC TUc	1.0	1.0	1.0

Notes:

[a] Acute and chronic toxicity analysis was conducted using EPA Method 600-R-95-136.

[b] Accelerated testing will be implemented if either the acute toxicity result is less than 90% survival as the or less than 70% survival in any single test, or if the chronic toxicity result is more than 1 TUc.

NOEC = no observed effect concentration

NPDES = National Pollutant Discharge Elimination System

TRE = toxicity reduction evaluation

TUc = chronic toxicity unit, where TUc = 100/NOEC

Figures

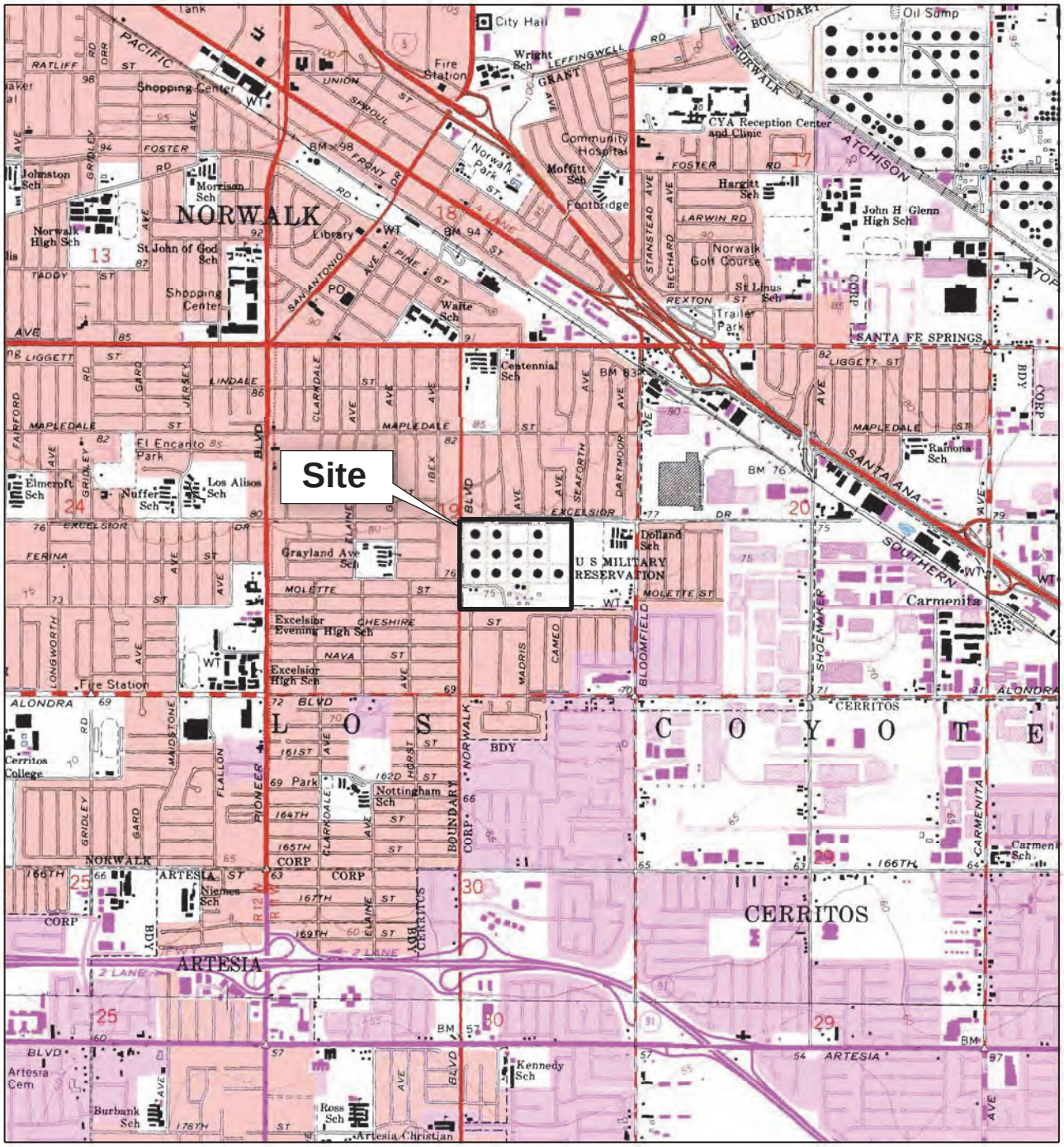
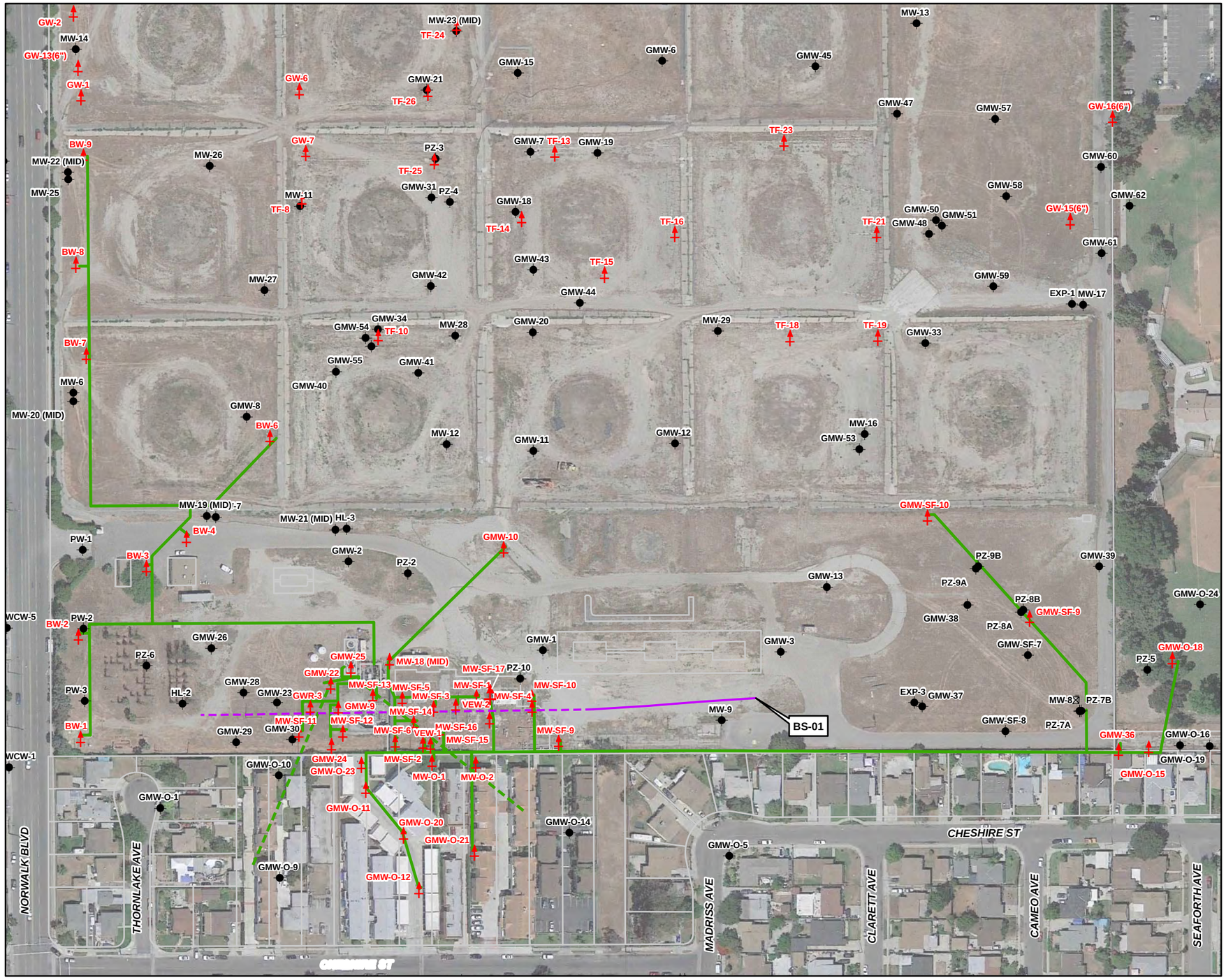


Figure 1
Site Location Map
SFPP Norwalk Pump Station
Norwalk, California

BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP
LOS ALAMITOS 1964, CALIFORNIA. PHOTO-REVISED 1981.
WHITTIER 1965, CALIFORNIA. PHOTO-REVISED 1981.



Legend

- Existing Groundwater Monitoring Well
- Existing Remediation Well
- Horizontal Biosparge Well (dashed line depicts approximate lateral extent of well screen)
- KMEP Remediation Piping Layout (above ground and below ground)
- Horizontal Vapor Extraction Well Piping

Imagery Source:
Google Earth April 17, 2013.

N

0 75 150 300
Feet

Figure 2
Remediation System Layout
SFPP Norwalk Pump Station
Norwalk, California

ch2m.

Appendix A
Laboratory Analytical Reports and Chain-of-Custody Documents

BIOASSAY REPORT

CHRONIC
BIOASSAYS CONDUCTED
October 20 through 27, 2016

Prepared For
Kinder Morgan
SFPP Norwalk Pump Station
Norwalk, CA

Prepared by

Applied Sciences Laboratory (ASL)

1100 NE Circle Boulevard, Suite 300
Corvallis, Oregon 97330
541-768-3160

NELAC #OR100022
State of Washington Department of Ecology (WDOE), Lab ID C1233
California State Environmental Laboratory Accreditation Program, Certificate No.: 1726

Report Date: November 11, 2016
Lab I.D. No. B3653

CONTENTS

INTRODUCTION

CH2M Applied Sciences Laboratory (ASL) conducted chronic and acute dual-endpoint bioassays from October 20 through 27, 2016, on effluent samples collected from Kinder Morgan's groundwater treatment system located at the SFPP Norwalk Pump Station, Norwalk, California. The testing was conducted using the topsmelt (*Atherinops affinis*).

OVERVIEW OF REGULATORY GUIDANCE

The following provides an overview and excerpts of applicable permit specifics, regulatory guidance, and other relevant information. This is intended only as a helpful guide, from a laboratory perspective, for understanding test outcomes. The final responsibility for interpretation of results remains with the client and/or regulatory agency.

Testing was performed as part of Accelerated Monitoring and TRE Initial Investigation triggered as a result of the September 2015 testing. The testing was conducted according to the Toxicity Reduction Evaluation (TRE) work plan (Kinder Morgan/CH2M HILL communication to the California Regional Water Quality Control Board, dated September 30, 2011).

Using this approach, the laboratory control was used both for the assessment of test acceptability criteria and as the basis of comparison for the field samples collected.

SUMMARY OF TEST RESULTS

Exhibits 1 and 2 provide a summary of the final test results.

EXHIBIT 1
Summary of Acute Test Results

Sample ID	Species	NOEC (%)	LOEC (%)	Survival in 100% Sample
Upstream (RSW-001) - Salinity Adjusted to 30 ppt	*A. affinis*	100	> 100	100%
Effluent - Salinity Adjusted to 30 ppt	*A. affinis*	100	> 100	100%
Downstream (RSW-002) - Salinity Adjusted to 30 ppt	*A. affinis*	100	> 100	100%

Note: acronyms are as defined below.

From the TRE Workplan: Survival rates in the Downstream Sample (RSW-002) of greater than or equal to 90% indicates that the Effluent does not cause or contribute to downstream acute toxicity.

For this series of bioassay tests, the Downstream Sample (RSW-002) clearly meets the conditions outlined in the TRE Workplan, therefore, the Effluent does not cause or contribute to downstream acute toxicity.
More detailed information is provided in the Results and Data Interpretation sections.

EXHIBIT 2
Summary of Chronic (7-day) Test Results

Sample ID	Species	NOEC (%)	LOEC (%)	TUc in the Sample
Upstream (RSW-001) - Salinity Adjusted to 30 ppt	*A. affinis*	100	> 100	1.0
Effluent - Salinity Adjusted to 30 ppt	*A. affinis*	100	>100	1.0
Downstream (RSW-002) - Salinity Adjusted to 30 ppt	*A. affinis*	100	> 100	1.0

Note: acronyms are as defined below Exhibit 2.

From the TRE Workplan: A TUc value in the Downstream Sample (RSW-002) equal to 1.0 indicates that the Effluent does not cause or contribute to downstream chronic toxicity.

For this series of bioassay tests, the Downstream Sample (RSW-002) clearly meets the conditions outlined in the TRE Workplan, therefore, the Effluent does not cause or contribute to downstream chronic toxicity.

More detailed information is provided in the Results and Data Interpretation sections.

ACRONYM DEFINITIONS (from EPA guidance):

NOEC = No Observed Effect Concentration: The highest test concentration that causes no observable adverse effects on the test organisms (i.e. no statistically significant reduction from the control).
LOEC = Low Observed Effect Concentration: The lowest test concentration that does cause an observable adverse effect on the test organisms (i.e. is statistically significant reduction from the control).
LC_{50} = Lethal Concentration (50%): A point estimate of the test concentration that would cause death in 50 percent of the test population.
IC_{25} = Inhibition Concentration (25%): A point estimate of the test concentration that would cause a 25 percent reduction of a non-quantal biological measurement (i.e. growth, reproduction, etc.) for the test population.

METHODS AND MATERIALS

TEST METHODS

The *A. affinis* chronic test methods were performed according to: *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine Organisms*, First Edition, (1995), EPA/600/R-95-136 (Method 1006.0). Additional guidance for Method 1006.0 was taken from the procedures updated in 2002 (EPA 821-R-02-014).

DEVIATIONS FROM PROTOCOLS

Deviations from required procedures in the test methods:

- None noted.

Deviations from recommended procedures in the test methods:

- None noted.

TEST DESIGN

The following summarizes the conditions used for both overall testing and the specifics for each test (observations and notations can be found on the datasheets in Appendix A):

Overall Test Design:

- Acute tests: acute survival data was collected from the chronic tests (dual-endpoint).
- Chronic tests: 100 percent sample + dilution water for the control.

Test Organism Conditions:

- All organisms tested were fed and maintained during culturing, acclimation, and testing as prescribed by the EPA (2002).
- The test organisms appeared vigorous and in good condition prior to testing.

A. affinis chronic test:

- Source: Aquatic BioSystems, Fort Collins, Colorado
- Age: 9 to 15 Days post-hatch and within an 24-hour age range
- Design: Five test vessels per concentration, five organisms per vessel
- Test Solution Renewal: Daily
- Monitoring:
    - Daily: Survival
    - Daily: DO in pre and post-renewal solutions, all concentrations
    - Daily: Salinity and pH in pre-renewal solutions (all concentrations) and post-renewal solutions (control and highest remaining concentration)
    - Daily: Temperature in pre-renewal solutions, all concentrations
- Termination: 7 Days.
- Endpoints: Survival (at termination) and Growth (per organism added). Growth (per surviving organism) used for Test Acceptability Criteria evaluation.
- Acute Dual-Endpoint: 96 hour Survival (from the 4 day chronic exposure data)

DILUTION WATER

The dilution water used was the standard culture water used by CH2M-ASL:

- Artificial sea water (Tropic Marin® sea salts and Milli-Q equivalent, ultra-pure water) with a salinity to match the test design plus or minus 2 parts per thousand.

SAMPLE COLLECTION AND STORAGE

Samples were collected by CH2M personnel. The "Receiving Water - Upstream (RSW-001)" (collected 50 feet upstream of the discharge) samples, the "Receiving Water - Downstream (RSW-002)" (collected 50 feet downstream of the discharge) and the "Effluent" samples were collected on October 19, 21, and 24, 2016.The samples were accepted as scheduled by CH2M's Applied Sciences Laboratory. Chain of Custody and Sample Receipt Records are provided in Appendix C.

- All samples were received within the EPA recommended 0 to 6 °C range.
- All samples were initially used for test initiation or test solution renewal within the EPA recommended maximum holding time of 36 hours of sample collection.
- All subsequent uses of a sample occurred within the EPA recommended maximum holding time of 72 hours past the time of initial use of that sample.
- Following receipt, the samples were stored in the dark at 0 to 6 °C until test solutions were prepared and tested.

SAMPLE PREPARATION

Samples used during these tests were:

- Temperature adjusted prior to test initiation and each daily renewal.
- Filtered through a 60 µm net upon arrival.
- For the Saltwater testing: Subsamples of the samples received were salinity adjusted by the addition of Tropic Marin® sea salts.

DATA ANALYSIS

The statistical analyses performed for the acute dual end point tests were those outlined in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, USEPA Office of Water, Fifth Edition (2002), EPA-821-R-02-012, using CETIS.

The statistical analyses performed for the chronic tests were those outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, USEPA Office of Water, Fourth Edition (EPA 2002), EPA-821-R-02-013, using CETIS.

- The specific statistical analysis and CETIS version used for each endpoint evaluation is listed with the statistical outputs included with each test in Appendix A.
- If any additional analysis methods were also used, an explanation of the rationale and reference to the source method is included with the presentation of those results below.

RESULTS AND DISCUSSION

The raw data sheets for all tests are presented in Appendix A.

ACUTE BIOASSAYS

Table 1 summarizes the survival data for the *A. affinis* acute dual-endpoint tests that were salinity adjusted with Tropic Marin® sea salts to a salinity of 30 ppt. These toxicity endpoints were measured after 4-day exposures in the chronic test.

Table 1
Summary of Acute Results
Percent Survival

Concentration (%)	0 hr	24 hr	48 hr	72 hr	96 hr
A. affinis					
Laboratory Control	100	100	100	100	100
Receiving Water Upstream 100%	100	100	100	100	100
Effluent 100%	100	100	100	100	100
Receiving Water Downstream 100%	100	100	100	100	100

Receiving Water – Upstream: The *A. affinis* acute dual-endpoint test indicated no statistically significant reduction in survival at the 100 percent Receiving Water – Upstream concentration when compared to the Laboratory Control. By EPA definition, the NOEC and the LOEC were 100 and greater than 100 percent, respectively.

Effluent: The *A. affinis* acute dual-endpoint test indicated no statistically significant reduction in survival at the 100 percent Effluent concentration when compared to the Laboratory Control. By EPA definition, the NOEC and the LOEC were 100 and greater than 100 percent, respectively.

Receiving Water – Downstream: The *A. affinis* acute dual-endpoint test indicated no statistically significant reduction in survival at the 100 percent Receiving Water – Downstream concentration when compared to the Laboratory Control. By EPA definition, the NOEC and the LOEC were 100 and greater than 100 percent, respectively.

From the TRE work plan "If toxicity, as defined by the accelerated monitoring triggers, is not detected in the sample collected from RSW-002 (50 feet downstream of discharge), then the effluent does not cause or contribute to downstream chronic toxicity and the Initial Investigation TRE will be considered complete".

CHRONIC BIOASSAYS

Table 2 summarizes the survival and biomass data for the *A. affinis* chronic tests that were salinity adjusted with Tropic Marin® Sea salts to a salinity of 30 ppt. These toxicity endpoints were measured after 7-day exposures.

Table 2
TRE
Summary of Chronic Results
A. affinis

Sample Concentration	**Percent Survival**	**Growth (i.e. Biomass) (mg)**
Laboratory Control	100	1.499
Receiving Water Upstream 100%	100	1.328
Effluent 100%	100	1.360
Receiving Water Downstream 100%	100	1.511

Receiving Water – Upstream: The *A. affinis* chronic test indicated no statistically significant reduction in survival or growth (biomass) at the 100 percent Receiving Water – Upstream concentration when compared to the Laboratory Control. By EPA definition, the NOEC and the LOEC were 100 and greater than 100 percent, respectively.

Effluent: The *A. affinis* chronic test indicated no statistically significant reduction in survival or growth (biomass) at the 100 percent Effluent concentration when compared to the Laboratory Control. By EPA definition, the NOEC and the LOEC were 100 and greater than 100 percent, respectively.

Receiving Water – Downstream: The *A. affinis* chronic test indicated no statistically significant reduction in survival or growth (biomass) at the 100 percent Receiving Water – Downstream concentration when compared to the Laboratory Control. By EPA definition, the NOEC and the LOEC were 100 and greater than 100 percent, respectively.

From the TRE work plan "If toxicity, as defined by the accelerated monitoring triggers, is not detected in the sample collected from RSW-002 (50 feet downstream of discharge), then the effluent does not cause or contribute to downstream chronic toxicity and the Initial Investigation TRE will be considered complete".

REFERENCE TOXICANT TESTS

Reference toxicant (reftox) testing is performed to document both initial and ongoing laboratory performance of the test method(s). While the health of the test organisms is primarily evaluated by the performance of the laboratory control, reftox test results also may be used to assess the health and sensitivity of the test organisms. Reftox test results within their respective cumulative summary (Cusum) chart limits are indicative of consistent laboratory performance and normal test organism sensitivity.

The results of the reftox tests indicate that the test organisms were within their respective cusum chart limits based on EPA guidelines. This demonstrates ongoing laboratory proficiency of the test methods and suggests normal test organism sensitivity in the associated client testing.

The *A. affinis* reftox test was conducted using copper chloride.

The data sheets for the reference toxicant tests are provided in Appendix B.

Tables 3 and 4 summarizes the reference toxicant test results and Cusum chart limits.

Table 3
Acute Dual-Endpoint Reference Toxicant Test
Cu (as $CuCl_2$) ug/L

Species (test)	Endpoint	Control Chart Limits
A. affinis (96 hour survival)	LC_{50} = 129	64 to 276

Table 4
Chronic Reference Toxicant Test
Cu (as $CuCl_2$) ug/L

Species (test)	Endpoint	Control Chart Limits
A. affinis (7 day survival)	LC_{50} = 111	34 to 250
A. affinis (7 day survival)	IC_{25} = 78	25 to 183
A. affinis (7 day growth)	IC_{25} = 75	27 to 165

APPENDIX A

RAW DATA SHEETS

CH2M HILL **FRESHWATER TOXICITY TEST: SAMPLE AND DILUTION WATER DATA**

Client: Kinder Morgan EP - Norwalk — SDG # B3653-01 — Test Initiation: Date 10/20/16

Contact: Cam Irvine/ Daniel Jablonski 916.335.2369/ 213-228-8271 — Test Termination: Date 10-27-2016

Sample ID Number	Field ID	Collected Date (mm/dd/yy)	Collected Time (Pacific Zone)	Date Received / Treated	Temp (°C) as Rc'vd	Total Residual Chlorine (mg/l) ☐ Dechlorination allowed as Rc'vd / after Dechlor.	Ammonia NH_3-N mg/l as Rc'vd	Salinity (ppt)	Alkalinity mg/l as $CaCO_3$ as Rc'vd	DO (mg/L) as Rc'vd	pH as Rc'vd	Cond. (uS) as Rc'vd	60 um filtered prior to use?
3653 -01	- Effluent	10/19/16	09:55	10/20/16	0.8	<0.02 / -	<0.10	2	131	10.5	7.4	2190	☑
-02	- Effluent, Adj to 30 ppt	Salinity adjusted on ->		10/20/16	-	- / -	-	31	-	-	-	-	☑
-03	- Effluent	10/21/16	08:15	10/22/16	3.5	0.03 / -	<0.10	2	141	12.0	7.3	2280	☑
-04	- Effluent, Adj to 30 ppt	Salinity adjusted on ->		10/22/16	-	- / -	-	30	-	-	-	-	☑
-05	- Effluent	10/24/16	09:30	10/25/16	0.3	0.02 / -	<0.10	2	324	9.9	7.1	2110	☑
-06	- Effluent, Adj to 30 ppt	Salinity adjusted on ->		10/25/16	-	- / -	-	30	-	-	-	-	☑
3653 -07	- Receiving Water	10/19/16	09:55	10/20/16	0.8	0.07 / -	<0.10	1	298	11.8	8.5	1354	☑
-08	- Receiving Water, Adj to 30 ppt	Salinity adjusted on ->		10/20/16	-	- / -	-	31	-	-	-	-	☑
-09	- Receiving Water	10/21/16	09:50	10/22/16	3.5	0.04 / -	<0.10	2	316	13.9	8.7	1632	☑
-10	- Receiving Water, Adj to 30 ppt	Salinity adjusted on ->		10/22/16	-	- / -	-	30	-	-	-	-	☑
-11	- Receiving Water	10/24/16	1110	10/25/16	0.3	0.02 / -	0.69	2	75	10.6	7.6	414	☑
-12	- Receiving Water, Adj to 30 ppt	Salinity adjusted on ->		10/25/16	-	- / -	-	30	-	-	-	-	☑
			Reporting Limits:		na	0.02 mg/L	0.10 mg/L	4 mg/L	4 mg/L	na	na	na	na

Note: "-" Indicates data collection or dechlorination not needed. Any other adjustments to samples prior to use are documented in Comments below or on Dilutions page.

Dilution Water	ID#	Hardness mg/l as $CaCO_3$	Alkalinity mg/l as $CaCO_3$	Salinity (ppt)
Art. Sea (30 ppt)	4423	-	123	30

Comments: ☑ Indicates the action was taken, (☐= action not taken): " - " = sample not dechlorinated, or analyte not collected/needed.

Note: likely only 1 sample of Receiving water ("RSW") to be collected.

It is REQUIRED that the client (Cam and/or Daniel) be notified within 24 hours of the test ending if the the test shows toxicity.

Water Quality Meters Used/ID#: Dissolved Oxygen # 4 pH # 11 Conductivity # 2

CH2M HILL **FRESHWATER TOXICITY TEST: SAMPLE AND DILUTION WATER DATA**

Client: Kinder Morgan EP - Norwalk — SDG # B 3653 -01 — Test Initiation: Date 10/20/16

Contact: Cam Irvine/ Daniel Jablonski 916.335.2369/ 213-228-8271 — Test Termination: Date 10-27-2016

Sample ID Number	Field ID	Collected Date (mm/dd/yy)	Collected Time (Pacific Zone)	Date Received / Treated	Temp (°C) as Rc'vd	Total Residual Chlorine (mg/l) ☐ Dechlorination allowed: as Rc'vd / after Dechlor.	Ammonia NH_3-N mg/l as Rc'vd	Salinity (ppt)	Alkalinity mg/l as $CaCO_3$ as Rc'vd	DO (mg/L) as Rc'vd	pH as Rc'vd	Cond. (uS) as Rc'vd	60 um filtered prior to use?
3653 -13	- Down Stream	10/19/16	09:55	10/20/16	0.8	0.06 / -	<0.10	2	287	11.2	8.7	1326	☑
-14	- Down Stream, Adj to 30 ppt	Salinity adjusted on ->		10/20/16	-	- / -	-	31	-	-	-	-	☑
-15	- Down Stream	10/21/16	09:54	10/22/16	3.5	0.05 / -	<0.10	2	329	13.5	8.7	1668	☑
-16	- Down Stream, Adj to 30 ppt	Salinity adjusted on ->		10/22/16	-	- / -	-	30	-	-	-	-	☑
-17	- Down Stream	~~10/24/16~~ 10/24/16	11:15	10/25/16	0.3	0.02 / -	0.63	2	78	10.5	7.5	377	☑
-18	- Down Stream, Adj to 30 ppt	Salinity adjusted on ->		10/25/16	-	- / -	-	30	-	-	-	-	☑
						/							
		Salinity adjusted on ->			-	- /	-		-	-	-	-	
						/							
		Salinity adjusted on ->			-	- /	-		-	-	-	-	
						/							
		Salinity adjusted on ->			-	- /	-		-	-	-	-	
			Reporting Limits:		na	0.02 mg/L	0.10 mg/L	4 mg/L	4 mg/L	na	na	na	na

Note: "-" Indicates data collection or dechlorination not needed. Any other adjustments to samples prior to use are documented in Comments below or on Dilutions page.

Dilution Water	ID#	Hardness mg/l as $CaCO_3$	Alkalinity mg/l as $CaCO_3$	Salinity (ppt)
Art. Sea (30 ppt)	4423	-	123	30

Comments: ☑ Indicates the action was taken, (☐= action not taken): " - " = sample not dechlorinated, or analyte not collected/needed.

Note: likely only 1 sample of Receiving water ("RSW") to be collected.

It is REQUIRED that the client (Cam and/or Daniel) be notified within 24 hours of the test ending if the the test shows toxicity.

Water Quality Meters Used/ID#: Dissolved Oxygen # 4 pH # 11 Conductivity # 2

CH2M HILL *FRESHWATER TOXICITY TEST: TEST ORGANISM INFORMATION*

Client Kinder Morgan EP - Norwalk Sample Designation (SDG): B 3653

Test Species Information	AA # 078 *Atherinops affinis* Chronic				
Organism Age at Initiation	12 days				
Test Container Size	400 ml				
Test Volume	200 ml				
Feeding: Type and Amount	*Artemia*, 2 x Daily				
Aeration: In Test Chambers via Slow Bubble :	☒ None ☐ Prior to use ☐ @ _____ hrs				
Acclimation Period	2 Days				
Organism Source	ABS				
Size	-				
Loading Rate	-				

Dissolved Oxygen aeration justifications (in test chambers):

Test(s): ☐ All ☐ _____

Date:

Comments:

Note: ☐ Indicates task r Note: ☐ Indicates task r Note: ☐ Indicates task not done, ☑ Indicates task was done. Temp adj

Client: Kinder Morgan EP - Norwalk

Ditto marks ('') indic Ditto marks ('') indic Ditto marks ('') indicate that the same SDG, batch of dilution water, c

Atherinops affinis - Chronic

Test Concentration (%)	Sample Volume (mls)	Final Volume (mls)
100	1000	1800

Sample ID:		30 ppt	30 ppt	30 ppt	30 ppt			
Test Day	Lab Control - 30 ppt Water ID Used	"Receiving Water" Sample ID Used	"Effluent" Sample ID Used	"Downstream" Sample ID Used	Date	Time	Initials
0 (Initiation)	ID # ~~4423~~ 4423	B 365308	B 3653-02	B 3653-13	10/20/16	13:00	JW
1	ID # 4423	B 3653-08	B 3653-02	B 3653-13	10/21/"16	09:00	BAM
2	ID # 4423	B -10	B -04	B -16	10/22/"16	12:30	C
3	ID # 4423	B -10	B -04	B -16	10/23/"16	10:05	MC
4	ID # 4423	B -10	B -04	B -16	10/24/"16	09:15	BAM
5	ID # 4423	B -12	B -06	B -18	10/25/16	13:30	C
6	ID # 4423	B -12	B -06	B -18	10/26/16	08:45	C

Client: Kinder Morgan EP - Norwall Topsmelt Chronic Topsmelt Chronic SDG: B3653 WaterBath # 10

A : REPLICATE	1	3	4	2	
B : REPLICATE	1	2	3	4	
C : REPLICATE	4	3	1	2	
D : REPLICATE	4	2	3	1	
E : REPLICATE	2	1	3	4	

Number = Test Concentration (1= control, 2= Lowest conc., etc.)

CH2M HILL

ATHERINOPS AFFINIS 7-DAY SURVIVAL AND WATER QUALITY DATA

Random Template Used: See randomization sheet | Waterbath/incubator Used: # 10 | Date Initiated 10 / 20 /2016 Time 15 :00

Initial sample ID B 3653 -01;07,-13 | Date Terminated 10/27 /2016 Time 14 :00

Client Kinder Morgan EP | Sample Description

Tech: Day 0 dw Day 1 e Day 2 e Day 3 MC Day 4 MC Day 5 MC/e Day 6 e Day 7 BAM/MS

Time Day 0 1500 Day 1 1025 Day 2 1245 Day 3 1705 Day 4 1250 Day 5 1515 Day 6 1310 Day 7 1460

Conc. or Percent	Day	Number of Live Organisms					Dissolved O_2 (mg/l)		pH		Salinity		Temp. (°C)	Therm. ID #
		A	B	C	D	E	Pre	Post	Pre	Post	Pre	Post	Pre	
Lab Control - 30 ppt	0	5	5	5	5	5		6.8		8.24		29	Post: 21 20.2	213
	1	5	5	5	5	5	5.5	6.5	7.8	8.4	29	29	20.8	202
	2	5	5	5	5	5	4.9	6.4	7.8	8.3	30	30	20.2	202
	3	5	5	5	5	5	6.3	7.0	8.0	8.4	29	29	20.3	202
	4	5	5	5	5	5	5.7	6.8	7.9	8.5	30	29	20.3	202
	5	5	5	5	5	5	5.8	6.3	7.7	8.3	30	30	20.2	177
	6	5	5	5	5	5	5.4	6.0	7.7	8.4	29	30	20.2	177
	7	5	5	5	5	5	6.5		7.8		29		20.3	202
Receiving Water - 30 ppt	0	5	5	5	5	5		7.3		8.0		31	Post: 20.3	
	1	5	5	5	5	5	5.3	7.0	7.8	8.0	30	31	20.8	
	2	5	5	5	5	5	5.0	6.9	8.0	8.1	31	31	20.2	
	3	5	5	5	5	5	6.6	7.9	8.2	8.1	30	30	20.7	
	4	5	5	5	5	5	5.6	7.0	8.2	8.2	30	30	20.2	
	5	5	5	5	5	5	5.5	6.4	8.0	8.1	30	30	20.2	
	6	5	5	5	5	5	5.2	6.3	7.7	8.0	30	30	20.2	
	7	5	5	5	5	5	6.2		7.7		30		20.2	
Effluent - 30 ppt	0	5	5	5	5	5		7.5		7.6		30	Post: 20.5	
	1	5	5	5	5	5	5.3	7.7	7.7	7.6	30	31	20.7	
	2	5	5	5	5	5	5.1	7.4	7.9	7.7	30	30	20.3	
	3	5	5	5	5	5	6.1	8.0	7.9	7.5	30	30	20.2	
	4	5	5	5	5	5	5.7	7.3	8.0	7.6	30	30	20.2	
	5	5	5	5	5	5	5.3	6.9	8.0	7.2	30	30	20.2	
	6	5	5	5	5	5	4.9	6.7	7.8	7.4	30	30	20.2	
	7	5	5	5	5	5	6.2		7.7		30		20.1	
Down Stream - 30 pptw	0	5	5	5	5	5		7.7		8.0		30	Post: 20.6	
	1	5	5	5	5	5	5.2	7.8	8.1	8.1	31	30	20.7	
	2	5	5	5	5	5	5.3	7.6	8.1	8.1	31	31	20.2	
	3	5	5	5	5	5	6.0	8.0	8.1	8.0	30	30	20.1	
	4	5	5	5	5	5	5.8	7.5	8.2	8.1	30	30	20.1	
	5	5	5	5	5	5	5.1	7.5	8.0	7.9	30	30	20.2	
	6	5	5	5	5	5	5.1	7.4	7.8	7.9	30	30	20.2	
	7	5	5	5	5	5	5.9		7.7		30		20.1	
													Post:	
													Post:	

✓ Indicates one organism inadvertently poured off during solution renewal, replaced into container.
"M" = organism missing, start count reduced. "Inj" = organism injured, remove from stats.
"F" = fungus noted on dead organisms.
☐ Aeration in test chambers begun @ _____ (Note observations on Test Organism Info sheet)

Pre =Pre-renewal solutions. Post =Post-renewal solutions.
Day 0 Temperatures = Post-renewals
Therm ID# = Thermometer ID used for all measurements that day.
(23.8) = Temp. out of recommended range

ATHERINOPS AFFINIS 7-DAY GROWTH DATA

Client: Kinder Morgan | Tins Labeled As: Kinder (10/20)

B3653-01, -07, -13 | Start Date: 10/20/2106

Sample Description:

Technician:	KJ	KJ
Date:	10/28/2016	7/18/2016
Balance Serial #:	B328543647	B328543647

Percent	Replicate	Total Weight (mg)	Tare Weight (mg)	No. of Fish
Pre Weights	A	1183.07	1179.14	5
	B	1186.62	1182.84	5
	C	1184.88	1180.70	5
	D	1180.89	1177.60	5
	E			
Lab Control 30 ppt	A	1175.78	1168.99	5
	B	1160.22	1153.47	5
	C	1170.16	1162.33	5
	D	1165.09	1158.18	5
	E	1162.42	1153.23	5
Rec. Water 30 ppt	A	1169.49	1161.97	5
	B	1162.57	1156.67	5
	C	1169.46	1162.85	5
	D	1139.38	1132.19	5
	E	1164.10	1158.13	5
Effluent 30 ppt	A	1169.37	1160.23	5
	B	1172.47	1166.04	5
	C	1152.30	1146.59	5
	D	1159.45	1154.43	5
	E	1170.22	1162.52	5
Downstream 30 ppt	A	1143.87	1135.03	5
	B	1168.87	1162.51	5
	C	1160.68	1152.33	5
	D	1156.96	1150.53	5
	E	1173.05	1165.26	5

weigh to 0.01 mg

As per EPA-600-R-95-136, Section 11.12.1 Acceptability of Test Results: "The mean weight per larvae must exceed 0.85 mg … in the control"

For this test, the average dry weight per surviving control larvae = 0.76 mg.

ATHERINOPS AFFINIS 7-DAY GROWTH DATA

Client: Kinder Morgan | Tins Labeled As: Kinder (10/20)

B3653-01, -07, -13 | Start Date: 10/20/2106

Sample Description:

Technician:	KJ	KJ
Date:	10/24/2016	7/18/2016
Balance Serial #:	B328543647	B328543647

Percent	Replicate	Total Weight (mg)	Tare Weight (mg)	No. of Fish
Pre Weights	A	1183.07	1179.14	5
	B	1186.62	1182.84	5
	C	1184.88	1180.70	5
	D	1180.89	1177.60	5
	E			
Lab Control 30 ppt	A		1168.99	5
	B		1153.47	5
	C		1162.33	5
	D		1158.18	5
	E		1153.23	5
Rec. Water 30 ppt	A		1161.97	5
	B		1156.67	5
	C		1162.85	5
	D		1132.19	5
	E		1158.13	5
Effluent 30 ppt	A		1160.23	5
	B		1166.04	5
	C		1146.59	5
	D		1154.43	5
	E		1162.52	5
Downstream 30 ppt	A		1135.03	5
	B		1162.51	5
	C		1152.33	5
	D		1150.53	5
	E		1165.26	5

weigh to 0.01 mg

As per EPA-600-R-95-136, Section 11.12.1 Acceptability of Test Results: "The mean weight per larvae must exceed 0.85 mg … in the control"

For this test, the average dry weight per surviving control larvae = 0.76 mg.

CETIS Summary Report

Test Code: B365302aac | 10-4861-2467

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	06-9471-0745	**Code:**	B3653-02 ✓	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk ✓		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -02 is 100% Kinder Morgan Effluent ✓

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
15-1833-4852	4d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
11-1202-4219	7d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
10-6494-1533	Mean Dry Biomass-mg	100	>100	N/A	21.6%	1	Equal Variance t Two-Sample Test

Point Estimate Summary

Analysis ID	Endpoint	Level	%	95% LCL	95% UCL	TU	Method
09-2763-0395	4d Survival Rate	EC50	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
11-1202-4219	7d Survival Rate	Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria ✓
10-6494-1533	Mean Dry Biomass-mg	Control Resp	1.499	0.85 - NL	Yes	Passes Acceptability Criteria ✓
10-6494-1533	Mean Dry Biomass-mg	PMSD	0.216	NL - 0.5	No	Passes Acceptability Criteria ✓

4d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.421	1.577	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.36	1.237	1.483	1.004	1.828	0.1468	0.3283	24.14%	9.26%

4d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.828	1.286	1.142	1.004	1.54

 Analyst: DW QA: MC

CETIS Summary Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d

Sample ID:	06-9471-0745	**Code:**	B3653-02	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -02 is 100% Kinder Morgan Effluent

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
11-1202-4219	7d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
10-6494-1533	Mean Dry Biomass-mg	100	>100	N/A	21.6%	1	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
11-1202-4219	7d Survival Rate	Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria
10-6494-1533	Mean Dry Biomass-mg	Control Resp	1.499	0.85 - NL	Yes	Passes Acceptability Criteria
10-6494-1533	Mean Dry Biomass-mg	PMSD	0.216	NL - 0.5	No	Passes Acceptability Criteria

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.421	1.577	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.36	1.237	1.483	1.004	1.828	0.1468	0.3283	24.14%	9.26%

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.828	1.286	1.142	1.004	1.54

B3653-02 → Lab Control (dilution H_2O) vs. Effluent 100%
(dilution H_2O)

CETIS Analytical Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	09-2763-0395	**Endpoint:**	4d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	11 Nov-16 9:26	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	06-9471-0745	**Code:**	B3653-02	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -02 is 100% Kinder Morgan Effluent

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	264932416	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	N/A	N/A	<1	N/A	N/A

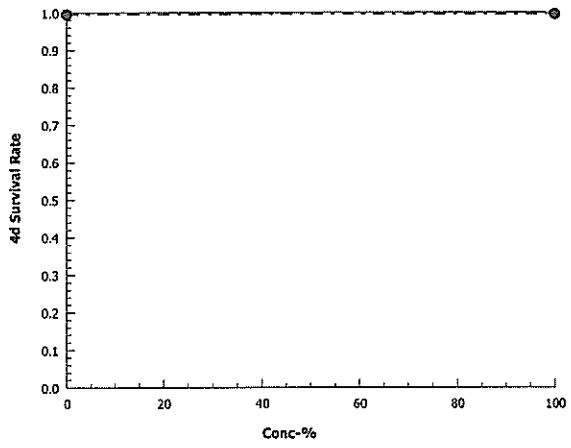
4d Survival Rate Summary

			Calculated Variate(A/B)								
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	5	1	1	1	0	0	0.0%	0.0%	25	25
100		5	1	1	1	0	0	0.0%	0.0%	25	25

4d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Graphics



Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	11-1202-4219	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:14	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	06-9471-0745	**Code:**	B3653-02	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -02 is 100% Kinder Morgan Effluent

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d survival rate endpoint	5.0%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
Dilution Water		100	27.5		8	1	0.5000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	8			
Total	0	0	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	65540	13.75	<0.0001	Unequal Variances

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
100		5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%

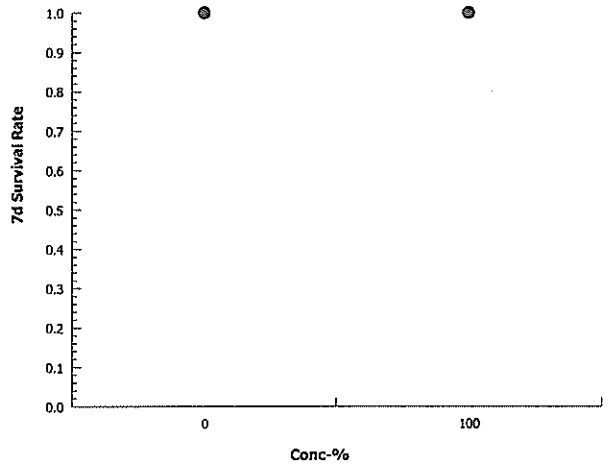
Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

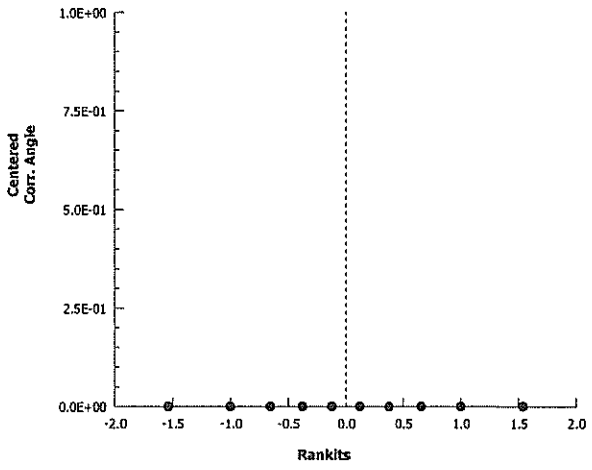
Analysis ID:	11-1202-4219	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:14	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Graphics





Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	10-6494-1533	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:14	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	06-9471-0745	**Code:**	B3653-02	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -02 is 100% Kinder Morgan Effluent

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoin	21.6%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
Dilution Water		100	0.7972	1.86	8	0.3238	0.2242	Non-Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	0	1.803	2.29	0.4923	No Outliers Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.04816958	0.04816958	1	0.6355	0.4483	Non-Significant Effect
Error	0.606362	0.07579526	8			
Total	0.6545316	0.1239648	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.461	23.15	0.4044	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9371	0.7411	0.5208	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.419	1.578	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.36	1.235	1.485	1.004	1.828	0.1468	0.3283	24.14%	9.26%

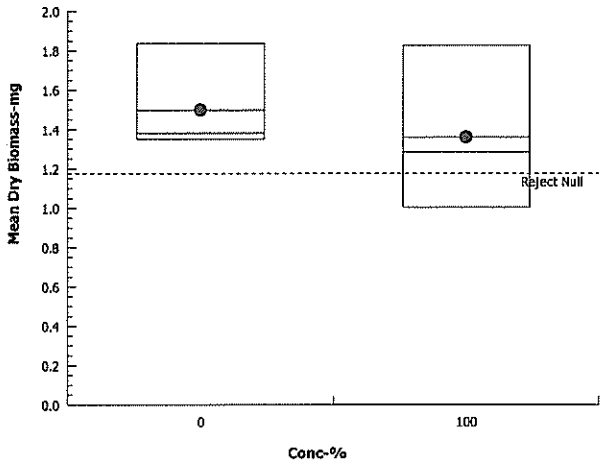
Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

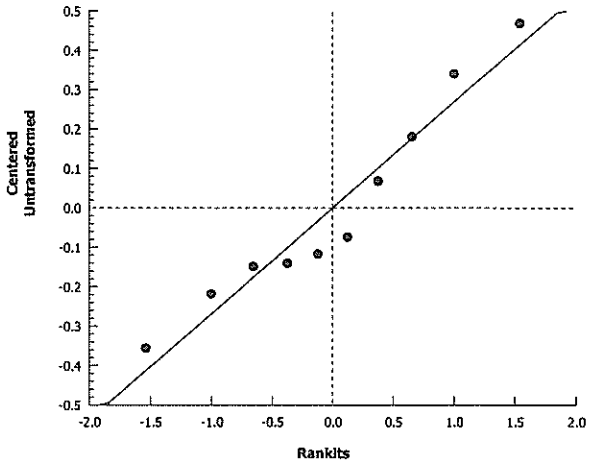
Analysis ID:	10-6494-1533	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:14	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.828	1.286	1.142	1.004	1.54

Graphics





CETIS Summary Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	18-3052-4550	**Code:**	B3653-08 ✓	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk ✓		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -08 is the Upstream (Receiving Water)! ✓

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
16-5505-4461	4d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
18-9857-1465	7d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
12-2696-8526	Mean Dry Biomass-mg	100	>100	N/A	14.1%	1	Equal Variance t Two-Sample Test

Point Estimate Summary

Analysis ID	Endpoint	Level	%	95% LCL	95% UCL	TU	Method
03-1897-3058	4d Survival Rate	EC50	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
18-9857-1465	7d Survival Rate	Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria ✓
12-2696-8526	Mean Dry Biomass-mg	Control Resp	1.499	0.85 - NL	Yes	Passes Acceptability Criteria ✓
12-2696-8526	Mean Dry Biomass-mg	PMSD	0.141	NL - 0.5	No	Passes Acceptability Criteria ✓

4d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.421	1.577	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.328	1.274	1.381	1.18	1.504	0.06441	0.144	10.85%	11.42%

4d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.504	1.18	1.322	1.438	1.194

CETIS Summary Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d

Sample ID:	18-3052-4550	**Code:**	B3653-08	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -08 is the Upstream (Receiving Water)!

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
18-9857-1465	7d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
12-2696-8526	Mean Dry Biomass-mg	100	>100	N/A	14.1%	1	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
18-9857-1465	7d Survival Rate	Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria
12-2696-8526	Mean Dry Biomass-mg	Control Resp	1.499	0.85 - NL	Yes	Passes Acceptability Criteria
12-2696-8526	Mean Dry Biomass-mg	PMSD	0.141	NL - 0.5	No	Passes Acceptability Criteria

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.421	1.577	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.328	1.274	1.381	1.18	1.504	0.06441	0.144	10.85%	11.42%

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.504	1.18	1.322	1.438	1.194

B3653-08 = Lab Control vs. Upstream (Receiving Water)

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	16-5505-4461	**Endpoint:**	4d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	11 Nov-16 9:28	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	18-3052-4550	**Code:**	B3653-08	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -08 is the Upstream (Receiving Water)!

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 4d survival rate endpoint	5.0%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
Dilution Water		100	27.5		8	1	0.5000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	8			
Total	0	0	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	65540	13.75	<0.0001	Unequal Variances

4d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
100		5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	18-9857-1465	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:24	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	18-3052-4550	**Code:**	B3653-08	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -08 is the Upstream (Receiving Water)!

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d survival rate endpoint	5.0%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
Dilution Water		100	27.5		8	1	0.5000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	8			
Total	0	0	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	65540	13.75	<0.0001	Unequal Variances

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
100		5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%

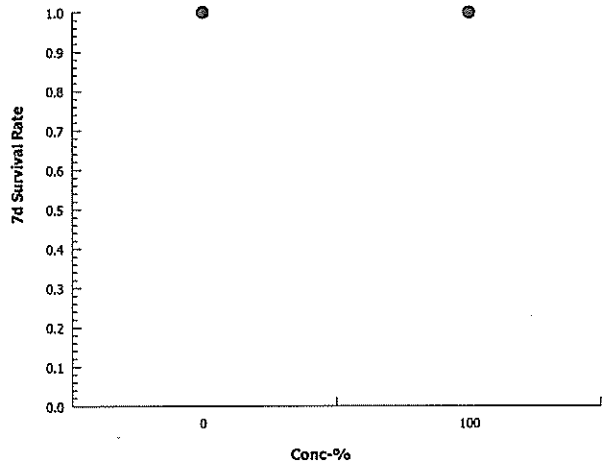
Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

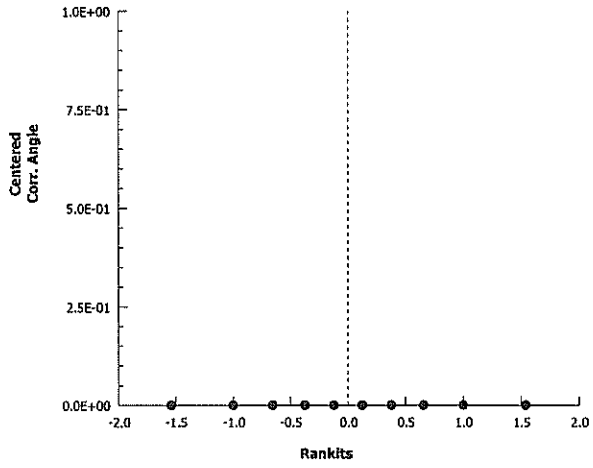
Analysis ID:	18-9857-1465	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:24	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Graphics





CETIS Analytical Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	12-2696-8526	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:24	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	18-3052-4550	**Code:**	B3653-08	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -08 is the Upstream (Receiving Water)!

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	4.1%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
Dilution Water		100	1.507	1.86	8	0.2113	0.0851	Non-Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	0	2.003	2.29	0.2315	No Outliers Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.07327878	0.07327878	1	2.271	0.1703	Non-Significant Effect
Error	0.2581761	0.03227201	8			
Total	0.3314549	0.1055508	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.111	23.15	0.4870	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.8539	0.7411	0.0647	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.419	1.578	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.328	1.273	1.382	1.18	1.504	0.06441	0.144	10.85%	11.42%

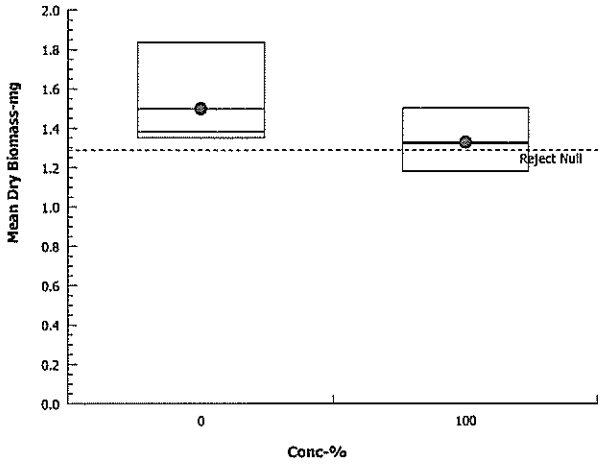
Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

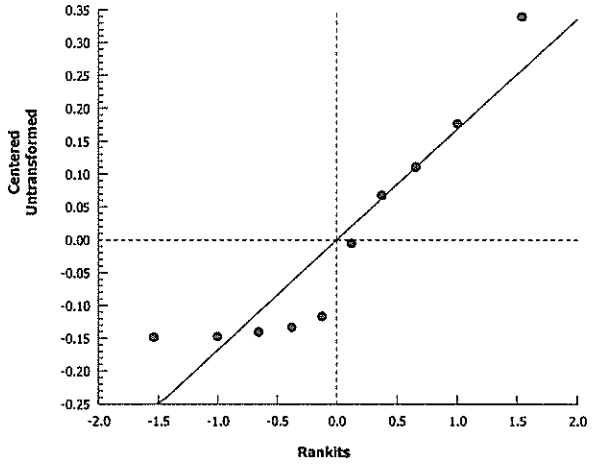
Analysis ID:	12-2696-8526	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:24	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.504	1.18	1.322	1.438	1.194

Graphics





CETIS Summary Report

Test Code: B365314aac | 10-9296-9038

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d

Sample ID:	10-0802-4267	**Code:**	B3653-14	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -14 is downstream sample

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
14-3372-3772	4d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
05-8477-0222	7d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
01-8851-0416	Mean Dry Biomass-mg	100	>100	N/A	17.0%	1	Equal Variance t Two-Sample Test

Point Estimate Summary

Analysis ID	Endpoint	Level	%	95% LCL	95% UCL	TU	Method
19-5518-7850	4d Survival Rate	EC50	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
05-8477-0222	7d Survival Rate	Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria ✓
01-8851-0416	Mean Dry Biomass-mg	Control Resp	1.499	0.85 - NL	Yes	Passes Acceptability Criteria ✓
01-8851-0416	Mean Dry Biomass-mg	PMSD	0.1702	NL - 0.5	No	Passes Acceptability Criteria ✓

4d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.421	1.577	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.511	1.427	1.595	1.272	1.768	0.1003	0.2243	14.85%	-0.8%

4d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.768	1.272	1.67	1.286	1.558

 Analyst: DW QA: MC

CETIS Summary Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d

Sample ID:	10-0802-4267	**Code:**	B3653-14	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -14 Is downstream sample

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
05-8477-0222	7d Survival Rate	100	>100	N/A	5.0%	1	Wilcoxon Rank Sum Two-Sample Test
01-8851-0416	Mean Dry Biomass-mg	100	>100	N/A	17.0%	1	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
05-8477-0222	7d Survival Rate	Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria
01-8851-0416	Mean Dry Biomass-mg	Control Resp	1.499	0.85 - NL	Yes	Passes Acceptability Criteria
01-8851-0416	Mean Dry Biomass-mg	PMSD	0.1702	NL - 0.5	No	Passes Acceptability Criteria

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.421	1.577	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.511	1.427	1.595	1.272	1.768	0.1003	0.2243	14.85%	-0.8%

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.768	1.272	1.67	1.286	1.558

B3653-14 = Lab Control (dilution H2O) VS. 100% downstream sample!

CETIS Analytical Report

Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	19-5518-7850	**Endpoint:**	4d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	11 Nov-16 9:29	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	10-0802-4267	**Code:**	B3653-14	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -14 Is downstream sample

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1.297E+09	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	N/A	N/A	<1	N/A	N/A

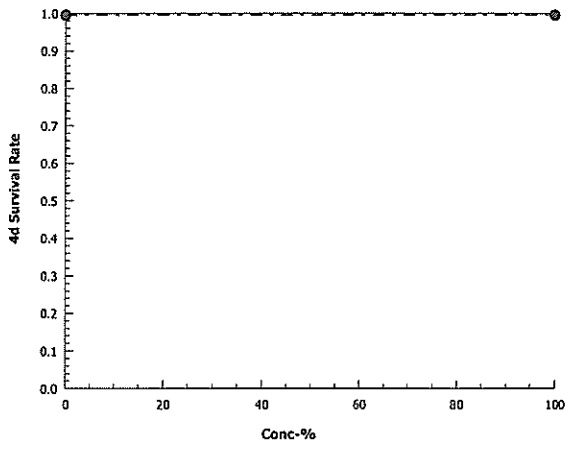
4d Survival Rate Summary

			Calculated Variate(A/B)								
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	5	1	1	1	0	0	0.0%	0.0%	25	25
100		5	1	1	1	0	0	0.0%	0.0%	25	25

4d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Graphics



Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	05-8477-0222	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:35	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	10-0802-4267	**Code:**	B3653-14	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -14 is downstream sample

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d survival rate endpoint	5.0%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
Dilution Water		100	27.5		8	1	0.5000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	8			
Total	0	0	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	65540	13.75	<0.0001	Unequal Variances

7d Survival Rate Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1	1	1	1	1	0	0	0.0%	0.0%
100		5	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
100		5	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%

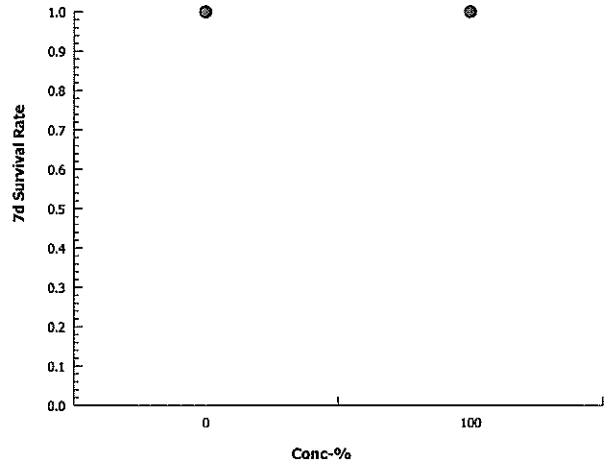
Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

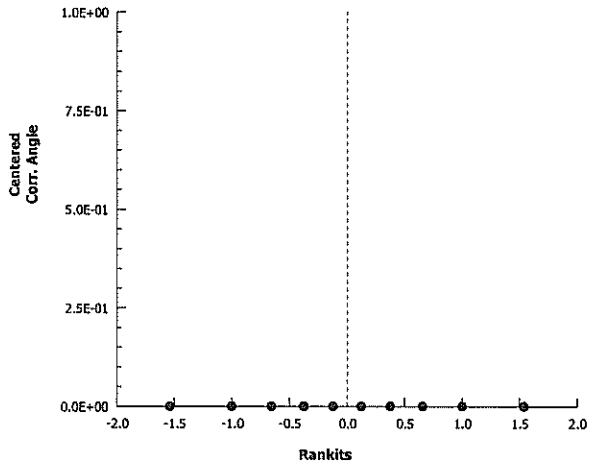
Analysis ID:	05-8477-0222	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:35	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

7d Survival Rate Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1	1	1	1	1
100		1	1	1	1	1

Graphics





Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

Analysis ID:	01-8851-0416	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:35	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes
Batch ID:	03-1406-1953	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	20 Oct-16 15:00	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Laboratory Seawater
Ending Date:	27 Oct-16 14:00	**Species:**	Atherinops affinis	**Brine:**	
Duration:	6d 23h	**Source:**	Aquatic Biosystems, CO	**Age:**	12d
Sample ID:	10-0802-4267	**Code:**	B3653-14	**Client:**	
Sample Date:	19 Oct-16 09:55	**Material:**	Unknown	**Project:**	
Receive Date:	20 Oct-16 10:40	**Source:**	Kinder Morgan - Norwalk		
Sample Age:	29h (0.8 °C)	**Station:**			

Sample Note: -14 Is downstream sample

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	7.0%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
Dilution Water		100	-0.08744	1.86	8	0.2551	0.5338	Non-Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	0	1.658	2.29	0.7708	No Outliers Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0003598248	0.0003598248	1	0.007646	0.9325	Non-Significant Effect
Error	0.3764892	0.04706115	8			
Total	0.3768491	0.04742098	9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.149	23.15	0.8962	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9193	0.7411	0.3515	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	5	1.499	1.419	1.578	1.35	1.838	0.09359	0.2093	13.96%	0.0%
100		5	1.511	1.425	1.596	1.272	1.768	0.1003	0.2243	14.85%	-0.8%

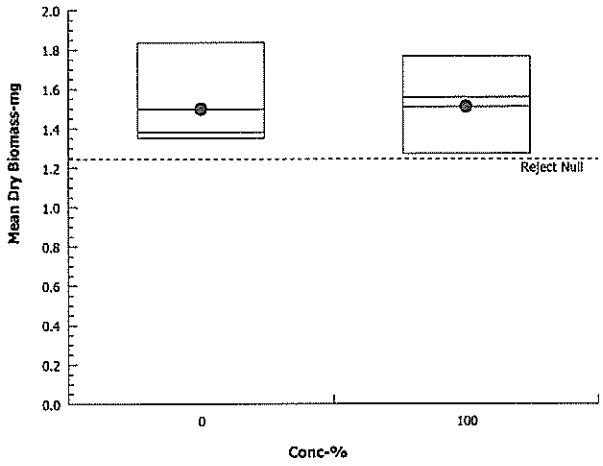
Pacific Topsmelt 7-d Survival and Growth Test — **CH2M HILL - ASL**

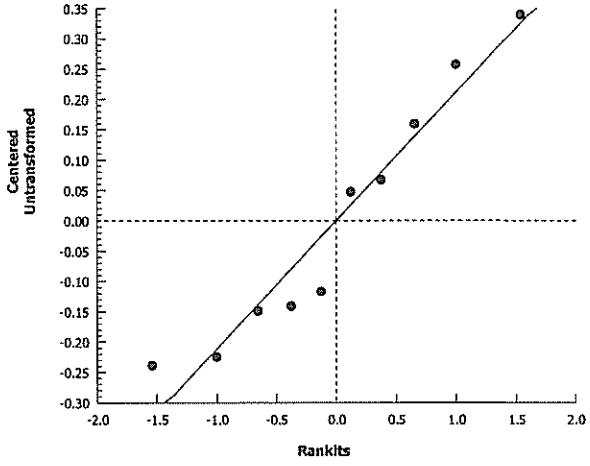
Analysis ID:	01-8851-0416	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.1
Analyzed:	28 Oct-16 13:35	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Mean Dry Biomass-mg Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Dilution Water	1.358	1.35	1.566	1.382	1.838
100		1.768	1.272	1.67	1.286	1.558

Graphics





APPENDIX B

REFERENCE TOXICANT DATA SHEETS

CH2M HILL

ATHERINOPS AFFINIS 7-DAY SURVIVAL AND WATER QUALITY DATA

Random Template Used: See randomization sheet
Waterbath/incubator Used: # 10
Date Initiated 10 / 20 / 2016 Time 13 : 00
Stock Sol. ID 2B 056 - 02
Date Terminated 10 / 27 / 2016 Time 09 : 50
Organism ID: AA 078
Test Container Size: 400 ml
Solution Volume / rep: 200 ml

Client QA / QC
Sample Description Cu (as CuCl2)

Tech: Day 0 BAM Day 1 BAM Day 2 [illegible] Day 3 MC Day 4 BAM Day 5 BAM/JW Day 6 BAM Day 7 BAM
Time Day 0 1300 Day 1 1130 Day 2 0935 Day 3 1150 Day 4 1030 Day 5 0950 Day 6 1100 Day 7 0950

Conc. or Percent	Day	Number of Live Organisms A	B	C	D	E	Dissolved O_2 (mg/l) Pre	Post	pH Pre	Post	Salinity Pre	Post	Temp. (°C) Pre	Therm. ID #
Control	0	5	5	5	5	5	ROB BAM [illegible]	8.0		8.3		29	Post: 20.9	202
	1	5	5	5	5	5	~~8~~ 5.4	6.8	7.8	8.3	29	29	20.9	202
	2	5	5	5	5	5	5.7	6.5	7.9	8.4	29	29	20.2	215
	3	5	5	5	5	5	6.2	6.9	7.7	8.2	29	29	20.3	202
	4	5	5	5	5	5	7.8	8.0	7.8	8.4	29	29	20.1	202
	5	5	5	5	5	5	7.9	7.9	7.9	8.4	29	29	20.0	202
	6	5	5	5	5	5	6.2	8.2	7.4	8.4	29	29	20.1	202
	7	5	5	5	5	5	7.0		7.3		29		20.3	177
32	0	5	5	5	5	5		8.3		8. ROB BAM 10-20-16			Post: 20.2	
	1	5	5	5	5	5	5.1	6.9	7.8		29		20.9	
	2	5	5	5	5	5	5.5	6.2	7.9		29		20.2	
	3	5	5	5	5	5	6.1	6.9	7.9		29		20.2	
	4	5	5	5	5	5	7.3	8.5	7.8		29		20.1	
	5	5	5	5	5	5	~~7.8~~ 6.4	8.0	7.8		29		20.1	
	6	5	5	5	5	5	6.2	8.2	7.6		29		20.0	
	7	5	5	5	5	5	7.0		7.7		29		20.3	
56	0	5	ROB ~~5~~ 6	5	5	5		8.4					Post: 20.2	
	1	5	BAM ~~5~~ 6	5	5	5	5.3	~~7~~8.0 *	7.9		28		20.9	
	2	5	10-24-16 ~~5~~ 6	5	5	5	5.5	6.6	7.9		29		20.2	
	3	5	~~5~~ 6	5	5	5	6.1	6.9	7.8		29		20.2	
	4	5	6	5	5	5	7.3	8.5	7.8		29		20.1	
	5	5	6	5	5	5	~~7.9~~ 6.5	8.1	7.9		29		20.1	
	6	5	6	5	5	5	6.1	8.3	7.7		29		20.0	
	7	5	6	5	5	5	6.7		7.8		29		20.3	
100	0	5	5	5	5	5		8.4					Post: 20.2	
	1	5	5	5	5	5	5.4	~~7~~8.0 *	7.9		28		21.0	
	2	3	4	3	5	5	5.6	6.6	7.9		29		20.2	
	3	3	4	3	3	5	6.1	6.9	7.9		29		20.2	
	4	3	4	3	1	4	7.4	8.5	7.9		29		20.2	
	5	~~2~~ 3	4	3	1	3	6.6	8.3	8.0		29		20.1	
	6	3	4	3	1	3	6.4	8.3	7.8		29		20.0	
	7	3	4	3	1	3	6.7		7.8		29		20.3	
180 (10-27-16 MC ROB)	0	5	5	5	5	5		8.4					Post: 20.2	
	1	5	5	5	5	5	5.4	~~7~~8.0 *	8.0		29		21.0	
	2	3	2	5	3	4	5.5	6.6	8.0		29		20.2	
	3	~~0~~ 2	0	3	1	2	6.0	6.9	7.9		29		20.2	
	4	2		2	0	1	7.4	8.4	8.0		29		20.2	
	5	1		2		0	7.7	8.3	8.1		29		20.1	
	6	1		2			6.7	8.5	8.0		29		20.1	
	7	1		2			6.6		8.1		29		20.3	
320	0	5	5	5	5	5		8.4		8.4		29	Post: 20.2	
	1	5	4	4	5	5	5.3	~~7~~8.0 *	7.9	8.3	29	29	21.0	
	2	3	2	1	4	3	5.5	6.6	8.0	8.4	29	28	20.2	
	3	1	10-24-16 2	1	0	2	6.0	7.0	7.9	8.3	29	29	20.2	
	4	0	ROB BAM ~~2~~ 1	1		1	7.6	8.3	8.0	8.4	29	29	20.2	
	5		0	1		1	7.3	8.3	8.1	8.4	28	29	20.2	
	6			0		1	7.0	8.4	8.0	8.4	29	29	20.2	
	7					0	7.3		8.1		28		20.3	

✓ Indicates one organism inadvertently poured off during solution renewal, replaced into container. * ROB BAM 10-21-16
"M" = organism missing, start count reduced. "Inj" = organism injured, remove from stats.
"F" = fungus noted on dead organisms.
☐ Aeration in test chambers begun @ ________ (Note observations on Test Organism Info sheet)

Pre = Pre-renewal solutions. Post = Post-renewal solutions.
Day 0 Temperatures = Post-renewals
Therm ID# = Thermometer ID used for all measurements that day.
(21.1) = Temp. out of recommended range

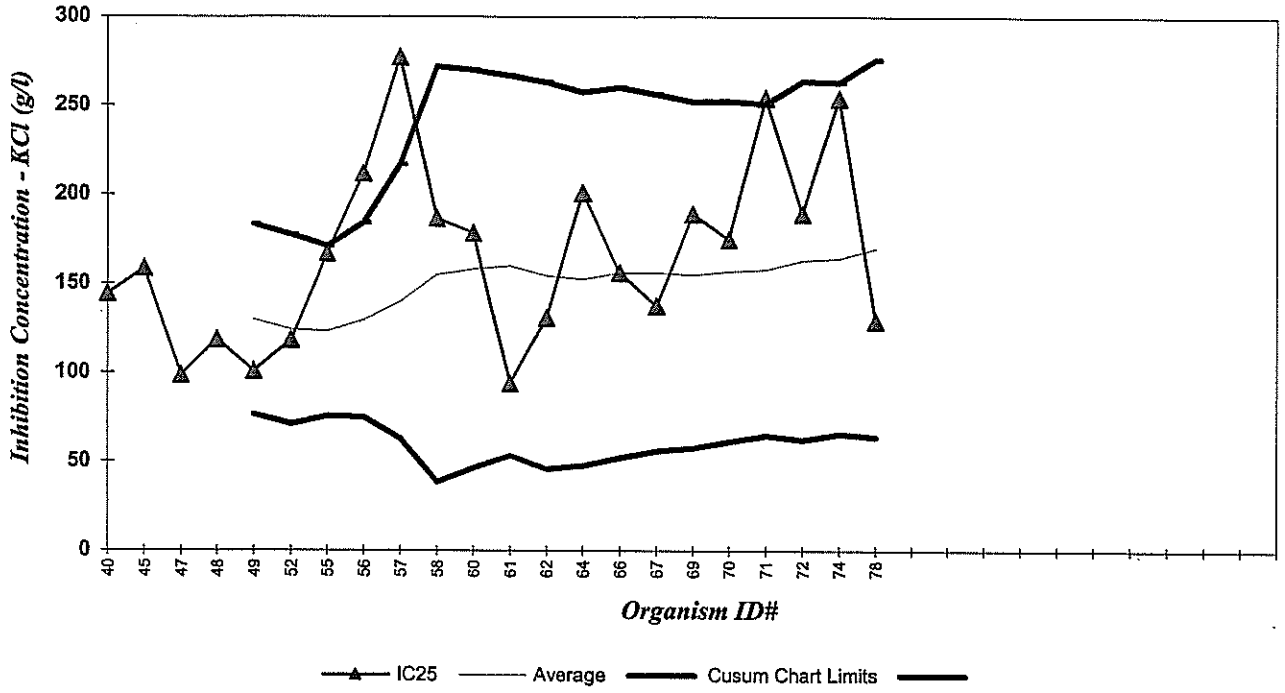
Endpoint	LC50	Cusum Chart Limits		Endpoint	IC25	Cusum Chart Limits
4d survival (dual endpt. only)	129	64 to 276	Is 7d LC50 < 205 ug/L?	7d survival	78	25 to 183
7d survival	111	34 to 250	Y / N	7d biomass	75	27 to 165

Task Manager [signature]
Project Manager [signature]
QA Officer [signature] for Ginger Collins

* Note: Weight (dry wt. / # of surviving organisms) endpoint is required by the EPA method, but often generates ">" values for IC25. Biomass (dry wt. / # of organisms at test initiation) is used for Reftox growth charting.

REFERENCE TOXICANT CUMLATIVE SUMMARY (CUSUM) CHART

Atherinops affinis **Acute Dual-Endpoint 96 hr Survival - LC50 Values**



Atherinops affinnis **- Acute Dual Endpoint (EPA Test Method 1006.0)**

Copper (as CuCl2)

Organism age:

Endpoint: 96 hour Survival

Stats Method: Probit, Spearman-Karber, Linear Interpolation

Test Conditions: Artificial Sea water, 20 oC

From EPA 833-R-00-003:

10th Quartile CV (*control limit*) = na

25th Quartile CV (*warning limit*) = na

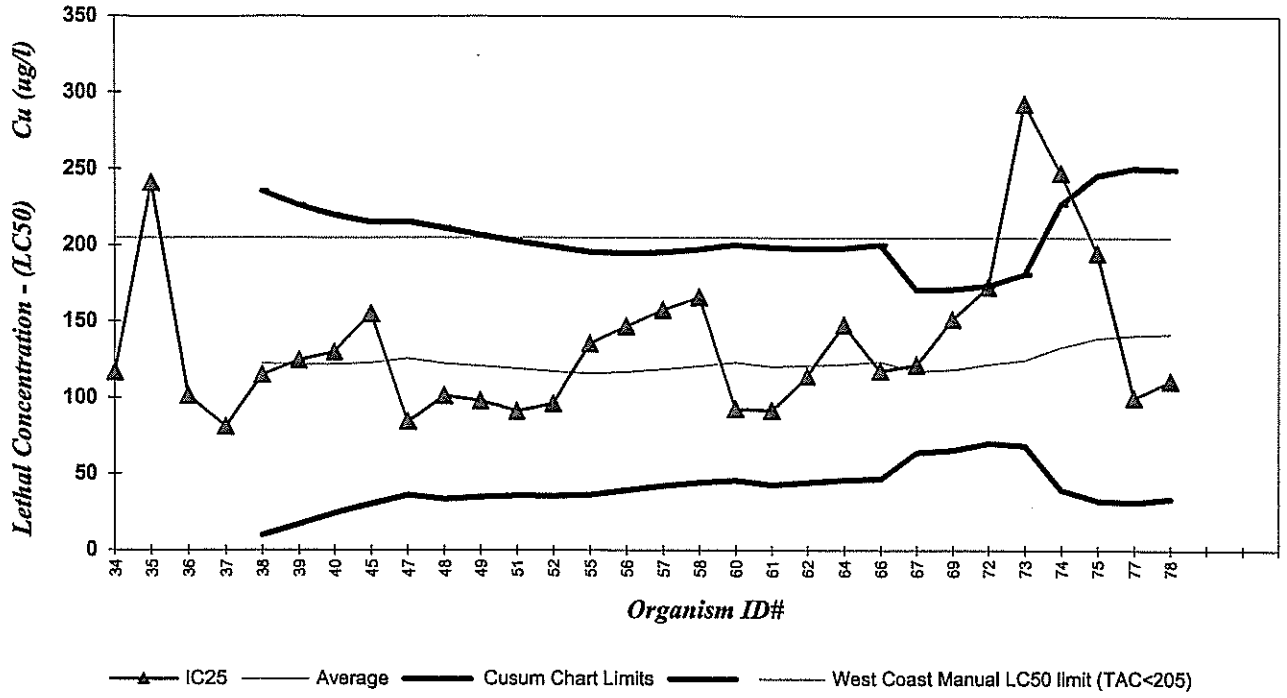
75th Quartile CV (*warning limit*) = na

90th Quartile CV (*control limit*) = na

As per EPA 833-R-00-003, section B.2.1, the quartiles listed above are from just a few labs (0) and therefore not to be considered typical or representative. Cusum limits are based on ASL data only.

Event #	MB ID #	Test Start Date	LC50	Running Average	Running SD	Cusum Chart Limits AVG-2SD	Cusum Chart Limits AVG+2SD	Intralab CV
9	57	3/17/2015	**277**	140	39	**63**	**217**	0.38
10	58	5/5/2015	**187**	155	58	**38**	**272**	0.35
11	60	7/28/2015	**178**	158	56	**46**	**270**	0.33
12	61	9/15/2015	**94**	160	53	**53**	**267**	0.35
13	62	10/8/2015	**131**	155	54	**46**	**263**	0.34
14	64	10/15/2015	**201**	153	52	**48**	**258**	0.33
15	66	10/29/2015	**156**	156	52	**52**	**260**	0.32
16	67	11/5/2015	**138**	156	50	**56**	**256**	0.31
17	69	11/25/2015	**189**	155	49	**58**	**252**	0.30
18	70	12/3/2015	**175**	157	48	**61**	**253**	0.29
19	71	12/10/2015	**254**	158	47	**65**	**251**	0.31
20	72	12/30/2015	**189**	163	50	**62**	**264**	0.30
21	74	1/21/2016	**254**	164	49	**66**	**263**	0.31
22	78	10/20/2016	**129**	170	53	**64**	**276**	0.31

REFERENCE TOXICANT CUMLATIVE SUMMARY (CUSUM) CHART
Atherinops affinis Chronic Survival - 7 day LC50 Values



Atherinops affinis - Chronic (EPA Test Method 1006.0)

COPPER (ug/L) (as CuCl2)

Endpoint: Chronic Survival

Stats Method: Linear Interpolation

Test Conditions: 30 ppt Artificial Sea water, 20 oC

From EPA 833-R-00-003:

10th Quartile CV (*control limit*) = na

25th Quartile CV (*warning limit*) = na

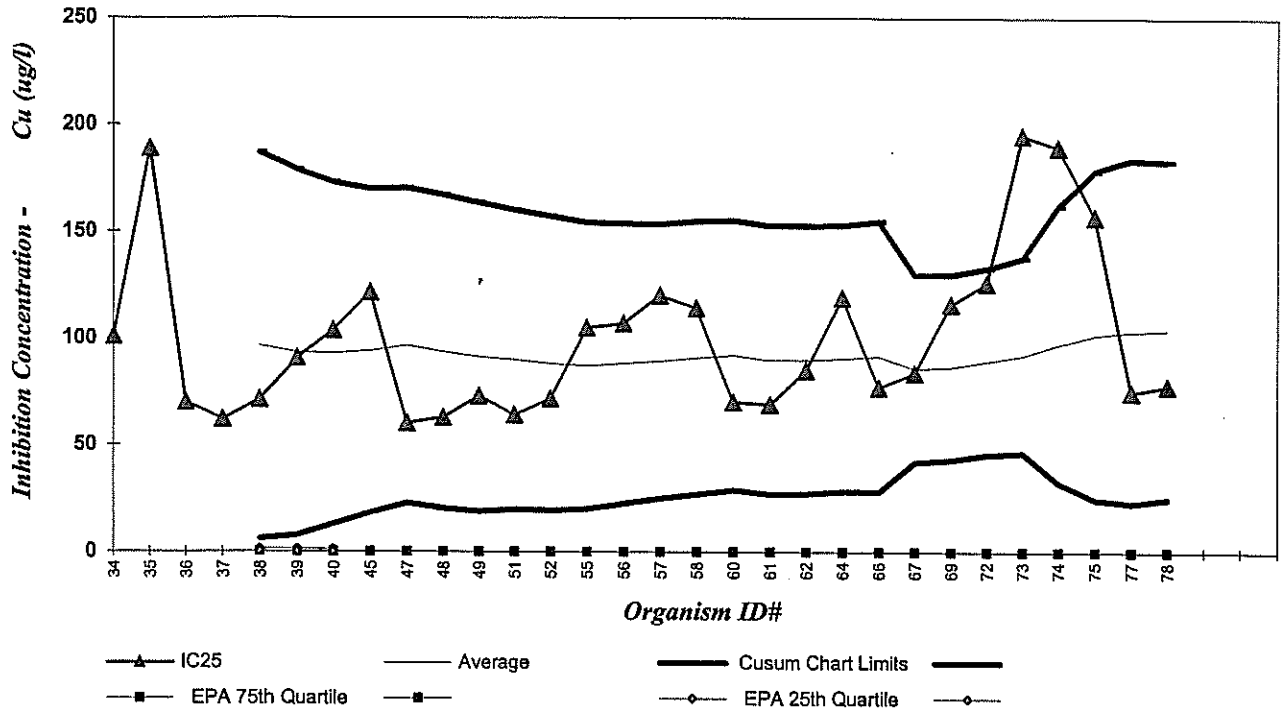
75th Quartile CV (*warning limit*) = na

90th Quartile CV (*control limit*) = na

As per EPA 833-R-00-003, section B.2.1, the quartiles listed above are from just a few labs (0) and therefore not to be considered typical or representative. Cusum limits are based on ASL data only.

Event #	AA ID #	Test Start Date	LC50	Running Average	Running SD	Cusum Chart Limits AVG-2SD	Cusum Chart Limits AVG+2SD	Intralab CV
23	62	10/8/2015	114	121	38	**44**	**198**	0.31
24	64	10/15/2015	148	122	38	**46**	**198**	0.31
25	66	10/29/2015	118	123	38	**47**	**200**	0.30
26	67	11/5/2015	121	117	27	**64**	**171**	0.30
27	69	11/25/2015	151	118	26	**66**	**171**	0.29
28	72	12/30/2015	172.6	122	26	**70**	**173.4**	0.29
29	73	1/12/2016	**293**	125	28	**68**	**181**	0.29
30	74	1/21/2016	**247**	133	47	**39**	**227**	0.36
31	75	7/7/2016	195	139	53	**32**	**246**	0.38
32	77	9/8/2016	100	141	55	**31**	**250**	0.38
33	78	10/20/2016	111	142	54	**34**	**250**	0.38
34								
35								

REFERENCE TOXICANT CUMLATIVE SUMMARY (CUSUM) CHART
Atherinops affinis Chronic Survival - 7 day IC25 Values



Atherinops affinis - Chronic (EPA Test Method 1006.0)

COPPER (ug/L) (as CuCl2)

Endpoint: Chronic Survival

Stats Method: Linear Interpolation

Test Conditions: 30 ppt Artificial Sea water, 20 oC

From EPA 833-R-00-003:

10th Quartile CV (*control limit*) = na

25th Quartile CV (*warning limit*) = na

75th Quartile CV (*warning limit*) = na

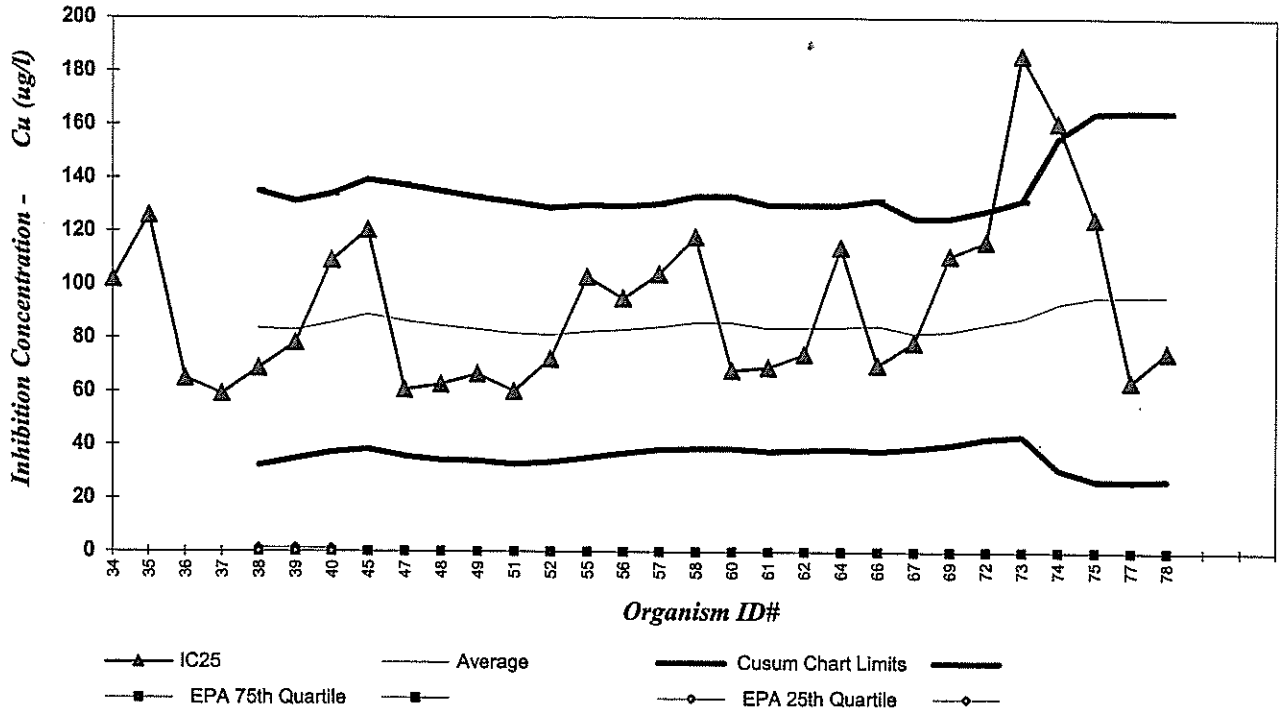
90th Quartile CV (*control limit*) = na

As per EPA 833-R-00-003, section B.2.1, the quartiles listed above are from just a few labs (0) and therefore not to be considered typical or representative. Cusum limits are based on ASL data only.

Event #	AA ID #	Test Start Date	IC25	Running Average	Running SD	Cusum Chart Limits AVG-2SD	Cusum Chart Limits AVG+2SD	Intralab CV
21	60	7/28/2015	70	92	32	**29**	**155**	0.34
22	61	9/15/2015	69	90	31	**27**	**153**	0.34
23	62	10/8/2015	85	90	31	**27**	**153**	0.34
24	64	10/15/2015	119	91	31	**28**	**153**	0.33
25	66	10/29/2015	77	91	32	**28**	**155**	0.33
26	67	11/5/2015	84	86	22	**42**	**130**	0.33
27	69	11/25/2015	116	87	22	**43**	**130**	0.32
28	72	12/30/2015	126	89	22	**46**	**133**	0.32
29	73	1/12/2016	**195**	92	23	**46**	**138**	0.31
30	74	1/21/2016	**190**	97	32	**32**	**162**	0.36
31	75	7/7/2016	157	101	38	**25**	**178**	0.38
32	77	9/8/2016	75	103	40	**23**	**184**	0.38
33	78	10/20/2016	78	104	39	**25**	**183**	0.37

REFERENCE TOXICANT CUMLATIVE SUMMARY (CUSUM) CHART

***Atherinops affinis* Chronic Biomass - IC25 Values**



***Atherinops affinis* - Chronic (EPA Test Method 1006.0)**

COPPER (ug/L) (as CuCl2)

Endpoint: **Chronic Biomass**

Stats Method: Linear Interpolation

Test Conditions: 30 ppt Artificial Sea water, 20 oC

(*Weight should be used, but often uncalculable for RT data)

From EPA 833-R-00-003:

10th Quartile CV (*control limit*) = na

25th Quartile CV (*warning limit*) = na

75th Quartile CV (*warning limit*) = na

90th Quartile CV (*control limit*) = na

As per EPA 833-R-00-003, section B.2.1, the quartiles listed above are from just a few labs (0) and therefore not to be considered typical or representative. Cusum limits are based on ASL data only.

Event #	AA ID #	Test Start Date	IC25	Running Average	Running SD	Cusum Chart Limits AVG-2SD	Cusum Chart Limits AVG+2SD	Intralab CV
21	60	7/28/2015	68	86	24	**39**	**133**	0.28
22	61	9/15/2015	69	84	23	**37**	**130**	0.27
23	62	10/8/2015	74	84	23	**38**	**130**	0.27
24	64	10/15/2015	114	84	23	**38**	**130**	0.27
25	66	10/29/2015	70	85	24	**38**	**132**	0.27
26	67	11/5/2015	78	82	22	**39**	**125**	0.27
27	69	11/25/2015	111	83	21	**40**	**125**	0.26
28	72	12/30/2015	116	85	21	**42**	**128**	0.26
29	73	1/12/2016	**186**	88	22	**43**	**132**	0.26
30	74	1/21/2016	**161**	93	31	**31**	**155**	0.32
31	75	7/7/2016	125	95	34	**27**	**164**	0.36
32	77	9/8/2016	64	96	35	**27**	**165**	0.36
33	78	10/20/2016	75	96	34	**27**	**165**	0.35

APPENDIX C

CHAIN OF CUSTODY

CH2MHILL
Applied Sciences Laboratory (ASL)

Sample Receipt Record

Batch Number: B3653 A
Client/Project: CH2M santa ana

Date Received: 10/20/16
Received By: PC

Were custody seals intact?	☒ Yes	☐ No ☐ N/A
Packing Material:	☒ Ice	☐ Blue Ice ☐ Box
Temp OK? (<6C) Therm ID: TH173 Exp. 1|17	0.8 °C ☒ Yes	☐ No ☐ N/A
Was a Chain of Custody (CoC) Provided?	☒ Yes	☐ No ☐ N/A
Was the CoC correctly filled out (If No, document below)	☒ Yes	☐ No ☐ N/A
Were the sample containers in good condition (not broken or leaking)?	☒ Yes	☐ No ☐ N/A
Are all samples within 36 hours of collection?	☒ Yes	☐ No ☐ N/A

Method of Shipment: ☐ Hand Delivered ☒ FedEx ☐ UPS ☐ Greyhound ☐ Other: _____ ☐ N/A

Sample Exception Report (The following exceptions were noted)

Client was notified on: Client contact:

Resolution to Exception:

CH2MHILL **CHAIN OF CUSTODY RECORD FOR NPDES COMPLIANCE BIOMONITORING**

Client CH2M
Address 2009 Rubland Ave #A
Redondo Beach, CA 90278
Contact Person: Dan Jablonski
Phone: 818-257-3630
E-mail: djablon1@CH2M.COM
CH2M HILL Project # / Purchase Order # 678870.PM.01

NPDES# _____

Composite Sample Information:
Initiated: Date 10/18/16 Time 0930
Ended: Date 10/19/16 Time 0955
Chilled During Collection ? Yes X No ___
Dechlorinated prior to shipping ? Yes ___ No X

Ship Samples to:
CH2M HILL - Applied Sciences Laboratory
Attention: Bioasssay Lab
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330
Lab Phone: (541) 768-3160
Customer Service: (541) 768-3120

Analysis Required / Comments

Sample ID	Date	Time	Sample Type: Comp.	Sample Type: Grab	# of Containers	Lab ID#	Fathead Acute	Fathead Chronic	Cerio Acute	Cerio Chronic	Green Algae	Trout Acute	Sheepshead Acute	Sheepshead Chronic	Menidia Acute	Menidia Chronic	Mysid Acute	Mysid Chronic	Haz Waste	TopSmelt Chronic			Concentration and/or Comments
EFF_10/19/16	10/19/16	0955	X		1	B3653 01														X			
RWUP_10/19/16	10/19/16	1030		X	1	B3653-02														X			
RWDOWN_10/19/16	10/19/16	1035		X	1	B3653-13														X			

Sampled By & Title	(Please sign and print name) Dan Jablonski	Date/Time 10/19/16	Relinquished By	(Please sign and print name) Dan Jablonski	Date/Time 10/19/16 1050
Received By	(Please sign and print name) Arthur Wickham	Date/Time 10/19/16 1050	Relinquished By	(Please sign and print name) Arthur Wickham	Date/Time 10/19/16 1150
Received By	(Please sign and print name)	Date/Time	Relinquished By	(Please sign and print name)	Date/Time
Received By	(Please sign and print name) Paulette Castro Pierrette Castro	Date/Time 10/20/16 1040	Shipped Via	UPS ___ Bus ___ Fed-Ex X Hand ___ Other ___	Shipping #
Work Authorized By	(Please sign and print name)	Remarks B3653A ICE 0.8°C			

Recd OW 10/20/16

B3655

ORIGIN ID:APVA (714) 435-6210
ARTHUR WICKHAM
CH2MHILL INC
6 HUTTON CENTRE DRIVE, SUITE 700

SANTA ANA, CA 92707
UNITED STATES US

SHIP DATE: 18OCT16
ACTWGT: 40.00 LB
CAD: 103963474/WSXI2500
DIMS: 24x14x14 IN

BILL SENDER

TO **MICHAEL STANAWAY**
CH2M APPLIED SCIENCES LABORATORY (A
1100 NE CIRCLE BLVD
SUITE 300
CORVALLIS OR 97330
(541) 768-3161 REF: 678870.PM.01
INV:
PO: DEPT:

544J3/FB42/14E8

FedEx Express

J162016161204uv

WED - 19 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7843 9125 5912**

WS CVOA

97330
OR-US PDX

CH2MHILL
Applied Sciences Laboratory (ASL)

Sample Receipt Record

Batch Number: B3653-03, 09, 15 Date Received: 10-22-16

Client/Project: Kinder Morgan Received By:

Were custody seals intact?	☒ Yes	☐ No	☐ N/A	
Packing Material:	☒ Ice	☐ Blue Ice	☐ Box	
Temp OK? (<6C) Therm ID: TH173 Exp. 1-17	3.5 °C	☒ Yes	☐ No	☐ N/A
Was a Chain of Custody (CoC) Provided?	☒ Yes	☐ No	☐ N/A	
Was the CoC correctly filled out (If No, document below)	☒ Yes	☐ No	☐ N/A	
Were the sample containers in good condition (not broken or leaking)?	☒ Yes	☐ No	☐ N/A	
Are all samples within 36 hours of collection?	☒ Yes	☐ No	☐ N/A	
Method of Shipment:	☐ Hand Delivered ☒ FedEx ☐ UPS ☐ Greyhound ☐ Other: _____		☐ N/A	

Sample Exception Report (The following exceptions were noted)

Client was notified on: Client contact:

Resolution to Exception:

CH2MHILL **CHAIN OF CUSTODY RECORD FOR NPDES COMPLIANCE BIOMONITORING**

Client CH2M
Address 2009 Rutland Ave #A
Redondo Beach, CA 90278

Contact Person: Dan Jablonski
Phone: 818-257-3630
E-mail: djablon1@ch2m.com

CH2M HILL Project # / Purchase Order # 678870.PM01

NPDES# _____

Composite Sample Information:
Initiated: Date 10/21/16 Time 0815
Ended: Date 10/21/16 Time 0955
Chilled During Collection ? Yes X No ___
Dechlorinated prior to shipping ? Yes ___ No X

Ship Samples to:
CH2M HILL - Applied Sciences Laboratory
Attention: Bioasssay Lab
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330
Lab Phone: (541) 768-3160
Customer Service: (541) 768-3120

Analysis Required / Comments

Sample ID	Date	Time	Sample Type Comp.	Sample Type Grab	# of Containers	Lab ID#	Fathead Acute	Fathead Chronic	Cerio Acute	Cerio Chronic	Green Algae	Trout Acute	Sheepshead Acute	Sheepshead Chronic	Menidia Acute	Menidia Chronic	Mysid Acute	Mysid Chronic	Haz Waste	Topsmelt Chronic			Concentration and/or Comments
EFF_102116	10/21/16	0815	X		1	B3653-03														X			
RWUP_102116	10/21/16	0950		X	1	B3653-04														X			
RWDOWN_102116	10/21/16	0955		X	1	B3653-05														X			

Sampled By & Title	(Please sign and print name) Arthur Wickham	Date/Time 10/21/16 10:00	Relinquished By	(Please sign and print name) Arthur Wickham	Date/Time 10/21/16 12:30
Received By	(Please sign and print name) [illegible]	Date/Time 10-22-16 1050	Relinquished By	(Please sign and print name)	Date/Time
Received By	(Please sign and print name)	Date/Time	Relinquished By	(Please sign and print name)	Date/Time
Received By	(Please sign and print name)	Date/Time	Shipped Via UPS ___ Bus ___ Fed-Ex X Hand ___ Other ___		Shipping #
Work Authorized By	(Please sign and print name)	Remarks			

3.5°C

ORIGIN ID:CIBA (303) 895-1486
ARTHUR WICKHAM
CH2M
6 HUTTON CENTER SUITE 700
REFERENCE# 678870.PM.01
SANTA ANA, CA 92707
UNITED STATES US

SHIP DATE: 21OCT16
ACTWGT: 54.80 LB
CAD: 006995000/
DIMS: 24x13x1

BILL THIR

Part # 156297

TO **ATTN: BIOASSSAY LAB**

1100 NE CIRCLE BLVD.
SUITE 300
CORVALLIS OR 97330

(541) 768-6160 REF:
INV:
PO: DEPT:

FedEx
Express

REL#
3785346

TRK# 0201 **7844 2259 9614**

SATURDAY 12:00P
PRIORITY OVERNIGHT

WO CVOA

97330
OR-US **PDX**

CH2MHILL
Applied Sciences Laboratory (ASL)

Sample Receipt Record

Batch Number: B3658A
Client/Project: Redondo Beach

Date Received: 10/25/16
Received By: TW

Were custody seals intact?	☒ Yes	☐ No	☐ N/A	
Packing Material:	☒ Ice	☐ Blue Ice	☐ Box	
Temp OK? (<6C) Therm ID: TH173 Exp. 1/17	0.3 °C	☒ Yes	☐ No	☐ N/A
Was a Chain of Custody (CoC) Provided?	☒ Yes	☐ No	☐ N/A	
Was the CoC correctly filled out (If No, document below)	☒ Yes	☐ No	☐ N/A	
Were the sample containers in good condition (not broken or leaking)?	☒ Yes	☐ No	☐ N/A	
Are all samples within 36 hours of collection?	☒ Yes	☐ No	☐ N/A	
Method of Shipment:	☐ Hand Delivered ☒ FedEx ☐ UPS ☐ Greyhound ☐ Other: _____		☐ N/A	

Sample Exception Report (The following exceptions were noted)

Client was notified on: Client contact:

Resolution to Exception:

CH2MHILL **CHAIN OF CUSTODY RECORD FOR NPDES COMPLIANCE BIOMONITORING**

Client CH2M
Address 2009 Rutland Ave Unit A
Redondo Bch CA 90278

Contact Person: Dan Jablonski
Phone: 818 257 3630
E-mail: djablon1@ch2m.com
CH2M HILL Project # / Purchase Order # 678870.PM.01

NPDES#

Composite Sample Information:
Initiated: Date 10/23/16 Time 0930
Ended: Date 10/24/16 Time 0930
Chilled During Collection ? Yes X No
Dechlorinated prior to shipping ? Yes No X

Ship Samples to:
CH2M HILL - Applied Sciences Laboratory
Attention: Bioasssay Lab
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330
Lab Phone: (541) 768-3160
Customer Service: (541) 768-3120

Analysis Required / Comments

Sample ID	Date	Time	Sample Type Comp.	Sample Type Grab	# of Containers	Lab ID#	Fathead Acute	Fathead Chronic	Cerio Acute	Cerio Chronic	Green Algae	Trout Acute	Sheepshead Acute	Sheepshead Chronic	Menidia Acute	Menidia Chronic	Mysid Acute	Mysid Chronic	Haz Waste	Top Smelt Chronic Toxicity			Concentration and/or Comments
EFF_102416	10/24	0930	X		1	B3653-05														X			
RWUP_102416	10/24	~~1145~~ 1110		X	1	B3653-11														X			Rainfall night of 10/23 and morning of 10/24
RWDown_102416	10/24	~~1220~~ 1115		X	1	B3653-17														X			

Sampled By & Title PM	(Please sign and print name) Dan Jablonski	Date/Time 10/24 1115	Relinquished By	(Please sign and print name) Dan Jablonski	Date/Time 10/24 1300
Received By	(Please sign and print name)	Date/Time	Relinquished By	(Please sign and print name)	Date/Time
Received By	(Please sign and print name)	Date/Time	Relinquished By	(Please sign and print name)	Date/Time
Received By Tina Workman	(Please sign and print name) Tina Workman	Date/Time 10/25/16 1050	Shipped Via UPS ___ Bus ___ Fed-Ex X Hand ___ Other ___		Shipping # 7844 2463 8136
Work Authorized By	(Please sign and print name)	Remarks 0.6C = 0.3C (Corrected) ~~B3658A~~ B3653C RAC MLC 11-1-16			

ORIGIN ID:JBPA (213) 228-8271
DANIEL JABLONSKI
CH2MHILL LGI
1000 WILSHIRE BLVD
SUITE 2100
LOS ANGELES, CA 90017
UNITED STATES US

SHIP DATE: 21OCT16
ACTWGT: 45.00 LB
CAD: 103964068/WSXI2500
DIMS: 30x20x20 IN

BILL SENDER

TO **MICHAEL STANAWAY**
CH2MHILL I&E
1100 NE CIRCLE BLVD
SUITE 300
CORVALLIS OR 97330
(541) 768-3161 REF: 678870.PM.01
INV:
PO: DEPT:

544J3/FB42/14E8

FedEx Express

E

J152016101201uv

FedEx
TRK# 0201 **7844 2463 8136**

TUE - 25 OCT 10:30A
PRIORITY OVERNIGHT

WS CVOA

97330
OR-US **PDX**

#231246 10/24 544J3/FB42/14E8

February 13, 2017

Dan Jablonski
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:
FAX:

Workorder No.: N021359

RE: SFPP - Norwalk Site

Attention: Dan Jablonski

Enclosed are the results for sample(s) received on October 21, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Puri Romualdo
Laboratory Director

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Analytical Comments for EPA 200.8:

Dilution was necessary for Lead and Thallium due to associated internal standard not meeting method criteria possibly due to matrix interference. Sample was analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meet internal standard recovery limit.

Analytical Comments for EPA 8270C:

Surrogate, 4-Terphenyl-d14, recovery biased high in Laboratory Control Sample (LCS) and QC samples N021359-001FMS and N021359-001FMSD. Sample result was non-detect (ND) for the analyte of interest therefore reanalysis of the sample was not necessary.

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"
CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

Date: *13-Feb-17*

CLIENT: CH2MHill
Project: SFPP - Norwalk Site
Lab Order: N021359
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N021359-001A	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001B	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001C	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001D	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001E	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001F	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001G	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001H	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001I	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001J	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017
N021359-001K	EFF-10-21	Wastewater	10/21/2016 1:00:00 PM	10/21/2016	2/13/2017

CLIENT: CH2MHill
Lab Order: N021359
Project: SFPP - Norwalk Site
Lab ID: N021359-001

Client Sample ID: EFF-10-21
Collection Date: 10/21/2016 1:00:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **CA01638-WC01_161024A** QC Batch: **60068**				PrepDate:		**10/24/2016**	Analyst: **RB**
Suspended Solids (Residue, Non-Filterable)	ND	5.0	5.0		mg/L	1	10/24/2016
SETTLEABLE MATTER							
			SM2540F				
RunID: **CA01638-WC01_161023A** QC Batch: **60081**				PrepDate:		**10/23/2016**	Analyst: **RB**
Settleable Matter	ND	0.10	0.10		ml/L	1	10/23/2016
HEXANE EXTRACTABLE MATERIAL (HEM)							
			EPA 1664 _HEM REV B				
RunID: **NV00922-WC_161024A** QC Batch: **60065**				PrepDate:		**10/24/2016**	Analyst: **LR**
Oil & Grease	0.74	0.69	4.3	J	mg/L	1	10/24/2016 08:47 AM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS							
		EPA 3510C	**EPA 8270C**				
RunID: **NV00922-MS3_161024A** QC Batch: **60067**				PrepDate:		**10/24/2016**	Analyst: **MDM**
Phenol	1.9	0.33	2.0	J	µg/L	1	10/24/2016 04:59 PM
Surr: 1,2-Dichlorobenzene-d4	66.0	0	16-120		%REC	1	10/24/2016 04:59 PM
Surr: 2-Fluorobiphenyl	70.0	0	25-120		%REC	1	10/24/2016 04:59 PM
Surr: 4-Terphenyl-d14	129	0	46-132		%REC	1	10/24/2016 04:59 PM
Surr: Phenol-d5	53.0	0	15-120		%REC	1	10/24/2016 04:59 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_161022A** QC Batch: **CA16VW021**				PrepDate:			Analyst: **RB**
1,1-Dichloroethane	ND	0.022	0.50		ug/L	1	10/22/2016 03:43 PM
1,2-Dichloroethane	ND	0.064	0.50		ug/L	1	10/22/2016 03:43 PM
Benzene	ND	0.036	1.0		ug/L	1	10/22/2016 03:43 PM
Ethylbenzene	ND	0.036	1.0		ug/L	1	10/22/2016 03:43 PM
m,p-Xylene	ND	0.024	1.0		ug/L	1	10/22/2016 03:43 PM
MTBE	0.13	0.062	1.0	J	ug/L	1	10/22/2016 03:43 PM
o-Xylene	ND	0.042	1.0		ug/L	1	10/22/2016 03:43 PM
Tert-Butanol	ND	0.30	5.0		ug/L	1	10/22/2016 03:43 PM
Toluene	ND	0.042	2.0		ug/L	1	10/22/2016 03:43 PM
Xylenes, Total	ND	1.5	2.0		ug/L	1	10/22/2016 03:43 PM
Surr: 1,2-Dichloroethane-d4	91.0	0	72-119		%REC	1	10/22/2016 03:43 PM
Surr: 4-Bromofluorobenzene	90.7	0	76-119		%REC	1	10/22/2016 03:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021359
Project: SFPP - Norwalk Site
Lab ID: N021359-001

Client Sample ID: EFF-10-21
Collection Date: 10/21/2016 1:00:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_161022A** QC Batch: **CA16VW021**				PrepDate:			Analyst: **RB**
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	10/22/2016 03:43 PM
Surr: Toluene-d8	100	0	81-120		%REC	1	10/22/2016 03:43 PM
TPH EXTRACTABLE BY GC/FID							
		EPA 3510C	**EPA 8015B**				
RunID: **NV00922-GC3_161025A** QC Batch: **60075**				PrepDate:	**10/25/2016**		Analyst: **FJ**
TPH-Diesel (C13-C22)	ND	16	27		ug/L	1	10/25/2016 02:22 PM
TPH-Oil (C23-C36)	22	14	27	J	ug/L	1	10/25/2016 02:22 PM
Surr: Octacosane	70.2	0	26-152		%REC	1	10/25/2016 02:22 PM
Surr: p-Terphenyl	76.5	0	57-132		%REC	1	10/25/2016 02:22 PM
GASOLINE RANGE ORGANICS BY GC/FID							
			EPA 8015B				
RunID: **NV00922-GC4_161024A** QC Batch: **E16VW069**				PrepDate:			Analyst: **QBM**
TPH-Gasoline (C4-C12)	ND	16	50		ug/L	1	10/24/2016 11:22 AM
Surr: Chlorobenzene - d5	115	0	74-138		%REC	1	10/24/2016 11:22 AM
HEXAVALENT CHROMIUM BY IC							
			EPA 7199				
RunID: **NV00922-IC7_161022A** QC Batch: **R111265**				PrepDate:			Analyst: **QBM**
Hexavalent Chromium	ND	0.066	0.20		µg/L	1	10/22/2016 09:16 AM
MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 245.1				
RunID: **NV00922-AA1_161022B** QC Batch: **60052**				PrepDate:	**10/22/2016**		Analyst: **MG**
Mercury	ND	0.018	0.050		µg/L	1	10/22/2016 05:57 PM
TOTAL METALS BY COLLISION/REACTION CELL ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161025A** QC Batch: **60053**				PrepDate:	**10/22/2016**		Analyst: **CEI**
Selenium	0.34	0.070	0.50	J	µg/L	1	10/25/2016 09:00 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161025A** QC Batch: **60053**				PrepDate:	**10/22/2016**		Analyst: **CEI**
Copper	ND	0.26	0.50		µg/L	1	10/25/2016 09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021359
Project: SFPP - Norwalk Site
Lab ID: N021359-001

Client Sample ID: EFF-10-21
Collection Date: 10/21/2016 1:00:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: **NV00922-ICP7_161025A** QC Batch: **60053** PrepDate: **10/22/2016** Analyst: **CEI**							
Lead	ND	0.27	2.5		µg/L	5	10/25/2016 09:06 PM
Thallium	ND	0.17	2.5		µg/L	5	10/25/2016 09:06 PM
Zinc	5.6	0.039	1.0		µg/L	1	10/26/2016 03:43 PM
TOTAL TPH							
EPA 8015B							
RunID: **NV00922-GC3_161025A** QC Batch: **R111288** PrepDate: Analyst: **FJ**							
Total TPH	22	16	50	J	ug/L	1	10/25/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified	DO	Surrogate Diluted Out

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **MB-60068**	SampType: **MBLK**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111294**
Client ID: **PBW**	Batch ID: **60068**	TestNo: **SM2540D**		Analysis Date: **10/24/2016**	SeqNo: **2458227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **LCS-60068**	SampType: **LCS**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111294**
Client ID: **LCSW**	Batch ID: **60068**	TestNo: **SM2540D**		Analysis Date: **10/24/2016**	SeqNo: **2458228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	1011.000	10	1000	0	101	80	120				

Sample ID: **LCSD-60068**	SampType: **LCSD**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111294**
Client ID: **LCSS02**	Batch ID: **60068**	TestNo: **SM2540D**		Analysis Date: **10/24/2016**	SeqNo: **2458229**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	1006.000	10	1000	0	101	80	120	1011	0.496	10	

Sample ID: **N021359-001EDUP**	SampType: **DUP**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111294**
Client ID: **ZZZZZZ**	Batch ID: **60068**	TestNo: **SM2540D**		Analysis Date: **10/24/2016**	SeqNo: **2458231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	5.0						0	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.5_2540F_W

Sample ID: **MB-60081**	SampType: **MBLK**	TestCode: **160.5_2540F_**	Units: **ml/L**		Prep Date: **10/23/2016**			RunNo: **111295**				
Client ID: **PBW**	Batch ID: **60081**	TestNo: **SM2540F**			Analysis Date: **10/23/2016**			SeqNo: **2458232**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Settleable Matter	ND	0.10										

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 1664_HEM_W

Sample ID: **MB-60065**	SampType: **MBLK**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111261**
Client ID: **PBW**	Batch ID: **60065**	TestNo: **EPA 1664 _H**		Analysis Date: **10/24/2016**	SeqNo: **2457274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	ND	4.0									

Sample ID: **LCS-60065**	SampType: **LCS**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111261**
Client ID: **LCSW**	Batch ID: **60065**	TestNo: **EPA 1664 _H**		Analysis Date: **10/24/2016**	SeqNo: **2457275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	32.800	4.0	40.00	0	82.0	78	114				

Sample ID: **N021359-001ADUP**	SampType: **DUP**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111261**
Client ID: **ZZZZZZ**	Batch ID: **60065**	TestNo: **EPA 1664 _H**		Analysis Date: **10/24/2016**	SeqNo: **2457277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	ND	44						0.7447	0	18	

Sample ID: **N021359-001AMS**	SampType: **MS**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111261**
Client ID: **ZZZZZZ**	Batch ID: **60065**	TestNo: **EPA 1664 _H**		Analysis Date: **10/24/2016**	SeqNo: **2457278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	35.495	4.4	43.96	0.7447	79.1	78	114				

Sample ID: **N021359-001AMSD**	SampType: **MSD**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **10/24/2016**	RunNo: **111261**
Client ID: **ZZZZZZ**	Batch ID: **60065**	TestNo: **EPA 1664 _H**		Analysis Date: **10/24/2016**	SeqNo: **2457279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	35.326	4.3	43.48	0.7447	79.5	78	114	35.49	0.476	18	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_DRC

Sample ID: **MB-60053**	SampType: **MBLK**	TestCode: **200.8_W_DR**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **PBW**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID: **LCS-60053**	SampType: **LCS**	TestCode: **200.8_W_DR**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **LCSW**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	10.058	0.50	10.00	0	101	85	115				

Sample ID: **N021359-001H-DUP**	SampType: **DUP**	TestCode: **200.8_W_DR**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.430	0.50						0.3430	0	20	J

Sample ID: **N021359-001H-MS**	SampType: **MS**	TestCode: **200.8_W_DR**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.465	0.50	10.00	0.3430	91.2	75	125				

Sample ID: **N021359-001H-MSD**	SampType: **MSD**	TestCode: **200.8_W_DR**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.434	0.50	10.00	0.3430	90.9	75	125	9.465	0.326	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **MB-60053**	SampType: **MBLK**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **PBW**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50									
Lead	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-60053**	SampType: **LCS**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **LCSW**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	10.307	0.50	10.00	0	103	85	115				
Lead	10.110	0.50	10.00	0	101	85	115				
Thallium	9.847	0.50	10.00	0	98.5	85	115				

Sample ID: **N021359-001H-DUP**	SampType: **DUP**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50						0	0	20	

Sample ID: **N021359-001H-DUP**	SampType: **DUP**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	2.5						0	0	20	
Thallium	ND	2.5						0	0	20	

Sample ID: **N021359-001H-MS**	SampType: **MS**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111314**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/25/2016**	SeqNo: **2459110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **N021359-001H-MS** SampType: **MS** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **10/22/2016** RunNo: **111314**
Client ID: **ZZZZZZ** Batch ID: **60053** TestNo: **EPA 200.8** Analysis Date: **10/25/2016** SeqNo: **2459110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.517	0.50	10.00	0	75.2	75	125				

Sample ID: **N021359-001H-MS** SampType: **MS** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **10/22/2016** RunNo: **111314**
Client ID: **ZZZZZZ** Batch ID: **60053** TestNo: **EPA 200.8** Analysis Date: **10/25/2016** SeqNo: **2459111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.735	2.5	10.00	0	87.4	75	125				
Thallium	8.568	2.5	10.00	0	85.7	75	125				

Sample ID: **N021359-001H-MSD** SampType: **MSD** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **10/22/2016** RunNo: **111314**
Client ID: **ZZZZZZ** Batch ID: **60053** TestNo: **EPA 200.8** Analysis Date: **10/25/2016** SeqNo: **2459113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.014	2.5	10.00	0	90.1	75	125	8.735	3.13	20	
Thallium	8.378	2.5	10.00	0	83.8	75	125	8.568	2.24	20	

Sample ID: **N021359-001H-MSD** SampType: **MSD** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **10/22/2016** RunNo: **111314**
Client ID: **ZZZZZZ** Batch ID: **60053** TestNo: **EPA 200.8** Analysis Date: **10/25/2016** SeqNo: **2459115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.469	0.50	10.00	0	74.7	75	125	7.517	0.649	20	S

Sample ID: **MB-60053** SampType: **MBLK** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **10/22/2016** RunNo: **111257**
Client ID: **PBW** Batch ID: **60053** TestNo: **EPA 200.8** Analysis Date: **10/26/2016** SeqNo: **2564073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **LCS-60053**	SampType: **LCS**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111257**
Client ID: **LCSW**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/26/2016**	SeqNo: **2564074**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	102.424	1.0	100.0	0	102	85	115				

Sample ID: **N021359-001H-DUP**	SampType: **DUP**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111257**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/26/2016**	SeqNo: **2564076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	5.325	1.0						5.648	5.89	20	

Sample ID: **N021359-001H-MS**	SampType: **MS**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111257**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/26/2016**	SeqNo: **2564079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	83.928	1.0	100.0	5.648	78.3	75	125				

Sample ID: **N021359-001H-MSD**	SampType: **MSD**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111257**
Client ID: **ZZZZZZ**	Batch ID: **60053**	TestNo: **EPA 200.8**		Analysis Date: **10/26/2016**	SeqNo: **2564080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	83.448	1.0	100.0	5.648	77.8	75	125	83.93	0.574	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W_LL

Sample ID: **MB-60052**	SampType: **MBLK**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111259**
Client ID: **PBW**	Batch ID: **60052**	TestNo: **EPA 245.1**		Analysis Date: **10/22/2016**	SeqNo: **2457264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.050									

Sample ID: **LCS-60052**	SampType: **LCS**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111259**
Client ID: **LCSW**	Batch ID: **60052**	TestNo: **EPA 245.1**		Analysis Date: **10/22/2016**	SeqNo: **2457266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.201	0.050	2.500	0	88.0	85	115				

Sample ID: **N021359-001H-MS**	SampType: **MS**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111259**
Client ID: **ZZZZZZ**	Batch ID: **60052**	TestNo: **EPA 245.1**		Analysis Date: **10/22/2016**	SeqNo: **2457267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.105	0.050	2.500	0	84.2	75	125				

Sample ID: **N021359-001H-MSD**	SampType: **MSD**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111259**
Client ID: **ZZZZZZ**	Batch ID: **60052**	TestNo: **EPA 245.1**		Analysis Date: **10/22/2016**	SeqNo: **2457268**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.179	0.050	2.500	0	87.2	75	125	2.105	3.45	20	

Sample ID: **N021359-001H-DUP**	SampType: **DUP**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **10/22/2016**	RunNo: **111259**
Client ID: **ZZZZZZ**	Batch ID: **60052**	TestNo: **EPA 245.1**		Analysis Date: **10/22/2016**	SeqNo: **2457269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.050						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_WPGE

Sample ID: **MB-R111265** SampType: **MBLK** TestCode: **7199_WPGE** Units: **µg/L** Prep Date: RunNo: **111265**
Client ID: **PBW** Batch ID: **R111265** TestNo: **EPA 7199** Analysis Date: **10/22/2016** SeqNo: **2457371**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R111265** SampType: **LCS** TestCode: **7199_WPGE** Units: **µg/L** Prep Date: RunNo: **111265**
Client ID: **LCSW** Batch ID: **R111265** TestNo: **EPA 7199** Analysis Date: **10/22/2016** SeqNo: **2457372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.104	0.20	5.000	0	102	90	110				

Sample ID: **N021359-001IDUP** SampType: **DUP** TestCode: **7199_WPGE** Units: **µg/L** Prep Date: RunNo: **111265**
Client ID: **ZZZZZZ** Batch ID: **R111265** TestNo: **EPA 7199** Analysis Date: **10/22/2016** SeqNo: **2457374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N021359-001IMS** SampType: **MS** TestCode: **7199_WPGE** Units: **µg/L** Prep Date: RunNo: **111265**
Client ID: **ZZZZZZ** Batch ID: **R111265** TestNo: **EPA 7199** Analysis Date: **10/22/2016** SeqNo: **2457375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	85	115				

Sample ID: **N021359-001IMSD** SampType: **MSD** TestCode: **7199_WPGE** Units: **µg/L** Prep Date: RunNo: **111265**
Client ID: **ZZZZZZ** Batch ID: **R111265** TestNo: **EPA 7199** Analysis Date: **10/22/2016** SeqNo: **2457376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	85	115	1.033	0.0871	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

Sample ID: **MB-60075** SampType: **MBLK** TestCode: **8015_W_FP_** Units: **ug/L** Prep Date: **10/25/2016** RunNo: **111288**
Client ID: **PBW** Batch ID: **60075** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **10/25/2016** SeqNo: **2458505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	ND	25									
Surr: Octacosane	54.857		80.00		68.6	26	152				
Surr: p-Terphenyl	61.693		80.00		77.1	57	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

Sample ID: **MB-R111288** SampType: **MBLK** TestCode: **8015_W_SFP** Units: **ug/L** Prep Date: RunNo: **111288**
Client ID: **PBW** Batch ID: **R111288** TestNo: **EPA 8015B** Analysis Date: **10/25/2016** SeqNo: **2458509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	37.000	50									J

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: **E161024LCS**	SampType: **LCS**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111269**
Client ID: **LCSW**	Batch ID: **E16VW069**	TestNo: **EPA 8015B**		Analysis Date: **10/24/2016**	SeqNo: **2457500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	845.000	50	1000	0	84.5	67	136				
Surr: Chlorobenzene - d5	47900.000		50000		95.8	74	138				

Sample ID: **E161024MB1**	SampType: **MBLK**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111269**
Client ID: **PBW**	Batch ID: **E16VW069**	TestNo: **EPA 8015B**		Analysis Date: **10/24/2016**	SeqNo: **2457501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	37.000	50									J
Surr: Chlorobenzene - d5	51728.000		50000		103	74	138				

Sample ID: **N021359-001BDUP**	SampType: **DUP**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111269**
Client ID: **ZZZZZZ**	Batch ID: **E16VW069**	TestNo: **EPA 8015B**		Analysis Date: **10/24/2016**	SeqNo: **2457503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	34.000	50						0	0	0	J
Surr: Chlorobenzene - d5	58366.000		50000		117	74	138		0	0	

Sample ID: **N021359-001BMS**	SampType: **MS**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111269**
Client ID: **ZZZZZZ**	Batch ID: **E16VW069**	TestNo: **EPA 8015B**		Analysis Date: **10/24/2016**	SeqNo: **2457505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	828.000	50	1000	0	82.8	67	136				
Surr: Chlorobenzene - d5	48376.000		50000		96.8	74	138				

Sample ID: **N021359-001BMSD**	SampType: **MSD**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111269**
Client ID: **ZZZZZZ**	Batch ID: **E16VW069**	TestNo: **EPA 8015B**		Analysis Date: **10/24/2016**	SeqNo: **2457506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	849.000	50	1000	0	84.9	67	136	828.0	2.50	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: **N021359-001BMSD** SampType: **MSD** TestCode: **8015GAS_WS** Units: **ug/L** Prep Date: RunNo: **111269**
Client ID: **ZZZZZZ** Batch ID: **E16VW069** TestNo: **EPA 8015B** Analysis Date: **10/24/2016** SeqNo: **2457506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Chlorobenzene - d5	48700.000		50000		97.4	74	138		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA161022LCS** SampType: **LCS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111246**
Client ID: **LCSW** Batch ID: **CA16VW021** TestNo: **EPA 8260B** Analysis Date: **10/22/2016** SeqNo: **2456449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	18.230	0.50	20.00	0	91.2	69	133				
1,2-Dichloroethane	20.440	0.50	20.00	0	102	69	132				
Benzene	20.680	1.0	20.00	0	103	81	122				
Ethylbenzene	20.490	1.0	20.00	0	102	73	127				
m,p-Xylene	45.230	1.0	40.00	0	113	76	128				
MTBE	18.780	1.0	20.00	0	93.9	65	123				
o-Xylene	21.470	1.0	20.00	0	107	80	121				
Tert-Butanol	83.750	5.0	100.0	0	83.8	70	130				
Toluene	22.440	2.0	20.00	0	112	77	122				
Xylenes, Total	66.700	2.0	60.00	0	111	75	125				
Surr: 1,2-Dichloroethane-d4	22.300		25.00		89.2	72	119				
Surr: 4-Bromofluorobenzene	25.040		25.00		100	76	119				
Surr: Dibromofluoromethane	24.330		25.00		97.3	85	115				
Surr: Toluene-d8	24.820		25.00		99.3	81	120				

Sample ID: **CA161022LCSD** SampType: **LCSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111246**
Client ID: **LCSS02** Batch ID: **CA16VW021** TestNo: **EPA 8260B** Analysis Date: **10/22/2016** SeqNo: **2456450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	20.670	0.50	20.00	0	103	69	133	18.23	12.5	20	
1,2-Dichloroethane	21.010	0.50	20.00	0	105	69	132	20.44	2.75	20	
Benzene	20.300	1.0	20.00	0	102	81	122	20.68	1.85	20	
Ethylbenzene	20.120	1.0	20.00	0	101	73	127	20.49	1.82	20	
m,p-Xylene	44.300	1.0	40.00	0	111	76	128	45.23	2.08	20	
MTBE	18.860	1.0	20.00	0	94.3	65	123	18.78	0.425	20	
o-Xylene	21.290	1.0	20.00	0	106	80	121	21.47	0.842	20	
Tert-Butanol	84.420	5.0	100.0	0	84.4	70	130	83.75	0.797	20	
Toluene	22.030	2.0	20.00	0	110	77	122	22.44	1.84	20	
Xylenes, Total	65.590	2.0	60.00	0	109	75	125	66.70	1.68	20	
Surr: 1,2-Dichloroethane-d4	22.590		25.00		90.4	72	119		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA161022LCSD** SampType: **LCSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111246**
Client ID: **LCSS02** Batch ID: **CA16VW021** TestNo: **EPA 8260B** Analysis Date: **10/22/2016** SeqNo: **2456450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	25.240		25.00		101	76	119		0		
Surr: Dibromofluoromethane	24.840		25.00		99.4	85	115		0		
Surr: Toluene-d8	24.900		25.00		99.6	81	120		0		

Sample ID: **CA161022MB3** SampType: **MBLK** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111246**
Client ID: **PBW** Batch ID: **CA16VW021** TestNo: **EPA 8260B** Analysis Date: **10/22/2016** SeqNo: **2456453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
Benzene	ND	1.0									
Ethylbenzene	0.080	1.0									J
m,p-Xylene	ND	1.0									
MTBE	ND	1.0									
o-Xylene	ND	1.0									
Tert-Butanol	ND	5.0									
Toluene	ND	2.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	22.970		25.00		91.9	72	119				
Surr: 4-Bromofluorobenzene	23.090		25.00		92.4	76	119				
Surr: Dibromofluoromethane	24.390		25.00		97.6	85	115				
Surr: Toluene-d8	24.050		25.00		96.2	81	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270WATER_SIMEXT

Sample ID: **LCS-60067** SampType: **LCS** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **10/24/2016** RunNo: **111273**
Client ID: **LCSW** Batch ID: **60067** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **10/24/2016** SeqNo: **2457629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	6.810	2.0	6.000	0	114	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.700		1.000		70.0	16	120				
Surr: 2-Fluorobiphenyl	0.710		1.000		71.0	25	120				
Surr: 4-Terphenyl-d14	1.560		1.000		156	46	132				S
Surr: Phenol-d5	0.730		1.000		73.0	15	120				

Sample ID: **MB-60067** SampType: **MBLK** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **10/24/2016** RunNo: **111273**
Client ID: **PBW** Batch ID: **60067** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **10/24/2016** SeqNo: **2457630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	1.910	2.0									J
Surr: 1,2-Dichlorobenzene-d4	0.630		1.000		63.0	16	120				
Surr: 2-Fluorobiphenyl	0.680		1.000		68.0	25	120				
Surr: 4-Terphenyl-d14	1.310		1.000		131	46	132				
Surr: Phenol-d5	0.630		1.000		63.0	15	120				

Sample ID: **N021359-001F-MS** SampType: **MS** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **10/24/2016** RunNo: **111273**
Client ID: **ZZZZZZ** Batch ID: **60067** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **10/24/2016** SeqNo: **2457632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	6.556	2.0	6.061	1.890	77.0	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.747		1.010		74.0	16	120				
Surr: 2-Fluorobiphenyl	0.667		1.010		66.0	25	120				
Surr: 4-Terphenyl-d14	1.515		1.010		150	46	132				S
Surr: Phenol-d5	0.576		1.010		57.0	15	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021359
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270WATER_SIMEXT

Sample ID: **N021359-001F-MSD** SampType: **MSD** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **10/24/2016** RunNo: **111273**
Client ID: **ZZZZZZ** Batch ID: **60067** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **10/24/2016** SeqNo: **2457633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	6.616	2.0	6.061	1.890	78.0	24	120	6.556	0.920	20	
Surr: 1,2-Dichlorobenzene-d4	0.687		1.010		68.0	16	120		0		
Surr: 2-Fluorobiphenyl	0.667		1.010		66.0	25	120		0		
Surr: 4-Terphenyl-d14	1.364		1.010		135	46	132		0		S
Surr: Phenol-d5	0.545		1.010		54.0	15	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CA CoC #18

Advanced Technology Laboratories
3151 W. Post Road
Las Vegas, NV 89118
Tel: 702-307-2659 Fax: 702-307-2691
Marlon Cartin (marlon@atl-labs.com)

CHAIN OF CUSTODY RECORD

DATE: 10/21/16
PAGE: 1 of 1

Section A Required Client Information:		**Section B** Required Project Information:		**Section C** Invoice Information:		**Section D** Sampler Information:	
Company:	Kinder Morgan Energy Partners Attention: Steve Defibaugh	Report To:	Dan Jablonski	Attention:	Steve Defibaugh - Ref. AFE# 81195	Sampler Name:	James Dye
Address:	1100 Town & Country Road Orange, CA 92868	Copy To:	Steve Defibaugh	Company Name:	Kinder Morgan Energy Partners	Sampler Signature:	
Email To:	steve_defibaugh@kindermorgan.com daniel.jablonski@ch2m.com	Purchase Order No.:		Address:	1100 Town & Country Road Orange, CA 92868	Sample Date:	10/21/16
Phone: 714-560-4802	Fax: 714-560-4801	Project Name:	SFPP Norwalk	ATL Project Manager:	Marlon Cartin		

Section E Required Sample Information

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING DATE	SAMPLING TIME	TOTAL # OF CONTAINERS	SAMPLE TEMPERATURE (°F)	Analysis Test: Oil & Grease (1664)	TPH-g, TPH-d, and TPH-oil (8015B)	Settleable Solids (SM2540F)	Total Suspended Solids (SM2540D)	Phenol (8270)	BTEX, 1,1-DCA, 1,2-DCA (8260B)	MTBE and TBA, (8260B); 48HR TAT	Cu, Pb, Se, Tl, and Zn (200.8); 48 Hr TAT	Hg (245.1); 48 Hr TAT	Cr VI (7199)	Comments
CONTAINER TYPE														V	V				
# OF CONTAINERS																			
PRESERVATIVE														H	H				
VOLUME (mL)														40	40				
1	EFF-13-21	EFFLUENT	WW	G	10/21/16	1300	23		X	X	X	X	X	X	X	X	X	X	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Relinquished by (Signature and Printed Name):	Date / Time	Relinquished by (Signature and Printed Name):	Date / Time
	10/21/16 1345		10/21/16 1700
Relinquished by (Signature and Printed Name):	Date / Time	Relinquished by (Signature and Printed Name):	Date / Time
	10/21/16 5:27PM		10/21/16 5:45PM
Relinquished by (Signature and Printed Name):	Date / Time	Relinquished by (Signature and Printed Name):	Date / Time

Turn Around Time (TAT):

- ☐ A = Same Day
- ☐ B = 24 Hours
- ☐ C = 48 Hours
- ☐ D = 72 Hours
- ☐ E = 5 Workdays
- ☐ E = 10 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00 PM.

Special Instruction:

Matrix:			**Preservatives:**			**Container Type:**		
W = Water	WW = Wastewater		H = HCl	N = HNO3	S = H2SO4	T = Tube	V = VOA	P = Pint
O = Oil	P = Product	S = Soil	Z = Zn(AC)2	O = NaOH	T = Na2S2O3	J = Jar	B = Tedlar	G = Glass
Others/Specify:			Others/Specify:			M = Metal	P = Plastic	C = Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 10/21/2016 Workorder: N021359

Rep sample Temp (Deg C): IR Gun ID: 1

Temp Blank: ☐ Yes ☑ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☑
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
	Yes ☐	No ☐	NA ☑

Comments: Sample received on ice.

Checklist Completed By: RB 10/24/2016

Reviewed By: 10/24/2016

ASSET Laboratories

WORK ORDER Summary

25-Oct-16

WorkOrder: N021359

Client ID: CH2HI03

Project: SFPP - Norwalk Site **QC Level:** RTNE **Date Received:** 10/21/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N021359-001A	EFF-10-21	10/21/2016 1:00:00 PM	10/28/2016	Wastewater		Oil and Grease Sample Prep	☐	☐	☐	Consumed
			10/28/2016		EPA 1664 _HEM Rev B	Hexane Extractable Material (HEM)	☐	☐	☐	Consumed
N021359-001B			10/28/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
N021359-001C			10/28/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			10/28/2016		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			10/28/2016		EPA 8015B	Total TPH	☐	☐	☐	WW
N021359-001D			10/28/2016		SM2540F	SETTLEABLE MATTER	☐	☐	☐	WW
			10/28/2016			Setteable Matter	☐	☐	☐	WW
N021359-001E			10/28/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW-CA
			10/28/2016			Total Suspended Solids Prep	☐	☐	☐	WW-CA
N021359-001F			10/28/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C	☐	☐	☐	MDM
			10/28/2016		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	MDM
N021359-001G			10/25/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N021359-001H			10/25/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2016		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	☐	☐	☐	WW
			10/25/2016		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			10/25/2016		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/25/2016			MERCURY PREP	☐	☐	☐	WW
N021359-001I			10/28/2016		EPA 7199	Hexavalent Chromium by IC	☐	☐	☐	WW
N021359-001J							☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Oct-16

WorkOrder: N021359

Client ID: CH2HI03

Project: SFPP - Norwalk Site **QC Level:** RTNE **Date Received:** 10/21/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N021359-001K	EFF-10-21	10/21/2016 1:00:00 PM		Wastewater			☐	☐	☐	WW
N021359-002A	FOLDER		10/25/2016		Folder	Folder	☐	☐	☐	LAB

November 17, 2016

Dan Jablonski
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:
FAX:

Workorder No.: N021534

RE: SFPP - Norwalk Site

Attention: Dan Jablonski

Enclosed are the results for sample(s) received on November 08, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Puri Romualdo
Laboratory Director

CLIENT: CH2MHill
Project: SFPP - Norwalk Site
Lab Order: N021534

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Subcontracted Analyses:

Ammonia, Cyanide, Total Sulfides, MBAS, BOD, OCPs by EPA 8081, PCBs by EPA 8082, SVOCs by EPA 8270 were subcontracted to BC Labs, Bakersfield, CA.

Asbestos was subcontracted to LA Testing, CA.

Dioxins & Furans by EPA 8290 was subcontracted to Pace Analytical Services, Inc. MN

Analytical Comments for EPA 200.8:

Dilution was necessary on some analytes for sample N021534-001 due to associated internal standard not meeting method criteria possibly due to matrix interference. Sample was analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meet internal standard recovery limit.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N021501-012B-MS and N021501-012B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

CASE NARRATIVE

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of sample upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B:

Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate(LCSD) recovery biased high for Chloroethane. Sample results were non-detect (ND) for these analytes therefore reanalysis of the samples was not necessary.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N021534-001G-MS and N021534-001G-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

Date: *17-Nov-16*

CLIENT: CH2MHill
Project: SFPP - Norwalk Site
Lab Order: N021534
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N021534-001A	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001B	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001C	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001D	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001E	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001F	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001G	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001H	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001I	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001J	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001K	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001L	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001M	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001N	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001O	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001P	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-001Q	EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	11/8/2016	11/17/2016
N021534-002A	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002B	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002C	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002D	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002E	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002F	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002G	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002H	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016
N021534-002I	RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	11/8/2016	11/17/2016

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-001

Client Sample ID: EFF-11-08
Collection Date: 11/8/2016 11:30:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
SM4500-H+B							
RunID: **NV00922-WC_161109B** QC Batch: **R111571** PrepDate: Analyst: **LR**							
pH	6.8	0.10	0.10	H	pH Units	1	11/9/2016 09:30 AM
Temp. at time of pH Analysis	17	0.10	0.10	H	°C	1	11/9/2016 09:30 AM
TOTAL NON-FILTERABLE RESIDUE							
SM2540D							
RunID: **NV00922-WC_161111E** QC Batch: **60256** PrepDate: **11/11/2016** Analyst: **LR**							
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	11/11/2016 12:10 PM
SETTLEABLE MATTER							
SM2540F							
RunID: **NV00922-WC_161109G** QC Batch: **60222** PrepDate: **11/9/2016** Analyst: **QBM**							
Settleable Matter	ND	0.091	0.091		ml/L	1	11/9/2016
HEXANE EXTRACTABLE MATERIAL (HEM)							
EPA 1664 _HEM REV B							
RunID: **NV00922-WC_161111A** QC Batch: **60247** PrepDate: **11/11/2016** Analyst: **LR**							
Oil & Grease	ND	0.71	4.4		mg/L	1	11/11/2016 07:42 AM
TURBIDITY							
SM 2130B							
RunID: **NV00922-WC_161109C** QC Batch: **R111572** PrepDate: Analyst: **LR**							
Turbidity	0.24	0.10	0.10		NTU	1	11/9/2016 10:50 AM
SALINITY.....							
SM 2520B							
RunID: **NV00922-WC_161115A** QC Batch: **R111690** PrepDate: Analyst: **LR**							
Salinity	ND	2.0	2.0		Salinity Units	1	11/15/2016 11:40 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: **CA01638-MS08_161108B** QC Batch: **CA16VW026** PrepDate: Analyst: **RB**							
1,1,1-Trichloroethane	ND	0.068	1.0		ug/L	1	11/9/2016 08:08 AM
1,1,2,2-Tetrachloroethane	ND	0.031	1.0		ug/L	1	11/9/2016 08:08 AM
1,1,2-Trichloroethane	ND	0.062	1.0		ug/L	1	11/9/2016 08:08 AM
1,1-Dichloroethane	ND	0.022	0.50		ug/L	1	11/9/2016 08:08 AM
1,1-Dichloroethene	ND	0.087	1.0		ug/L	1	11/9/2016 08:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-001

Client Sample ID: EFF-11-08
Collection Date: 11/8/2016 11:30:00 AM
Matrix: WASTEWATER

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: **CA01638-MS08_161108B** QC Batch: **CA16VW026** PrepDate: Analyst: **RB**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
1,2,3-Trichlorobenzene	ND	0.056	1.0		ug/L	1	11/9/2016 08:08 AM
1,2,4-Trichlorobenzene	ND	0.060	1.0		ug/L	1	11/9/2016 08:08 AM
1,2-Dichlorobenzene	ND	0.040	1.0		ug/L	1	11/9/2016 08:08 AM
1,2-Dichloroethane	ND	0.064	0.50		ug/L	1	11/9/2016 08:08 AM
1,2-Dichloropropane	ND	0.062	1.0		ug/L	1	11/9/2016 08:08 AM
1,3-Dichlorobenzene	ND	0.057	1.0		ug/L	1	11/9/2016 08:08 AM
1,3-Dichloropropane	ND	0.040	1.0		ug/L	1	11/9/2016 08:08 AM
1,4-Dichlorobenzene	ND	0.030	1.0		ug/L	1	11/9/2016 08:08 AM
2-Butanone	ND	0.48	10		ug/L	1	11/9/2016 08:08 AM
Acrolein	ND	0.56	5.0		ug/L	1	11/9/2016 08:08 AM
Acrylonitrile	ND	0.30	2.0		ug/L	1	11/9/2016 08:08 AM
Benzene	ND	0.036	1.0		ug/L	1	11/9/2016 08:08 AM
Bromodichloromethane	ND	0.031	1.0		ug/L	1	11/9/2016 08:08 AM
Bromoform	ND	0.32	1.0		ug/L	1	11/9/2016 08:08 AM
Bromomethane	ND	0.32	1.0		ug/L	1	11/9/2016 08:08 AM
Carbon tetrachloride	ND	0.057	0.50		ug/L	1	11/9/2016 08:08 AM
Chlorobenzene	ND	0.036	1.0		ug/L	1	11/9/2016 08:08 AM
Chloroethane	ND	0.099	1.0		ug/L	1	11/9/2016 08:08 AM
Chloroform	ND	0.036	1.0		ug/L	1	11/9/2016 08:08 AM
Chloromethane	ND	0.12	1.0		ug/L	1	11/9/2016 08:08 AM
cis-1,3-Dichloropropene	ND	0.044	1.0		ug/L	1	11/9/2016 08:08 AM
Di-isopropyl ether	ND	0.017	1.0		ug/L	1	11/9/2016 08:08 AM
Dibromochloromethane	ND	0.072	1.0		ug/L	1	11/9/2016 08:08 AM
Ethylbenzene	ND	0.036	1.0		ug/L	1	11/9/2016 08:08 AM
Hexachlorobutadiene	ND	0.11	1.0		ug/L	1	11/9/2016 08:08 AM
m,p-Xylene	0.080	0.024	1.0	J	ug/L	1	11/9/2016 08:08 AM
Methylene chloride	ND	0.28	2.0		ug/L	1	11/9/2016 08:08 AM
MTBE	ND	0.062	1.0		ug/L	1	11/9/2016 08:08 AM
Naphthalene	ND	0.048	1.0		ug/L	1	11/9/2016 08:08 AM
o-Xylene	ND	0.042	1.0		ug/L	1	11/9/2016 08:08 AM
Tert-amyl methyl ether	ND	0.039	1.0		ug/L	1	11/9/2016 08:08 AM
Tert-Butanol	ND	0.30	5.0		ug/L	1	11/9/2016 08:08 AM
Tetrachloroethene	ND	0.16	1.0		ug/L	1	11/9/2016 08:08 AM
Toluene	0.10	0.042	2.0	J	ug/L	1	11/9/2016 08:08 AM
trans-1,2-Dichloroethene	ND	0.070	1.0		ug/L	1	11/9/2016 08:08 AM
trans-1,3-Dichloropropene	ND	0.039	1.0		ug/L	1	11/9/2016 08:08 AM

Qualifiers:

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ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-001

Client Sample ID: EFF-11-08
Collection Date: 11/8/2016 11:30:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_161108B** QC Batch: **CA16VW026**				PrepDate:			Analyst: **RB**
Trichloroethene	ND	0.12	1.0		ug/L	1	11/9/2016 08:08 AM
Vinyl chloride	ND	0.095	0.50		ug/L	1	11/9/2016 08:08 AM
Xylenes, Total	ND	1.5	2.0		ug/L	1	11/9/2016 08:08 AM
Surr: 1,2-Dichloroethane-d4	90.0	0	72-119		%REC	1	11/9/2016 08:08 AM
Surr: 4-Bromofluorobenzene	95.4	0	76-119		%REC	1	11/9/2016 08:08 AM
Surr: Dibromofluoromethane	93.9	0	85-115		%REC	1	11/9/2016 08:08 AM
Surr: Toluene-d8	99.9	0	81-120		%REC	1	11/9/2016 08:08 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_161108B** QC Batch: **CA16VW026**				PrepDate:			Analyst: **RB**
2-Chloroethyl vinyl ether	ND	0.14	0.50		µg/L	1	11/9/2016 08:59 AM
Surr: 1,2-Dichloroethane-d4	92.1	0	78-125		%REC	1	11/9/2016 08:59 AM
Surr: 4-Bromofluorobenzene	93.6	0	80-120		%REC	1	11/9/2016 08:59 AM
Surr: Dibromofluoromethane	97.7	0	80-122		%REC	1	11/9/2016 08:59 AM
Surr: Toluene-d8	101	0	80-120		%REC	1	11/9/2016 08:59 AM
TPH EXTRACTABLE BY GC/FID							
		EPA 3510C	**EPA 8015B**				
RunID: **NV00922-GC3_161114C** QC Batch: **60266**				PrepDate: **11/14/2016**			Analyst: **FJ**
TPH-Diesel (C13-C22)	ND	16	26		ug/L	1	11/15/2016 09:11 AM
TPH-Oil (C23-C36)	22	14	26	J	ug/L	1	11/15/2016 09:11 AM
Surr: Octacosane	87.8	0	26-152		%REC	1	11/15/2016 09:11 AM
Surr: p-Terphenyl	93.7	0	57-132		%REC	1	11/15/2016 09:11 AM
GASOLINE RANGE ORGANICS BY GC/FID							
			EPA 8015B				
RunID: **NV00922-GC4_161110A** QC Batch: **E16VW074**				PrepDate:			Analyst: **QBM**
TPH-Gasoline (C4-C12)	ND	16	50		ug/L	1	11/10/2016 12:29 PM
Surr: Chlorobenzene - d5	113	0	74-138		%REC	1	11/10/2016 12:29 PM
HEXAVALENT CHROMIUM BY IC							
			EPA 7199				
RunID: **NV00922-IC7_161108A** QC Batch: **R111596**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.066	0.20		µg/L	1	11/9/2016 08:19 AM

Qualifiers:

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ND	Not Detected at the Reporting Limit
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J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *17-Nov-16*

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-001

Client Sample ID: EFF-11-08
Collection Date: 11/8/2016 11:30:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_161109A** QC Batch: **R111584**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.10	2.5		mg/L	5	11/9/2016 10:19 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_161109A** QC Batch: **R111584**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.065	0.25		mg/L	5	11/9/2016 10:19 AM
MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 245.1				
RunID: **NV00922-AA1_161109B** QC Batch: **60215**				PrepDate:	**11/9/2016**		Analyst: **MG**
Mercury	ND	0.018	0.050		µg/L	1	11/9/2016 01:47 PM
TOTAL METALS BY COLLISION/REACTION CELL ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161109B** QC Batch: **60218**				PrepDate:	**11/9/2016**		Analyst: **CEI**
Selenium	0.20	0.070	0.50	J	µg/L	1	11/9/2016 12:47 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161109B** QC Batch: **60218**				PrepDate:	**11/9/2016**		Analyst: **CEI**
Antimony	0.47	0.026	0.50	J	µg/L	1	11/9/2016 12:47 PM
Arsenic	12	0.016	0.10		µg/L	1	11/9/2016 12:47 PM
Beryllium	ND	0.026	0.50		µg/L	1	11/9/2016 12:47 PM
Cadmium	ND	0.0098	0.25		µg/L	1	11/9/2016 12:47 PM
Chromium	ND	0.086	0.50		µg/L	1	11/9/2016 12:47 PM
Copper	ND	0.26	0.50		µg/L	1	11/9/2016 12:47 PM
Lead	ND	0.27	2.5		µg/L	5	11/9/2016 01:03 PM
Nickel	1.5	0.038	1.0		µg/L	1	11/9/2016 12:47 PM
Silver	ND	0.023	0.25		µg/L	1	11/9/2016 12:47 PM
Thallium	ND	0.17	2.5		µg/L	5	11/9/2016 01:03 PM
Zinc	2.6	0.039	1.0		µg/L	1	11/9/2016 12:47 PM
TOTAL TPH							
			EPA 8015B				
RunID: **NV00922-GC3_161114C** QC Batch: **R111688**				PrepDate:			Analyst: **FJ**
Total TPH	22	16	50	J	ug/L	1	11/15/2016

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified	DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-002

Client Sample ID: RSW-001-11-08
Collection Date: 11/8/2016 12:30:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
SM4500-H+B							
RunID: **NV00922-WC_161109B** QC Batch: **R111571**				PrepDate:			Analyst: **LR**
pH	9.6	0.10	0.10	H	pH Units	1	11/9/2016 09:30 AM
Temp. at time of pH Analysis	17	0.10	0.10	H	°C	1	11/9/2016 09:30 AM
SALINITY.....							
SM 2520B							
RunID: **NV00922-WC_161115A** QC Batch: **R111690**				PrepDate:			Analyst: **LR**
Salinity	ND	2.0	2.0		Salinity Units	1	11/15/2016 11:40 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: **CA01638-MS08_161108B** QC Batch: **CA16VW026**				PrepDate:			Analyst: **RB**
1,1,1-Trichloroethane	ND	0.068	1.0		ug/L	1	11/9/2016 09:24 AM
1,1,2,2-Tetrachloroethane	ND	0.031	1.0		ug/L	1	11/9/2016 09:24 AM
1,1,2-Trichloroethane	ND	0.062	1.0		ug/L	1	11/9/2016 09:24 AM
1,1-Dichloroethane	ND	0.022	0.50		ug/L	1	11/9/2016 09:24 AM
1,1-Dichloroethene	ND	0.087	1.0		ug/L	1	11/9/2016 09:24 AM
1,2,3-Trichlorobenzene	ND	0.056	1.0		ug/L	1	11/9/2016 09:24 AM
1,2,4-Trichlorobenzene	ND	0.060	1.0		ug/L	1	11/9/2016 09:24 AM
1,2-Dichlorobenzene	ND	0.040	1.0		ug/L	1	11/9/2016 09:24 AM
1,2-Dichloroethane	ND	0.064	0.50		ug/L	1	11/9/2016 09:24 AM
1,2-Dichloropropane	ND	0.062	1.0		ug/L	1	11/9/2016 09:24 AM
1,3-Dichlorobenzene	ND	0.057	1.0		ug/L	1	11/9/2016 09:24 AM
1,3-Dichloropropane	ND	0.040	1.0		ug/L	1	11/9/2016 09:24 AM
1,4-Dichlorobenzene	ND	0.030	1.0		ug/L	1	11/9/2016 09:24 AM
2-Butanone	ND	0.48	10		ug/L	1	11/9/2016 09:24 AM
Acrolein	ND	0.56	5.0		ug/L	1	11/9/2016 09:24 AM
Acrylonitrile	ND	0.30	2.0		ug/L	1	11/9/2016 09:24 AM
Benzene	0.040	0.036	1.0	J	ug/L	1	11/9/2016 09:24 AM
Bromodichloromethane	ND	0.031	1.0		ug/L	1	11/9/2016 09:24 AM
Bromoform	ND	0.32	1.0		ug/L	1	11/9/2016 09:24 AM
Bromomethane	ND	0.32	1.0		ug/L	1	11/9/2016 09:24 AM
Carbon tetrachloride	ND	0.057	0.50		ug/L	1	11/9/2016 09:24 AM
Chlorobenzene	ND	0.036	1.0		ug/L	1	11/9/2016 09:24 AM
Chloroethane	ND	0.099	1.0		ug/L	1	11/9/2016 09:24 AM
Chloroform	ND	0.036	1.0		ug/L	1	11/9/2016 09:24 AM
Chloromethane	0.19	0.12	1.0	J	ug/L	1	11/9/2016 09:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-002

Client Sample ID: RSW-001-11-08
Collection Date: 11/8/2016 12:30:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_161108B**	QC Batch: **CA16VW026**			PrepDate:			Analyst: **RB**
cis-1,3-Dichloropropene	ND	0.044	1.0		ug/L	1	11/9/2016 09:24 AM
Di-isopropyl ether	ND	0.017	1.0		ug/L	1	11/9/2016 09:24 AM
Dibromochloromethane	ND	0.072	1.0		ug/L	1	11/9/2016 09:24 AM
Ethylbenzene	ND	0.036	1.0		ug/L	1	11/9/2016 09:24 AM
Hexachlorobutadiene	ND	0.11	1.0		ug/L	1	11/9/2016 09:24 AM
m,p-Xylene	0.13	0.024	1.0	J	ug/L	1	11/9/2016 09:24 AM
Methylene chloride	ND	0.28	2.0		ug/L	1	11/9/2016 09:24 AM
MTBE	ND	0.062	1.0		ug/L	1	11/9/2016 09:24 AM
Naphthalene	ND	0.048	1.0		ug/L	1	11/9/2016 09:24 AM
o-Xylene	ND	0.042	1.0		ug/L	1	11/9/2016 09:24 AM
Tert-amyl methyl ether	ND	0.039	1.0		ug/L	1	11/9/2016 09:24 AM
Tert-Butanol	ND	0.30	5.0		ug/L	1	11/9/2016 09:24 AM
Tetrachloroethene	ND	0.16	1.0		ug/L	1	11/9/2016 09:24 AM
Toluene	0.060	0.042	2.0	J	ug/L	1	11/9/2016 09:24 AM
trans-1,2-Dichloroethene	ND	0.070	1.0		ug/L	1	11/9/2016 09:24 AM
trans-1,3-Dichloropropene	ND	0.039	1.0		ug/L	1	11/9/2016 09:24 AM
Trichloroethene	ND	0.12	1.0		ug/L	1	11/9/2016 09:24 AM
Vinyl chloride	ND	0.095	0.50		ug/L	1	11/9/2016 09:24 AM
Xylenes, Total	ND	1.5	2.0		ug/L	1	11/9/2016 09:24 AM
Surr: 1,2-Dichloroethane-d4	92.7	0	72-119		%REC	1	11/9/2016 09:24 AM
Surr: 4-Bromofluorobenzene	95.5	0	76-119		%REC	1	11/9/2016 09:24 AM
Surr: Dibromofluoromethane	97.6	0	85-115		%REC	1	11/9/2016 09:24 AM
Surr: Toluene-d8	101	0	81-120		%REC	1	11/9/2016 09:24 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_161108B**	QC Batch: **CA16VW026**			PrepDate:			Analyst: **RB**
2-Chloroethyl vinyl ether	ND	0.14	0.50		µg/L	1	11/9/2016 08:33 AM
Surr: 1,2-Dichloroethane-d4	91.3	0	78-125		%REC	1	11/9/2016 08:33 AM
Surr: 4-Bromofluorobenzene	93.2	0	80-120		%REC	1	11/9/2016 08:33 AM
Surr: Dibromofluoromethane	96.0	0	80-122		%REC	1	11/9/2016 08:33 AM
Surr: Toluene-d8	100	0	80-120		%REC	1	11/9/2016 08:33 AM
HEXAVALENT CHROMIUM BY IC							
			EPA 7199				
RunID: **NV00922-IC7_161108B**	QC Batch: **R111597**			PrepDate:			Analyst: **RAB**

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N021534
Project: SFPP - Norwalk Site
Lab ID: N021534-002

Client Sample ID: RSW-001-11-08
Collection Date: 11/8/2016 12:30:00 PM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 7199				
RunID: **NV00922-IC7_161108B** QC Batch: **R111597**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.24	0.066	0.20		µg/L	1	11/9/2016 10:18 AM
MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 245.1				
RunID: **NV00922-AA1_161109B** QC Batch: **60215**				PrepDate:	**11/9/2016**		Analyst: **MG**
Mercury	ND	0.018	0.050		µg/L	1	11/9/2016 01:43 PM
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_161109D** QC Batch: **60216**				PrepDate:	**11/9/2016**		Analyst: **CEI**
Calcium	51000	28	500		µg/L	1	11/9/2016 06:39 PM
Magnesium	41000	4.4	100		µg/L	1	11/9/2016 06:39 PM
HARDNESS BY CALCULATION							
			SM 2340 B				
RunID: **NV00922-ICP2_161109D** QC Batch: **60216**				PrepDate:	**11/9/2016**		Analyst: **CEI**
Total Hardness (As CaCO3)	300	1.0	1.0		mg/L	1	11/9/2016
TOTAL METALS BY COLLISION/REACTION CELL ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161109B** QC Batch: **60218**				PrepDate:	**11/9/2016**		Analyst: **CEI**
Selenium	2.4	0.070	0.50		µg/L	1	11/9/2016 12:58 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161109B** QC Batch: **60218**				PrepDate:	**11/9/2016**		Analyst: **CEI**
Antimony	1.0	0.026	0.50		µg/L	1	11/9/2016 12:58 PM
Arsenic	5.4	0.016	0.10		µg/L	1	11/9/2016 12:58 PM
Beryllium	ND	0.026	0.50		µg/L	1	11/9/2016 12:58 PM
Cadmium	0.12	0.0098	0.25	J	µg/L	1	11/9/2016 12:58 PM
Chromium	0.32	0.086	0.50	J	µg/L	1	11/9/2016 12:58 PM
Copper	4.7	0.26	0.50		µg/L	1	11/9/2016 12:58 PM
Lead	0.17	0.053	0.50	J	µg/L	1	11/9/2016 12:58 PM
Nickel	1.6	0.038	1.0		µg/L	1	11/9/2016 12:58 PM
Silver	ND	0.023	0.25		µg/L	1	11/9/2016 12:58 PM
Thallium	0.058	0.034	0.50	J	µg/L	1	11/9/2016 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT:	CH2MHill	**Client Sample ID:**	RSW-001-11-08
Lab Order:	N021534	**Collection Date:**	11/8/2016 12:30:00 PM
Project:	SFPP - Norwalk Site	**Matrix:**	WASTEWATER
Lab ID:	N021534-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: **NV00922-ICP7_161109B** QC Batch: **60218** PrepDate: **11/9/2016** Analyst: **CEI**							
Zinc	10	0.039	1.0		µg/L	1	11/9/2016 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified	DO	Surrogate Diluted Out

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID: **N021534-002ADUP** SampType: **DUP** TestCode: **150.1_4500H+** Units: **pH Units** Prep Date: RunNo: **111571**
Client ID: **ZZZZZZ** Batch ID: **R111571** TestNo: **SM4500-H+B** Analysis Date: **11/9/2016** SeqNo: **2472613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	9.710	0.10						9.650	0.620	10	H
Temp. at time of pH Analysis	16.500	0.10						16.70	1.20	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **LCS-60256**	SampType: **LCS**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111630**
Client ID: **LCSW**	Batch ID: **60256**	TestNo: **SM2540D**		Analysis Date: **11/11/2016**	SeqNo: **2475328**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	964.000	10	1000	0	96.4	80	120				

Sample ID: **MBLK-60256**	SampType: **MBLK**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111630**
Client ID: **PBW**	Batch ID: **60256**	TestNo: **SM2540D**		Analysis Date: **11/11/2016**	SeqNo: **2475329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **N021534-001EDUP**	SampType: **DUP**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111630**
Client ID: **ZZZZZZ**	Batch ID: **60256**	TestNo: **SM2540D**		Analysis Date: **11/11/2016**	SeqNo: **2475331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.5_2540F_W

Sample ID: **MB-60222**	SampType: **MBLK**	TestCode: **160.5_2540F_**	Units: **ml/L**	Prep Date: **11/9/2016**	RunNo: **111642**
Client ID: **PBW**	Batch ID: **60222**	TestNo: **SM2540F**		Analysis Date: **11/9/2016**	SeqNo: **2475845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Settleable Matter	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 1664_HEM_W

Sample ID: **MB-60247**	SampType: **MBLK**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111626**
Client ID: **PBW**	Batch ID: **60247**	TestNo: **EPA 1664 _H**		Analysis Date: **11/11/2016**	SeqNo: **2475135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	ND	4.0									

Sample ID: **LCS-60247**	SampType: **LCS**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111626**
Client ID: **LCSW**	Batch ID: **60247**	TestNo: **EPA 1664 _H**		Analysis Date: **11/11/2016**	SeqNo: **2475136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	32.700	4.0	40.00	0	81.8	78	114				

Sample ID: **N021534-001AMS**	SampType: **MS**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111626**
Client ID: **ZZZZZZ**	Batch ID: **60247**	TestNo: **EPA 1664 _H**		Analysis Date: **11/11/2016**	SeqNo: **2475139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	37.471	4.6	45.98	0	81.5	78	114				

Sample ID: **N021534-001AMSD**	SampType: **MSD**	TestCode: **1664_HEM_W**	Units: **mg/L**	Prep Date: **11/11/2016**	RunNo: **111626**
Client ID: **ZZZZZZ**	Batch ID: **60247**	TestNo: **EPA 1664 _H**		Analysis Date: **11/11/2016**	SeqNo: **2475140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease	36.180	4.5	44.94	0	80.5	78	114	37.47	3.51	18	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **MB-60216**	SampType: **MBLK**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111601**
Client ID: **PBW**	Batch ID: **60216**	TestNo: **EPA 200.7**		Analysis Date: **11/9/2016**	SeqNo: **2474313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	500									
Magnesium	ND	100									

Sample ID: **LCS-60216**	SampType: **LCS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111601**
Client ID: **LCSW**	Batch ID: **60216**	TestNo: **EPA 200.7**		Analysis Date: **11/9/2016**	SeqNo: **2474314**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9901.259	500	10000	0	99.0	85	115				
Magnesium	10082.387	100	10000	0	101	85	115				

Sample ID: **N021534-002D-DUP**	SampType: **DUP**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111601**
Client ID: **ZZZZZZ**	Batch ID: **60216**	TestNo: **EPA 200.7**		Analysis Date: **11/9/2016**	SeqNo: **2474317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	56657.322	500						51430	9.67	20	
Magnesium	45156.809	100						40910	9.88	20	

Sample ID: **N021534-002D-MS**	SampType: **MS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111601**
Client ID: **ZZZZZZ**	Batch ID: **60216**	TestNo: **EPA 200.7**		Analysis Date: **11/9/2016**	SeqNo: **2474319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	62905.146	500	10000	51430	115	75	125				
Magnesium	52356.774	100	10000	40910	115	75	125				

Sample ID: **N021534-002D-MSD**	SampType: **MSD**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111601**
Client ID: **ZZZZZZ**	Batch ID: **60216**	TestNo: **EPA 200.7**		Analysis Date: **11/9/2016**	SeqNo: **2474320**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	63666.877	500	10000	51430	122	75	125	62910	1.20	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **N021534-002D-MSD**	SampType: **MSD**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111601**						
Client ID: **ZZZZZZ**	Batch ID: **60216**	TestNo: **EPA 200.7**		Analysis Date: **11/9/2016**	SeqNo: **2474320**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	52529.930	100	10000	40910	116	75	125	52360	0.330	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_DRC

Sample ID: **LCS-60218** SampType: **LCS** TestCode: **200.8_W_DR** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **LCSW** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	10.030	0.50	10.00	0	100	85	115				

Sample ID: **N021501-012B-MS** SampType: **MS** TestCode: **200.8_W_DR** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.428	0.50	10.00	0.4549	89.7	75	125				

Sample ID: **N021501-012B-MSD** SampType: **MSD** TestCode: **200.8_W_DR** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.203	0.50	10.00	0.4549	87.5	75	125	9.428	2.42	20	

Sample ID: **N021534-001H-DUP** SampType: **DUP** TestCode: **200.8_W_DR** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.160	0.50						0.1999	0	20	J

Sample ID: **MB-60218** SampType: **MBLK** TestCode: **200.8_W_DR** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **PBW** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473268**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Qualifiers:

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- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **LCS-60218** SampType: **LCS** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **LCSW** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.147	0.50	10.00	0	101	85	115				
Arsenic	10.571	0.10	10.00	0	106	85	115				
Beryllium	10.727	0.50	10.00	0	107	85	115				
Cadmium	10.217	0.25	10.00	0	102	85	115				
Chromium	10.379	0.50	10.00	0	104	85	115				
Copper	10.975	0.50	10.00	0	110	85	115				
Lead	9.926	0.50	10.00	0	99.3	85	115				
Nickel	10.565	1.0	10.00	0	106	85	115				
Silver	10.547	0.25	10.00	0	105	85	115				
Thallium	10.339	0.50	10.00	0	103	85	115				
Zinc	106.014	1.0	100.0	0	106	85	115				

Sample ID: **N021501-012B-MS** SampType: **MS** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.938	0.50	10.00	0.1357	98.0	75	125				
Arsenic	13.063	0.10	10.00	2.830	102	75	125				
Beryllium	10.487	0.50	10.00	0	105	75	125				
Cadmium	8.874	0.25	10.00	0	88.7	75	125				
Chromium	126.748	0.50	10.00	103.2	236	75	125				S
Copper	9.203	0.50	10.00	0.3960	88.1	75	125				
Lead	9.488	0.50	10.00	0	94.9	75	125				
Nickel	12.891	1.0	10.00	3.012	98.8	75	125				
Silver	6.880	0.25	10.00	0	68.8	75	125				S
Thallium	9.275	0.50	10.00	0	92.7	75	125				
Zinc	86.514	1.0	100.0	0.7551	85.8	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **N021501-012B-MSD** SampType: **MSD** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.873	0.50	10.00	0.1357	97.4	75	125	9.938	0.655	20	
Arsenic	13.127	0.10	10.00	2.830	103	75	125	13.06	0.487	20	
Beryllium	10.267	0.50	10.00	0	103	75	125	10.49	2.12	20	
Cadmium	9.005	0.25	10.00	0	90.0	75	125	8.874	1.46	20	
Chromium	126.291	0.50	10.00	103.2	231	75	125	126.7	0.361	20	S
Copper	9.128	0.50	10.00	0.3960	87.3	75	125	9.203	0.821	20	
Lead	9.469	0.50	10.00	0	94.7	75	125	9.488	0.199	20	
Nickel	12.841	1.0	10.00	3.012	98.3	75	125	12.89	0.391	20	
Silver	6.841	0.25	10.00	0	68.4	75	125	6.880	0.567	20	S
Thallium	9.218	0.50	10.00	0	92.2	75	125	9.275	0.613	20	
Zinc	86.273	1.0	100.0	0.7551	85.5	75	125	86.51	0.279	20	

Sample ID: **N021534-001H-DUP** SampType: **DUP** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.480	0.50						0.4663	0	20	J
Arsenic	12.466	0.10						11.91	4.59	20	
Beryllium	ND	0.50						0	0	20	
Cadmium	ND	0.25						0	0	20	
Chromium	ND	0.50						0	0	20	
Copper	ND	0.50						0	0	20	
Nickel	1.479	1.0						1.542	4.14	20	
Silver	ND	0.25						0	0	20	
Zinc	2.636	1.0						2.648	0.475	20	

Sample ID: **N021534-001H-DUP** SampType: **DUP** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **11/9/2016** RunNo: **111586**
Client ID: **ZZZZZZ** Batch ID: **60218** TestNo: **EPA 200.8** Analysis Date: **11/9/2016** SeqNo: **2473310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **N021534-001H-DUP**	SampType: **DUP**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111586**
Client ID: **ZZZZZZ**	Batch ID: **60218**	TestNo: **EPA 200.8**		Analysis Date: **11/9/2016**	SeqNo: **2473310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	2.5						0	0	20	
Thallium	ND	2.5						0	0	20	

Sample ID: **MB-60218**	SampType: **MBLK**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111586**
Client ID: **PBW**	Batch ID: **60218**	TestNo: **EPA 200.8**		Analysis Date: **11/9/2016**	SeqNo: **2473313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Beryllium	ND	0.50									
Cadmium	ND	0.25									
Chromium	ND	0.50									
Copper	ND	0.50									
Lead	ND	0.50									
Nickel	ND	1.0									
Silver	ND	0.25									
Thallium	ND	0.50									
Zinc	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID: **MB-R111572**	SampType: **MBLK**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **111572**
Client ID: **PBW**	Batch ID: **R111572**	TestNo: **SM 2130B**		Analysis Date: **11/9/2016**	SeqNo: **2472615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID: **N021534-001EDUP**	SampType: **DUP**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **111572**
Client ID: **ZZZZZZ**	Batch ID: **R111572**	TestNo: **SM 2130B**		Analysis Date: **11/9/2016**	SeqNo: **2472618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.230	0.10						0.2400	4.26	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W_LL

Sample ID: **MB-60215**	SampType: **MBLK**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111578**
Client ID: **PBW**	Batch ID: **60215**	TestNo: **EPA 245.1**		Analysis Date: **11/9/2016**	SeqNo: **2472701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.050									

Sample ID: **LCS-60215**	SampType: **LCS**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111578**
Client ID: **LCSW**	Batch ID: **60215**	TestNo: **EPA 245.1**		Analysis Date: **11/9/2016**	SeqNo: **2472702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.531	0.050	2.500	0	101	85	115				

Sample ID: **N021534-002D-MS**	SampType: **MS**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111578**
Client ID: **ZZZZZZ**	Batch ID: **60215**	TestNo: **EPA 245.1**		Analysis Date: **11/9/2016**	SeqNo: **2472703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.435	0.050	2.500	0	97.4	75	125				

Sample ID: **N021534-002D-MSD**	SampType: **MSD**	TestCode: **245.1_W_LL**	Units: **µg/L**	Prep Date: **11/9/2016**	RunNo: **111578**
Client ID: **ZZZZZZ**	Batch ID: **60215**	TestNo: **EPA 245.1**		Analysis Date: **11/9/2016**	SeqNo: **2472704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.262	0.050	2.500	0	90.5	75	125	2.435	7.36	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 2520_W

Sample ID: **N021534-001EDUP** SampType: **DUP** TestCode: **2520_W** Units: **Salinity Units** Prep Date: RunNo: **111690**
Client ID: **ZZZZZZ** Batch ID: **R111690** TestNo: **SM 2520B** Analysis Date: **11/15/2016** SeqNo: **2478194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Salinity	ND	2.0						0	0	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R111584_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **111584**
Client ID: **PBW**	Batch ID: **R111584**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2016**	SeqNo: **2473582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R111584_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **111584**
Client ID: **LCSW**	Batch ID: **R111584**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2016**	SeqNo: **2473583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.247	0.50	1.250	0	99.7	90	110				

Sample ID: **N021534-001EDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **111584**
Client ID: **ZZZZZZ**	Batch ID: **R111584**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2016**	SeqNo: **2473594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	2.5						0	0	20	

Sample ID: **N021534-001EMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **111584**
Client ID: **ZZZZZZ**	Batch ID: **R111584**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2016**	SeqNo: **2473595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	7.748	2.5	6.250	0	124	80	120				S

Sample ID: **N021534-001EMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **111584**
Client ID: **ZZZZZZ**	Batch ID: **R111584**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2016**	SeqNo: **2473596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	7.758	2.5	6.250	0	124	80	120	7.748	0.123	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R111584_NO3** SampType: **MBLK** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **111584**
Client ID: **PBW** Batch ID: **R111584** TestNo: **EPA 300.0** Analysis Date: **11/9/2016** SeqNo: **2473612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R111584_NO3** SampType: **LCS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **111584**
Client ID: **LCSW** Batch ID: **R111584** TestNo: **EPA 300.0** Analysis Date: **11/9/2016** SeqNo: **2473613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.229	0.050	1.250	0	98.3	90	110				

Sample ID: **N021534-001EDUP** SampType: **DUP** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **111584**
Client ID: **ZZZZZZ** Batch ID: **R111584** TestNo: **EPA 300.0** Analysis Date: **11/9/2016** SeqNo: **2473624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.25						0	0	20	

Sample ID: **N021534-001EMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **111584**
Client ID: **ZZZZZZ** Batch ID: **R111584** TestNo: **EPA 300.0** Analysis Date: **11/9/2016** SeqNo: **2473625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.584	0.25	6.250	0	105	80	120				

Sample ID: **N021534-001EMSD** SampType: **MSD** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **111584**
Client ID: **ZZZZZZ** Batch ID: **R111584** TestNo: **EPA 300.0** Analysis Date: **11/9/2016** SeqNo: **2473626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.589	0.25	6.250	0	105	80	120	6.584	0.0683	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_WPGE

Sample ID: **MB-R111596**	SampType: **MBLK**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111596**
Client ID: **PBW**	Batch ID: **R111596**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2473979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R111596**	SampType: **LCS**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111596**
Client ID: **LCSW**	Batch ID: **R111596**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2473980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.153	0.20	5.000	0	103	90	110				

Sample ID: **N021545-001DDUP**	SampType: **DUP**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111596**
Client ID: **ZZZZZZ**	Batch ID: **R111596**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2473985**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3460.550	100						3278	5.42	20	

Sample ID: **N021543-007BMS**	SampType: **MS**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111596**
Client ID: **ZZZZZZ**	Batch ID: **R111596**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.377	0.20	5.000	3.214	103	85	115				

Sample ID: **N021543-007BMSD**	SampType: **MSD**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111596**
Client ID: **ZZZZZZ**	Batch ID: **R111596**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.350	0.20	5.000	3.214	103	85	115	8.377	0.324	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_WPGE

Sample ID: **N021534-001QREP** SampType: **DUP** TestCode: **7199_WPGE** Units: **µg/L** Prep Date: RunNo: **111596**
Client ID: **ZZZZZZ** Batch ID: **R111596** TestNo: **EPA 7199** Analysis Date: **11/9/2016** SeqNo: **2474028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_WPGE

Sample ID: **LCS-R111597**	SampType: **LCS**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111597**
Client ID: **LCSW**	Batch ID: **R111597**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474103**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.168	0.20	5.000	0	103	90	110				

Sample ID: **MB-R111597**	SampType: **MBLK**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111597**
Client ID: **PBW**	Batch ID: **R111597**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N021534-002IDUP**	SampType: **DUP**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111597**
Client ID: **ZZZZZZ**	Batch ID: **R111597**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.240	0.20						0.2398	0.0834	20	

Sample ID: **N021534-002IMS**	SampType: **MS**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111597**
Client ID: **ZZZZZZ**	Batch ID: **R111597**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474107**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.264	0.20	1.000	0.2398	102	85	115				

Sample ID: **N021534-002IMSD**	SampType: **MSD**	TestCode: **7199_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **111597**
Client ID: **ZZZZZZ**	Batch ID: **R111597**	TestNo: **EPA 7199**		Analysis Date: **11/9/2016**	SeqNo: **2474108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.293	0.20	1.000	0.2398	105	85	115	1.264	2.27	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

Sample ID: **MB-60266** SampType: **MBLK** TestCode: **8015_W_FP_** Units: **ug/L** Prep Date: **11/14/2016** RunNo: **111688**
Client ID: **PBW** Batch ID: **60266** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **11/15/2016** SeqNo: **2478147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	23.035	25									J
Surr: Octacosane	64.235		80.00		80.3	26	152				
Surr: p-Terphenyl	68.134		80.00		85.2	57	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

Sample ID: **MB-R111688** SampType: **MBLK** TestCode: **8015_W_SFP** Units: **ug/L** Prep Date: RunNo: **111688**
Client ID: **PBW** Batch ID: **R111688** TestNo: **EPA 8015B** Analysis Date: **11/15/2016** SeqNo: **2478285**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	23.035	50									J

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: **E161110LCS**	SampType: **LCS**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111609**
Client ID: **LCSW**	Batch ID: **E16VW074**	TestNo: **EPA 8015B**		Analysis Date: **11/10/2016**	SeqNo: **2474430**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	922.000	50	1000	0	92.2	67	136				
Surr: Chlorobenzene - d5	49066.000		50000		98.1	74	138				

Sample ID: **E161110MB1**	SampType: **MBLK**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111609**
Client ID: **PBW**	Batch ID: **E16VW074**	TestNo: **EPA 8015B**		Analysis Date: **11/10/2016**	SeqNo: **2474431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50									
Surr: Chlorobenzene - d5	54011.000		50000		108	74	138				

Sample ID: **N021534-001BDUP**	SampType: **DUP**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111609**
Client ID: **ZZZZZZ**	Batch ID: **E16VW074**	TestNo: **EPA 8015B**		Analysis Date: **11/10/2016**	SeqNo: **2474433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50						0	0	0	
Surr: Chlorobenzene - d5	56976.000		50000		114	74	138		0	0	

Sample ID: **N021534-001BMS**	SampType: **MS**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111609**
Client ID: **ZZZZZZ**	Batch ID: **E16VW074**	TestNo: **EPA 8015B**		Analysis Date: **11/10/2016**	SeqNo: **2474435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1134.000	50	1000	0	113	67	136				
Surr: Chlorobenzene - d5	53060.000		50000		106	74	138				

Sample ID: **N021534-001BMSD**	SampType: **MSD**	TestCode: **8015GAS_WS**	Units: **ug/L**	Prep Date:	RunNo: **111609**
Client ID: **ZZZZZZ**	Batch ID: **E16VW074**	TestNo: **EPA 8015B**		Analysis Date: **11/10/2016**	SeqNo: **2474500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	935.000	50	1000	0	93.5	67	136	1134	19.2	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: **N021534-001BMSD** SampType: **MSD** TestCode: **8015GAS_WS** Units: **ug/L** Prep Date: RunNo: **111609**
Client ID: **ZZZZZZ** Batch ID: **E16VW074** TestNo: **EPA 8015B** Analysis Date: **11/10/2016** SeqNo: **2474500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Chlorobenzene - d5	49908.000		50000		99.8	74	138		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA1611108LCS** SampType: **LCS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **LCSW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473035**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	19.770	1.0	20.00	0	98.8	67	132				
1,1,2,2-Tetrachloroethane	20.070	1.0	20.00	0	100	63	128				
1,1,2-Trichloroethane	19.070	1.0	20.00	0	95.4	75	125				
1,1-Dichloroethane	19.350	0.50	20.00	0	96.8	69	133				
1,1-Dichloroethene	19.060	1.0	20.00	0	95.3	68	130				
1,2,3-Trichlorobenzene	19.490	1.0	20.00	0	97.5	67	137				
1,2,4-Trichlorobenzene	18.850	1.0	20.00	0	94.3	66	134				
1,2-Dichlorobenzene	21.660	1.0	20.00	0	108	71	122				
1,2-Dichloroethane	18.680	0.50	20.00	0	93.4	69	132				
1,2-Dichloropropane	20.190	1.0	20.00	0	101	75	125				
1,3-Dichlorobenzene	20.690	1.0	20.00	0	103	75	124				
1,3-Dichloropropane	20.870	1.0	20.00	0	104	73	126				
1,4-Dichlorobenzene	19.080	1.0	20.00	0	95.4	74	123				
2-Butanone	179.090	10	200.0	0	89.5	49	136				
2-Chloroethyl vinyl ether	16.560	1.0	20.00	0	82.8	70	130				
Acrolein	186.690	5.0	200.0	0	93.3	75	125				
Acrylonitrile	197.980	2.0	200.0	0	99.0	75	125				
Benzene	20.120	1.0	20.00	0	101	81	122				
Bromodichloromethane	19.290	1.0	20.00	0	96.5	76	121				
Bromoform	20.260	1.0	20.00	0	101	69	128				
Bromomethane	21.830	1.0	20.00	0	109	53	141				
Carbon tetrachloride	19.640	0.50	20.00	0	98.2	66	138				
Chlorobenzene	20.320	1.0	20.00	0	102	81	122				
Chloroethane	28.580	1.0	20.00	0	143	58	133				S
Chloroform	19.700	1.0	20.00	0	98.5	69	128				
Chloromethane	23.700	1.0	20.00	0	118	56	131				
cis-1,3-Dichloropropene	21.480	1.0	20.00	0	107	69	131				
Di-isopropyl ether	19.990	1.0	20.00	0	100	70	130				
Dibromochloromethane	20.520	1.0	20.00	0	103	66	133				
Ethylbenzene	20.060	1.0	20.00	0	100	73	127				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA1611108LCS** SampType: **LCS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **LCSW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473035**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	19.340	1.0	20.00	0	96.7	67	131				
m,p-Xylene	43.030	1.0	40.00	0	108	76	128				
Methylene chloride	19.190	2.0	20.00	0	96.0	63	137				
MTBE	19.680	1.0	20.00	0	98.4	65	123				
Naphthalene	18.330	1.0	20.00	0	91.7	54	138				
o-Xylene	20.810	1.0	20.00	0	104	80	121				
Tert-amyl methyl ether	20.990	1.0	20.00	0	105	70	130				
Tert-Butanol	99.820	5.0	100.0	0	99.8	70	130				
Tetrachloroethene	20.670	1.0	20.00	0	103	66	128				
Toluene	19.550	2.0	20.00	0	97.8	77	122				
trans-1,2-Dichloroethene	18.590	1.0	20.00	0	93.0	63	137				
trans-1,3-Dichloropropene	20.100	1.0	20.00	0	101	59	135				
Trichloroethene	19.790	1.0	20.00	0	99.0	70	127				
Vinyl chloride	22.770	0.50	20.00	0	114	50	134				
Xylenes, Total	63.840	2.0	60.00	0	106	75	125				
Surr: 1,2-Dichloroethane-d4	23.540		25.00		94.2	72	119				
Surr: 4-Bromofluorobenzene	26.790		25.00		107	76	119				
Surr: Dibromofluoromethane	24.290		25.00		97.2	85	115				
Surr: Toluene-d8	25.070		25.00		100	81	120				

Sample ID: **CA161108LCSD** SampType: **LCSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **LCSS02** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	19.420	1.0	20.00	0	97.1	67	132	19.77	1.79	20	
1,1,2,2-Tetrachloroethane	19.780	1.0	20.00	0	98.9	63	128	20.07	1.46	20	
1,1,2-Trichloroethane	18.900	1.0	20.00	0	94.5	75	125	19.07	0.895	20	
1,1-Dichloroethane	19.200	0.50	20.00	0	96.0	69	133	19.35	0.778	20	
1,1-Dichloroethene	18.980	1.0	20.00	0	94.9	68	130	19.06	0.421	20	
1,2,3-Trichlorobenzene	19.140	1.0	20.00	0	95.7	67	137	19.49	1.81	20	

Qualifiers:

B Analyte detected in the associated Method Blank
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike/Surrogate outside of limits due to matrix interference
DO Surrogate Diluted Out
Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA161108LCSD** SampType: **LCSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **LCSS02** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	18.660	1.0	20.00	0	93.3	66	134	18.85	1.01	20	
1,2-Dichlorobenzene	21.280	1.0	20.00	0	106	71	122	21.66	1.77	20	
1,2-Dichloroethane	18.970	0.50	20.00	0	94.8	69	132	18.68	1.54	20	
1,2-Dichloropropane	20.300	1.0	20.00	0	102	75	125	20.19	0.543	20	
1,3-Dichlorobenzene	20.490	1.0	20.00	0	102	75	124	20.69	0.971	20	
1,3-Dichloropropane	21.260	1.0	20.00	0	106	73	126	20.87	1.85	20	
1,4-Dichlorobenzene	19.130	1.0	20.00	0	95.7	74	123	19.08	0.262	20	
2-Butanone	190.730	10	200.0	0	95.4	49	136	179.1	6.29	20	
2-Chloroethyl vinyl ether	16.590	1.0	20.00	0	83.0	70	130	16.56	0.181	20	
Acrolein	179.250	5.0	200.0	0	89.6	75	125	186.7	4.07	20	
Acrylonitrile	195.900	2.0	200.0	0	98.0	75	125	198.0	1.06	20	
Benzene	20.130	1.0	20.00	0	101	81	122	20.12	0.0497	20	
Bromodichloromethane	19.480	1.0	20.00	0	97.4	76	121	19.29	0.980	20	
Bromoform	20.370	1.0	20.00	0	102	69	128	20.26	0.541	20	
Bromomethane	22.060	1.0	20.00	0	110	53	141	21.83	1.05	20	
Carbon tetrachloride	19.710	0.50	20.00	0	98.6	66	138	19.64	0.356	20	
Chlorobenzene	20.400	1.0	20.00	0	102	81	122	20.32	0.393	20	
Chloroethane	28.120	1.0	20.00	0	141	58	133	28.58	1.62	20	S
Chloroform	19.320	1.0	20.00	0	96.6	69	128	19.70	1.95	20	
Chloromethane	24.120	1.0	20.00	0	121	56	131	23.70	1.76	20	
cis-1,3-Dichloropropene	21.580	1.0	20.00	0	108	69	131	21.48	0.464	20	
Di-isopropyl ether	20.200	1.0	20.00	0	101	70	130	19.99	1.05	20	
Dibromochloromethane	20.850	1.0	20.00	0	104	66	133	20.52	1.60	20	
Ethylbenzene	20.330	1.0	20.00	0	102	73	127	20.06	1.34	20	
Hexachlorobutadiene	19.430	1.0	20.00	0	97.2	67	131	19.34	0.464	20	
m,p-Xylene	43.410	1.0	40.00	0	109	76	128	43.03	0.879	20	
Methylene chloride	18.810	2.0	20.00	0	94.1	63	137	19.19	2.00	20	
MTBE	19.710	1.0	20.00	0	98.6	65	123	19.68	0.152	20	
Naphthalene	18.350	1.0	20.00	0	91.8	54	138	18.33	0.109	20	
o-Xylene	21.310	1.0	20.00	0	107	80	121	20.81	2.37	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA161108LCSD** SampType: **LCSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **LCSS02** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tert-amyl methyl ether	21.270	1.0	20.00	0	106	70	130	20.99	1.33	20	
Tert-Butanol	100.540	5.0	100.0	0	101	70	130	99.82	0.719	20	
Tetrachloroethene	20.210	1.0	20.00	0	101	66	128	20.67	2.25	20	
Toluene	19.540	2.0	20.00	0	97.7	77	122	19.55	0.0512	20	
trans-1,2-Dichloroethene	18.060	1.0	20.00	0	90.3	63	137	18.59	2.89	20	
trans-1,3-Dichloropropene	20.110	1.0	20.00	0	101	59	135	20.10	0.0497	20	
Trichloroethene	20.310	1.0	20.00	0	102	70	127	19.79	2.59	20	
Vinyl chloride	23.040	0.50	20.00	0	115	50	134	22.77	1.18	20	
Xylenes, Total	64.720	2.0	60.00	0	108	75	125	63.84	1.37	20	
Surr: 1,2-Dichloroethane-d4	23.680		25.00		94.7	72	119		0		
Surr: 4-Bromofluorobenzene	26.570		25.00		106	76	119		0		
Surr: Dibromofluoromethane	24.220		25.00		96.9	85	115		0		
Surr: Toluene-d8	25.480		25.00		102	81	120		0		

Sample ID: **CA161108MB3** SampType: **MBLK** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **PBW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA161108MB3** SampType: **MBLK** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **PBW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	ND	1.0									
2-Butanone	ND	10									
2-Chloroethyl vinyl ether	ND	1.0									
Acrolein	ND	5.0									
Acrylonitrile	ND	2.0									
Benzene	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Ethylbenzene	0.040	1.0									J
Hexachlorobutadiene	ND	1.0									
m,p-Xylene	0.050	1.0									J
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	0.070	1.0									J
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
Tetrachloroethene	ND	1.0									
Toluene	0.120	2.0									J
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **CA161108MB3** SampType: **MBLK** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **PBW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	25.290		25.00		101	72	119				
Surr: 4-Bromofluorobenzene	23.820		25.00		95.3	76	119				
Surr: Dibromofluoromethane	25.510		25.00		102	85	115				
Surr: Toluene-d8	25.280		25.00		101	81	120				

Sample ID: **N021534-001GMS** SampType: **MS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	23.240	1.0	20.00	0	116	67	132				
1,1,2,2-Tetrachloroethane	18.750	1.0	20.00	0	93.8	63	128				
1,1,2-Trichloroethane	18.280	1.0	20.00	0	91.4	75	125				
1,1-Dichloroethane	20.770	0.50	20.00	0	104	69	133				
1,1-Dichloroethene	22.510	1.0	20.00	0	113	68	130				
1,2,3-Trichlorobenzene	20.490	1.0	20.00	0	102	67	137				
1,2,4-Trichlorobenzene	21.660	1.0	20.00	0	108	66	134				
1,2-Dichlorobenzene	23.930	1.0	20.00	0	120	71	122				
1,2-Dichloroethane	19.050	0.50	20.00	0	95.2	69	132				
1,2-Dichloropropane	21.490	1.0	20.00	0	107	75	125				
1,3-Dichlorobenzene	24.330	1.0	20.00	0	122	75	124				
1,3-Dichloropropane	20.360	1.0	20.00	0	102	73	126				
1,4-Dichlorobenzene	22.460	1.0	20.00	0	112	74	123				
2-Butanone	97.830	10	200.0	0	48.9	49	136				S
2-Chloroethyl vinyl ether	22.390	1.0	20.00	0	112	70	130				
Acrolein	146.110	5.0	200.0	0	73.1	75	125				S
Acrylonitrile	147.560	2.0	200.0	0	73.8	75	125				S
Benzene	23.270	1.0	20.00	0	116	81	122				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **N021534-001GMS** SampType: **MS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	20.720	1.0	20.00	0	104	76	121				
Bromoform	18.780	1.0	20.00	0	93.9	69	128				
Bromomethane	28.640	1.0	20.00	0	143	53	141				S
Carbon tetrachloride	25.680	0.50	20.00	0	128	66	138				
Chlorobenzene	23.400	1.0	20.00	0	117	81	122				
Chloroethane	34.100	1.0	20.00	0	170	58	133				S
Chloroform	20.490	1.0	20.00	0	102	69	128				
Chloromethane	27.870	1.0	20.00	0	139	56	131				S
cis-1,3-Dichloropropene	22.520	1.0	20.00	0	113	69	131				
Di-isopropyl ether	20.800	1.0	20.00	0	104	70	130				
Dibromochloromethane	21.230	1.0	20.00	0	106	66	133				
Ethylbenzene	25.120	1.0	20.00	0	126	73	127				
Hexachlorobutadiene	24.290	1.0	20.00	0	121	67	131				
m,p-Xylene	53.460	1.0	40.00	0.08000	133	76	128				S
Methylene chloride	19.450	2.0	20.00	0	97.3	63	137				
MTBE	18.340	1.0	20.00	0	91.7	65	123				
Naphthalene	16.640	1.0	20.00	0	83.2	54	138				
o-Xylene	25.300	1.0	20.00	0	127	80	121				S
Tert-amyl methyl ether	21.610	1.0	20.00	0	108	70	130				
Tert-Butanol	75.300	5.0	100.0	0	75.3	70	130				
Tetrachloroethene	26.200	1.0	20.00	0	131	66	128				S
Toluene	23.230	2.0	20.00	0.1000	116	77	122				
trans-1,2-Dichloroethene	20.790	1.0	20.00	0	104	63	137				
trans-1,3-Dichloropropene	20.730	1.0	20.00	0	104	59	135				
Trichloroethene	23.830	1.0	20.00	0	119	70	127				
Vinyl chloride	28.320	0.50	20.00	0	142	50	134				S
Xylenes, Total	78.760	2.0	60.00	0	131	75	125				S
Surr: 1,2-Dichloroethane-d4	20.630		25.00		82.5	72	119				
Surr: 4-Bromofluorobenzene	26.150		25.00		105	76	119				
Surr: Dibromofluoromethane	21.650		25.00		86.6	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **N021534-001GMS** SampType: **MS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	24.680		25.00		98.7	81	120				

Sample ID: **N021534-001GMSD** SampType: **MSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	20.880	1.0	20.00	0	104	67	132	23.24	10.7	20	
1,1,2,2-Tetrachloroethane	17.910	1.0	20.00	0	89.6	63	128	18.75	4.58	20	
1,1,2-Trichloroethane	17.860	1.0	20.00	0	89.3	75	125	18.28	2.32	20	
1,1-Dichloroethane	19.610	0.50	20.00	0	98.0	69	133	20.77	5.75	20	
1,1-Dichloroethene	20.170	1.0	20.00	0	101	68	130	22.51	11.0	20	
1,2,3-Trichlorobenzene	19.280	1.0	20.00	0	96.4	67	137	20.49	6.08	20	
1,2,4-Trichlorobenzene	20.100	1.0	20.00	0	101	66	134	21.66	7.47	20	
1,2-Dichlorobenzene	22.510	1.0	20.00	0	113	71	122	23.93	6.12	20	
1,2-Dichloroethane	18.530	0.50	20.00	0	92.6	69	132	19.05	2.77	20	
1,2-Dichloropropane	20.550	1.0	20.00	0	103	75	125	21.49	4.47	20	
1,3-Dichlorobenzene	22.940	1.0	20.00	0	115	75	124	24.33	5.88	20	
1,3-Dichloropropane	20.000	1.0	20.00	0	100	73	126	20.36	1.78	20	
1,4-Dichlorobenzene	21.210	1.0	20.00	0	106	74	123	22.46	5.72	20	
2-Butanone	99.210	10	200.0	0	49.6	49	136	97.83	1.40	20	
2-Chloroethyl vinyl ether	22.090	1.0	20.00	0	110	70	130	22.39	1.35	20	
Acrolein	148.260	5.0	200.0	0	74.1	75	125	146.1	1.46	20	S
Acrylonitrile	154.400	2.0	200.0	0	77.2	75	125	147.6	4.53	20	
Benzene	21.930	1.0	20.00	0	110	81	122	23.27	5.93	20	
Bromodichloromethane	19.920	1.0	20.00	0	99.6	76	121	20.72	3.94	20	
Bromoform	18.530	1.0	20.00	0	92.6	69	128	18.78	1.34	20	
Bromomethane	25.070	1.0	20.00	0	125	53	141	28.64	13.3	20	
Carbon tetrachloride	22.420	0.50	20.00	0	112	66	138	25.68	13.6	20	
Chlorobenzene	21.980	1.0	20.00	0	110	81	122	23.40	6.26	20	
Chloroethane	30.630	1.0	20.00	0	153	58	133	34.10	10.7	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **N021534-001GMSD** SampType: **MSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	19.860	1.0	20.00	0	99.3	69	128	20.49	3.12	20	
Chloromethane	24.390	1.0	20.00	0	122	56	131	27.87	13.3	20	
cis-1,3-Dichloropropene	21.700	1.0	20.00	0	108	69	131	22.52	3.71	20	
Di-isopropyl ether	20.130	1.0	20.00	0	101	70	130	20.80	3.27	20	
Dibromochloromethane	20.480	1.0	20.00	0	102	66	133	21.23	3.60	20	
Ethylbenzene	22.650	1.0	20.00	0	113	73	127	25.12	10.3	20	
Hexachlorobutadiene	21.340	1.0	20.00	0	107	67	131	24.29	12.9	20	
m,p-Xylene	48.940	1.0	40.00	0.08000	122	76	128	53.46	8.83	20	
Methylene chloride	18.970	2.0	20.00	0	94.8	63	137	19.45	2.50	20	
MTBE	18.200	1.0	20.00	0	91.0	65	123	18.34	0.766	20	
Naphthalene	15.650	1.0	20.00	0	78.2	54	138	16.64	6.13	20	
o-Xylene	23.570	1.0	20.00	0	118	80	121	25.30	7.08	20	
Tert-amyl methyl ether	20.860	1.0	20.00	0	104	70	130	21.61	3.53	20	
Tert-Butanol	76.020	5.0	100.0	0	76.0	70	130	75.30	0.952	20	
Tetrachloroethene	23.270	1.0	20.00	0	116	66	128	26.20	11.8	20	
Toluene	21.420	2.0	20.00	0.1000	107	77	122	23.23	8.11	20	
trans-1,2-Dichloroethene	19.710	1.0	20.00	0	98.6	63	137	20.79	5.33	20	
trans-1,3-Dichloropropene	20.300	1.0	20.00	0	102	59	135	20.73	2.10	20	
Trichloroethene	22.000	1.0	20.00	0	110	70	127	23.83	7.99	20	
Vinyl chloride	23.940	0.50	20.00	0	120	50	134	28.32	16.8	20	
Xylenes, Total	72.510	2.0	60.00	0	121	75	125	78.76	8.26	20	
Surr: 1,2-Dichloroethane-d4	20.890		25.00		83.6	72	119		0		
Surr: 4-Bromofluorobenzene	26.770		25.00		107	76	119		0		
Surr: Dibromofluoromethane	22.320		25.00		89.3	85	115		0		
Surr: Toluene-d8	25.030		25.00		100	81	120		0		

Qualifiers:

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- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERU

Sample ID: **CA1611108LCS** SampType: **LCS** TestCode: **8260WATERU** Units: **µg/L** Prep Date: RunNo: **111582**
Client ID: **LCSW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	16.560	0.50	20.00	0	82.8	72	122				
Surr: 1,2-Dichloroethane-d4	23.540		25.00		94.2	78	125				
Surr: 4-Bromofluorobenzene	26.790		25.00		107	80	120				
Surr: Dibromofluoromethane	24.290		25.00		97.2	80	122				
Surr: Toluene-d8	25.070		25.00		100	80	120				

Sample ID: **CA161108LCSD** SampType: **LCSD** TestCode: **8260WATERU** Units: **µg/L** Prep Date: RunNo: **111582**
Client ID: **LCSS02** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473056**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	16.590	0.50	20.00	0	83.0	72	122	16.56	0.181	20	
Surr: 1,2-Dichloroethane-d4	23.680		25.00		94.7	78	125		0		
Surr: 4-Bromofluorobenzene	26.570		25.00		106	80	120		0		
Surr: Dibromofluoromethane	24.220		25.00		96.9	80	122		0		
Surr: Toluene-d8	25.480		25.00		102	80	120		0		

Sample ID: **CA161108MB3** SampType: **MBLK** TestCode: **8260WATERU** Units: **µg/L** Prep Date: RunNo: **111582**
Client ID: **PBW** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	ND	0.50									
Surr: 1,2-Dichloroethane-d4	25.290		25.00		101	78	125				
Surr: 4-Bromofluorobenzene	23.820		25.00		95.3	80	120				
Surr: Dibromofluoromethane	25.510		25.00		102	80	122				
Surr: Toluene-d8	25.280		25.00		101	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N021534
Project: SFPP - Norwalk Site

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERU

Sample ID: **N021534-001GMS** SampType: **MS** TestCode: **8260WATERU** Units: **µg/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	22.390	0.50	20.00	0	112	70	130				
Surr: 1,2-Dichloroethane-d4	20.630		25.00		82.5	78	125				
Surr: 4-Bromofluorobenzene	26.150		25.00		105	80	120				
Surr: Dibromofluoromethane	21.650		25.00		86.6	80	122				
Surr: Toluene-d8	24.680		25.00		98.7	80	120				

Sample ID: **N021534-001GMSD** SampType: **MSD** TestCode: **8260WATERU** Units: **µg/L** Prep Date: RunNo: **111582**
Client ID: **ZZZZZZ** Batch ID: **CA16VW026** TestNo: **EPA 8260B** Analysis Date: **11/9/2016** SeqNo: **2473071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	22.090	0.50	20.00	0	110	70	130	22.39	1.35	20	
Surr: 1,2-Dichloroethane-d4	20.890		25.00		83.6	78	125		0		
Surr: 4-Bromofluorobenzene	26.770		25.00		107	80	120		0		
Surr: Dibromofluoromethane	22.320		25.00		89.3	80	122		0		
Surr: Toluene-d8	25.030		25.00		100	80	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CACoC #100

Advanced Technology Laboratories
3151 W. Post Road
Las Vegas, NV 89118
Tel: 702-307-2659 Fax: 702-307-2691
Marlon Cartin (marlon@atl-labs.com)

CHAIN OF CUSTODY RECORD

DATE: 11/8/16
PAGE: _____ of _____

Section A (Required Client Information:)

Company:	**Kinder Morgan Energy Partners** **Attention: Steve Defibaugh**
Address:	1100 Town & Country Road Orange, CA 92868
Email To:	steve_defibaugh@kindermorgan.com daniel.jablonski@ch2m.com
Phone: 714-560-4802	Fax: 714-560-4801

Section B (Required Project Information:)

Report To:	Dan Jablonski
Copy To:	Steve Defibaugh
Purchase Order No.:	
Project Name:	**SFPP Norwalk**

Section C (Invoice Information:)

Attention:	Steve Defibaugh - Ref. AFE# 81195
Company Name:	Kinder Morgan Energy Partners
Address:	1100 Town & Country Road Orange, CA 92868
ATL Project Manager:	Marlon Cartin

Section D (Sampler Information:)

Sampler Name:	James Dye
Sampler Signature:	
Sample Date:	11/8/16

Section E (Required Sample Information)

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING DATE	SAMPLING TIME	TOTAL # OF CONTAINERS	SAMPLE TEMPERATURE (°F)	Analysis Test
							CONTAINER TYPE		V/A
							# OF CONTAINERS		3/3
							PRESERVATIVE		H/-
							VOLUME (mL)		40/1L
1	EFF-11-08	EFFLUENT	WW	G	11/8/16	1130	34	77	X
2	RSW-001-11-08	RECEIVING WATER (50 ft Upstream)	WW	G	11/8/16	1230	20	93	
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

TPH-g, TPH-d, and TPH-oil (8015B)	BTEX, 1,1-DCA, 1,2-DCA (8260B)	MTBE and TBA, (8260B); 48HR TAT	Phenol (8270)	Cu, Pb and Zn (200.8); 48 Hr TAT	Hg (245.1); 48 Hr TAT	BOD (5-days @ 20 deg. C)(SM5210B)	Total Suspended Solids (SM2540D)	Oil & Grease (1664)	Ammonia Nitrogen (as N) (SM-4500 NH3C)	Settleable Solids (SM2540F)	Turbidity (SM2130B)	Salinity	DIPE, TAME, and MEK (8260B)	MBAs (SM 5540C)	Sulfides (SM 4500 S2-D)	Nitrate + Nitrite (as N)(300.0)	TCDD Equivalents (8290)	Other Priority Pollutants (See NPDES List)	Hardness (as CaCO3)	Comments
V	V	V	A	P	P	P	P	G	P	P	P	P	V	P	P	P	A		P	
3	3	3	3	1	1	1	1	3	1	1	1	1	3	1	1	1	2		1	
H	H	H	-	-	-	-	-	H	S	-	-	-	H	-	ZO	-	-		N	
40	40	40	1L	500	1L	1L	1L	1L	500	1L	1L	1L	40	1L	250	1L	1L		1L	
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N021534 - 01
												X					X	X	X	- 02

Relinquished by (Signature and Printed Name): _____ Date / Time: 11/8/16 1350

Relinquished by (Signature and Printed Name): _____ Date / Time: 11/8/16 13:57

Relinquished by (Signature and Printed Name): _____ Date / Time: _____

Relinquished by (Signature and Printed Name): _____ Date / Time: _____

Relinquished by (Signature and Printed Name): _____ Date / Time: _____

Relinquished by (Signature and Printed Name): _____ Date / Time: _____

Turn Around Time (TAT):

- ☐ A = Same Day
- ☑ B = 24 Hours
- ☐ C = 48 Hours
- ☐ D = 72 Hours
- ☐ E = 5 Workdays
- ☐ E = 10 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00 PM.

Special Instruction:

Matrix:		
W = Water	WW = Wastewater	
O = Oil	P = Product	S = Soil
Others/Specify:		

Preservatives:		
H = HCl	N = HNO3	S = H2SO4
Z = Zn(AC)2	O = NaOH	T = Na2S2O3
Others/Specify:		

Container Type:			
T = Tube	V = VOA	P = Pint	A = Amber
J = Jar	B = Tedlar	G = Glass	
M = Metal	P = Plastic	C = Can	

CA CoC #100

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11-8-16

Workorder: N021534

Rep sample Temp (Deg C): Received on ice

IR Gun ID: IRGA1

Temp Blank: ☐ Yes ☒ No

Carrier name: Asset

Last 4 digits of Tracking No.: N/A

Packing Material Used: none

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☒
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
4. Chain of custody present?	Yes ☒	No ☐	
5. Sampler's name present in COC?	Yes ☒	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☒	No ☐	
8. Samples in proper container/bottle?	Yes ☒	No ☐	
9. Sample containers intact?	Yes ☒	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☒	No ☐	
11. All samples received within holding time?	Yes ☒	No ☒	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☐	No ☐	NA ☒
13. Water - VOA vials have zero headspace?	Yes ☒	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☒
15. Did the bottle labels indicate correct preservatives used?	Yes ☒	No ☐	NA ☒
16. Were there Non-Conformance issues at login?	Yes ☒	No ☐	NA ☒
Was Client notified?	Yes ☐	No ☐	NA ☒

Comments:

pH checked in Las vegas Lab.

Sample RSW-001-11-08: Fractions for Metals and Cyanide were Lab preserved. Sample for pH was past holding time upon receipt

Checklist Completed By: Murphy A

Reviewed By: 11/16/2016

CACOC#100

INTERNAL CHAIN OF CUSTODY RECORD

ASSET LABORATORIES
Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.3072691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703 P: 562.219.7435 F: 562.219.7436
www.assetlaboratories.com

FOR LABORATORY USE ONLY

SR Control No: #100

Logged By: ________ Date: ________

Method of Transport: Client ☐ ASSET ☐ CA OverN ☐ FedEx ☐ Other: ____

Sample Condition Upon Receipt
1. CHILLED Y ☐ N ☐ 2.9 1.0 + 6.0
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

No. of Sample Bottles Received: ________

Project Name: SFPP Norwalk — 11-8-16 14:39

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
[signature]	11-8-16	[illegible]	[signature]	11/8/16	2040

General Comments:
- took 3 voas per sample for VOCs
- took 2 voas (unpreserved) per sample for 2-CEVE

Special Instructions/Comments:

#	Sample ID:	Matrix	Date Collected	Bottle Type					Requested Tests:
1	EFF-11-08	water	11-8-16						8015B, 200.8, 245.1, oil & Grease, settleable solids, TSS, Turbidity, salinity, 300.0, TCDD,
2	~~RSW-001-11~~ m.A								
3									
4									
5	RSW-001-11-08	water	11-8-16						Salinity, TCDD, Hardness
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

▪ TAT starts 8AM the following day if samples received after 3 PM

TAT: Overnight ≤ 24 hrs | Emergency Next Workday | Critical 2 Workdays | Urgent 3 Workdays | Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				EPA 8081A	EPA 8082	EPA 8270C
N021534-001F / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001I / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	16OZP			
N021534-001J / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001K / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA	1	1	1
N021534-001L / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZP			
N021534-001P / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZA			
N021534-002E / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA	1	1	1
N021534-002H / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	8OZA			

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze samples for MBAS, Ammonia, CN, Sulfide, OCP, Pesticides, SVOCs using NPDES methods. Please use low RL.

FedEx 650 # 533947951

	Date/Time		Date/Time
Relinquished by: Yoandra Rodriguez	11/9/16 17:00	**Received by:**	
Relinquished by:		**Received by:**	

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM 4500-CN CE	SM 5210 B	SM 5540 C
N021534-001F / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP		1	
N021534-001I / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	16OZP			
N021534-001J / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			1
N021534-001K / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA			
N021534-001L / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZP			
N021534-001P / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZA	1		
N021534-002E / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA			
N021534-002H / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	8OZA	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze samples for MBAS, Ammonia, CN, Sulfide, OCP, Pesticides, SVOCs using NPDES methods. Please use low RL.

FED Ex #: 533947991

	Date/Time		Date/Time
Relinquished by: Yeandro Rodriguez	11/9/16 12:00	Received by:	
Relinquished by:		Received by:	

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3C	SM4500-S-2D	
N021534-001F / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001I / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	16OZP	1		
N021534-001J / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001K / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA			
N021534-001L / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZP		1	
N021534-001P / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZA			
N021534-002E / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA			
N021534-002H / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	8OZA			

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze samples for MBAS, Ammonia, CN, Sulfide, OCP, Pesticides, SVOCs using NPDES methods. Please use low RL.

FED EX # 533947451

	Date/Time		Date/Time
Relinquished by: Yesenia Rodriguez	11/9/16 17:00	Received by:	
Relinquished by:		Received by:	

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

EMS Laboratories
117 W. Bellevue Dr.
Pasadena, CA 91105

TEL: (626) 568-4065
FAX:
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				Asb_PLM		
N021534-001O / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP	1		
N021534-002G / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534B Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Pease analyze for Asbestos by EPA 100.1

GSO #. 533947996

	Date/Time		Date/Time
Relinquished by: Leandro Rodriguez	11/9/16 17:00	**Received by:**	
Relinquished by:		**Received by:**	

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414

TEL: (612) 607-1700
FAX: (612) 607-6444
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: EPA 8290		
N021534-001M / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA	1		
N021534-002B / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534C Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze for Dioxin and Furan by EPA 8290 full list + TEQ.

Fedex #. 777678579089

	Date/Time		Date/Time
Relinquished by: Yoandra Rodriguez	11/9/16 16:00	Received by:	
Relinquished by:		Received by:	

ASSET Laboratories

WORK ORDER Summary

09-Nov-16

WorkOrder: N021534

Client ID: CH2HI03

Project: SFPP - Norwalk Site **QC Level:** RTNE **Date Received:** 11/8/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N021534-001A	EFF-11-20	11/8/2016 11:30:00 AM	11/15/2016	Wastewater		Oil and Grease Sample Prep	☐	☐	☐	WW
			11/15/2016		EPA 1664 _HEM Rev B	Hexane Extractable Material (HEM)	☐	☐	☐	WW
N021534-001B			11/15/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
N021534-001C			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			11/15/2016		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			11/15/2016		EPA 8015B	Total TPH	☐	☐	☐	WW
N021534-001D			11/15/2016		SM2540F	SETTLEABLE MATTER	☐	☐	☐	WW
			11/15/2016			Setteable Matter	☐	☐	☐	WW
N021534-001E			11/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			11/15/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			11/15/2016			Total Suspended Solids Prep	☐	☐	☐	WW
			11/15/2016		SM 2130B	TURBIDITY	☐	☐	☐	WW
			11/15/2016		SM 2520B	SALINITY……	☐	☐	☐	WW
			11/15/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/15/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N021534-001F			11/15/2016		SM 5210 B	BIOCHEMICAL OXYGEN DEMAND	☐	☐	☑	SUB
N021534-001G			11/10/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	V-CA
N021534-001H			11/10/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2016		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	☐	☐	☐	WW
			11/10/2016		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

09-Nov-16

WorkOrder: N021534

Client ID: CH2HI03

Project: SFPP - Norwalk Site **QC Level:** RTNE **Date Received:** 11/8/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N021534-001H	EFF-11-20	11/8/2016 11:30:00 AM	11/10/2016	Wastewater	EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			11/10/2016			MERCURY PREP	☐	☐	☐	WW
N021534-001I			11/15/2016		SM4500-NH3C	AMMONIA-N	☐	☐	☑	SUB
N021534-001J			11/15/2016		SM 5540 C	SURFACTANTS	☐	☐	☑	SUB
N021534-001K			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE/PCB	☐	☐	☑	SUB
			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C	☐	☐	☑	SUB
			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE	☐	☐	☑	SUB
			11/15/2016		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	☐	☐	☑	SUB
			11/15/2016		EPA 8082	PCBs BY GC/ECD	☐	☐	☑	SUB
			11/15/2016		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☑	SUB
N021534-001L			11/15/2016		SM4500-S-2D	SULFIDE, TOTAL	☐	☐	☑	SUB
N021534-001M			11/15/2016		EPA 8290	Dioxins and Dibenzofurans	☐	☐	☑	SUB
N021534-001N			11/15/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N021534-001O			11/15/2016		Asb_PLM	Asbestos PLM	☐	☐	☑	SUB
N021534-001P			11/15/2016			Cyanide Prep	☐	☐	☑	SUB
			11/15/2016		SM 4500-CN CE	CYANIDE, TOTAL	☐	☐	☑	SUB
N021534-001Q			11/15/2016		EPA 7199	Hexavalent Chromium by IC	☐	☐	☐	WW
N021534-002A	RSW-001-11-08	11/8/2016 12:30:00 PM	11/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			11/15/2016		SM 2520B	SALINITY……	☐	☐	☐	WW
N021534-002B			11/15/2016		EPA 8290	Dioxins and Dibenzofurans	☐	☐	☐	SUB

ASSET Laboratories

WORK ORDER Summary

09-Nov-16

WorkOrder: N021534

Client ID: CH2HI03

Project: SFPP - Norwalk Site **QC Level:** RTNE **Date Received:** 11/8/2016

Comments: Report to D. Jablonski/CH2M HILL, cc:KMEP

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N021534-002C	RSW-001-11-08	11/8/2016 12:30:00 PM	11/10/2016	Wastewater	EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	V-CA
N021534-002D			11/10/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2016		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	☐	☐	☐	WW
			11/10/2016		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			11/10/2016		SM 2340 B	Hardness by Calculation	☐	☐	☐	WW
			11/10/2016		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			11/10/2016			MERCURY PREP	☐	☐	☐	WW
N021534-002E			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE/PCB	☐	☐	☑	SUB
			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C	☐	☐	☑	SUB
			11/15/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE	☐	☐	☑	SUB
			11/15/2016		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	☐	☐	☑	SUB
			11/15/2016		EPA 8082	PCBs BY GC/ECD	☐	☐	☑	SUB
			11/15/2016		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☑	SUB
N021534-002F			11/15/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N021534-002G			11/15/2016		Asb_PLM	Asbestos PLM	☐	☐	☑	SUB
N021534-002H			11/15/2016			Cyanide Prep	☐	☐	☑	SUB
			11/15/2016		SM 4500-CN CE	CYANIDE, TOTAL	☐	☐	☑	SUB
N021534-002I			11/15/2016		EPA 7199	Hexavalent Chromium by IC	☐	☐	☐	WW
N021534-003A	FOLDER		11/15/2016		Folder	Folder	☐	☐	☐	LAB

LA Testing
520 Mission Street South Pasadena, CA 91030
Phone/Fax: (323) 254-9960 / (323) 254-9982
http://www.LATesting.com / pasadenalab@latesting.com

LA Testing Order ID: 321625159
Customer ID: ADTL34
Customer PO: N21534B
Project ID:

Attn: All results
Asset Laboratories
3151 West Post Road
Las Vegas, NV 89118

Phone: (702) 307-2659
Fax:
Collected: 11/08/2016
Received: 11/11/2016
Analyzed: 11/21/2016

Proj: PO#: N21534B

Test Report: Determination of Asbestos Structures ≥ 0.5 µm & > 10µm in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm²)	Area Analyzed (mm²)	ASBESTOS				
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
							MFL (million fibers per liter)		
N021534-001O/ EFF-11-(321625159-0001	11/11/2016 05:20 PM	100	1288	0.0650	≥ 0.5 µm	None Detected	ND	0.20	<0.20	0.00 - 0.73
					> 10 µm only	None Detected	ND	0.20	<0.20	0.00 - 0.73
Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.										
N021534-002G / RSW-0(321625159-0002	11/11/2016 05:20 PM	5	1288	0.2600	≥ 0.5 µm	None Detected	ND	0.99	<0.99	0.00 - 3.70
					> 10 µm only	None Detected	ND	0.99	<0.99	0.00 - 3.70
Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.										

Analyst(s)
Sherrie Ahmad (2)

Jerry Drapala Ph.D, Laboratory Manager
or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 11/21/2016 13:36:55

Samples analyzed by LA Testing South Pasadena, CA CA ELAP 2283

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

321625159#

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:
EMS Laboratories
117 W. Bellevue Dr.
Pasadena, CA 91105

TEL: (626) 568-4065
FAX:
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				Asb_PLM		
N021534-001O / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP	1		
N021534-002G / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534B Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Pease analyze for Asbestos by EPA 100.1

GSO #: 533947996

		Date/Time			Date/Time
Relinquished by:	Leandra Rodriguez	11/9/16 17:00	**Received by:**		11.11.16 8:15AM 10.3°C
Relinquished by:			**Received by:**		

Date of Report: 11/22/2016

Molky Brar

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N021534
BCL Project:	Cerritos
BCL Work Order:	1631576
Invoice ID:	B252306

Enclosed are the results of analyses for samples received by the laboratory on 11/10/2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Authorized Signature

Table of Contents

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #: 16-31576

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				EPA 8081A	EPA 8082	EPA 8270C
N021534-001F / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001I / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	16OZP			
N021534-001J / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001K / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA	1	1	1
N021534-001L / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZP			
N021534-001P / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZA			
N021534-002E / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA	1	1	1
N021534-002H / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	8OZA			

CHK BY DISTRIBUTION SUB-OUT

SHORT HOLDING TIME
Cr^{+6} NO_2 NO_3 OP SS
DO Cl_2 BOD MBAS COT

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze samples for MBAS, Ammonia, CN, Sulfide, OCP, Pesticides, SVOCs using NPDES methods. Please use low RL.

Fed Ex 660 #: 533947951

		Date/Time			Date/Time
Relinquished by:	Yoandra Rodriguez	11/9/16 17:00	Received by:		11.10.16 10.45
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 1631576 Page 1 of 5

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: James Dye

16-31576

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM 4500-CN CE	SM 5210 B	SM 5540 C
N021534-001F / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP		1	
N021534-001I / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	16OZP			
N021534-001J / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			1
N021534-001K / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA			
N021534-001L / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZP			
N021534-001P / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZA	1		
N021534-002E / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA			
N021534-002H / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	8OZA	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze samples for MBAS, Ammonia, CN, Sulfide, OCP, Pesticides, SVOCs using NPDES methods. Please use low RL.

650 #: 533947951

		Date/Time			Date/Time
Relinquished by:	Yolanda Rodriguez	11/9/16 17:00	Received by:		11-10-16 10:45
Relinquished by:			Received by:		

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
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CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3C	SM4500-S-2D	
N021534-001F / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001I / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	16OZP	1		
N021534-001J / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZP			
N021534-001K / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA			
N021534-001L / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZP		1	
N021534-001P / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	8OZA			
N021534-002E / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA			
N021534-002H / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	8OZA			

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze samples for MBAS, Ammonia, CN, Sulfide, OCP, Pesticides, SVOCs using NPDES methods. Please use low RL.

650 #: 533947951

		Date/Time			Date/Time
Relinquished by:	Yoandra Rodriguez	11/9/16 17:00	**Received by:**		11.10.16 10:45
Relinquished by:			**Received by:**		

Chain of Custody and Cooler Receipt Form for 1631576 Page 4 of 5

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 2

Submission #: 16-31576

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☐ Other ☒ (Specify) GSO	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)	YES ☐ NO ☐ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 97 Container: Agel Thermometer ID: 208 Date/Time: 11.10.16 10:45

Temperature: (A) 1.6 °C / (C) 1.9 °C Analyst Init: JD

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	A,B									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE	C									
PT NITROGEN FORMS	D									
PT TOTAL SULFIDE	~~BE~~									
2oz. NITRATE / NITRITE	101									
PT TOTAL ORGANIC CARBON	111014									
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER	F									
8oz / 16oz / 32oz ~~JAR~~ For Ambers NaOH	C									
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: JDK Date/Time: 11-10-16 1406

A = Actual / C = Corrected

Rev 21 05/23/2016

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Chain of Custody and Cooler Receipt Form for 1631576 Page 5 of 5

BC LABORATORIES INC. 10 IDL 11/10/16 COOLER RECEIPT FORM Page 2 Of 2

Submission #: 16-31576

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☐ Other ☐ (Specify) GSO	Other ☐ (Specify)	(W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: .97 Container: Amber Thermometer ID: 208 11/10/16 Date/Time 11/10/16

Temperature: (A) 10.0 °C / (C) 10.1 °C 11/10/16 Analyst Init

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE 8oz Amber		IDL 11/10/16								
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA ~~508/608/8080~~ 1081	G,F									
QT EPA ~~515.1/8150~~ 8152	H,G									
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA ~~8015M~~ 8270	H,I									
QT EPA 8270	I,J									
8oz / 16oz / 32oz AMBER	IDL	A⇒D								
8oz / 16oz / 32oz ~~JAR~~ 8oz. Amber with NaOH		E								
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: JDL Date/Time: 11-10-16 1400

A = Actual / C = Corrected

Rev 21 05/23/2016

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ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1631576-01	**COC Number:**	---	**Receive Date:**	11/09/2016 10:45
	Project Number:	---	**Sampling Date:**	11/08/2016 11:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N021534-001F / EFF-11-08	**Lab Matrix:**	Water
	Sampled By:	James Dye	**Sample Type:**	Wastewater
1631576-02	**COC Number:**	---	**Receive Date:**	11/09/2016 10:45
	Project Number:	---	**Sampling Date:**	11/08/2016 12:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N021534-002 / RSW-001-11-08	**Lab Matrix:**	Water
	Sampled By:	James Dye	**Sample Type:**	Wastewater

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Organochlorine Pesticides (EPA Method 8081A)

BCL Sample ID: 1631576-01 | **Client Sample Name:** N021534-001F / EFF-11-08, 11/8/2016 11:30:00AM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Aldrin	ND	ug/L	0.0010	0.00025	EPA-8081A	ND		1
alpha-BHC	ND	ug/L	0.0010	0.00022	EPA-8081A	ND		1
beta-BHC	ND	ug/L	0.0010	0.00041	EPA-8081A	ND		1
delta-BHC	ND	ug/L	0.0010	0.00027	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	ug/L	0.0010	0.00019	EPA-8081A	ND		1
Chlordane (Technical)	ND	ug/L	0.10	0.076	EPA-8081A	ND		1
4,4'-DDD	ND	ug/L	0.0010	0.00033	EPA-8081A	ND		1
4,4'-DDE	ND	ug/L	0.0010	0.00037	EPA-8081A	ND		1
4,4'-DDT	ND	ug/L	0.0010	0.00016	EPA-8081A	ND		1
Dieldrin	ND	ug/L	0.0010	0.00024	EPA-8081A	ND		1
Endosulfan I	ND	ug/L	0.0010	0.00031	EPA-8081A	ND		1
Endosulfan II	ND	ug/L	0.0010	0.00027	EPA-8081A	ND		1
Endosulfan sulfate	ND	ug/L	0.0010	0.00051	EPA-8081A	ND		1
Endrin	ND	ug/L	0.0010	0.00017	EPA-8081A	ND		1
Endrin aldehyde	ND	ug/L	0.0020	0.00064	EPA-8081A	ND		1
Heptachlor	ND	ug/L	0.0010	0.00023	EPA-8081A	ND		1
Heptachlor epoxide	ND	ug/L	0.0010	0.00020	EPA-8081A	ND		1
Methoxychlor	ND	ug/L	0.0010	0.00021	EPA-8081A	ND		1
Toxaphene	ND	ug/L	0.40	0.084	EPA-8081A	ND		1
TCMX (Surrogate)	50.1	%	40 - 140 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	45.7	%	40 - 120 (LCL - UCL)		EPA-8081A			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8081A	11/11/16	11/17/16 09:27	HKS	GC-17	1	BZK1346

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

PCB Analysis (EPA Method 8082)

BCL Sample ID: 1631576-01 | **Client Sample Name:** N021534-001F / EFF-11-08, 11/8/2016 11:30:00AM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
PCB-1016	ND	ug/L	0.20	0.061	EPA-8082	ND		1
PCB-1221	ND	ug/L	0.20	0.20	EPA-8082	ND		1
PCB-1232	ND	ug/L	0.20	0.12	EPA-8082	ND		1
PCB-1242	ND	ug/L	0.20	0.15	EPA-8082	ND		1
PCB-1248	ND	ug/L	0.20	0.060	EPA-8082	ND		1
PCB-1254	ND	ug/L	0.20	0.060	EPA-8082	ND		1
PCB-1260	ND	ug/L	0.20	0.051	EPA-8082	ND		1
Total PCB's (Summation)	ND	ug/L	0.20	0.10	EPA-8082	ND		1
Decachlorobiphenyl (Surrogate)	43.3	%	30 - 120 (LCL - UCL)		EPA-8082			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8082	11/14/16	11/17/16 14:39	ZZZ	GC-14	1	BZK1320

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1631576-01 | **Client Sample Name:** N021534-001F / EFF-11-08, 11/8/2016 11:30:00AM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	ug/L	1.0	0.48	EPA-8270C	ND		1
Acenaphthylene	ND	ug/L	2.0	0.64	EPA-8270C	ND		1
Aldrin	ND	ug/L	2.0	0.80	EPA-8270C	ND		1
Aniline	ND	ug/L	5.0	0.46	EPA-8270C	ND		1
Anthracene	ND	ug/L	2.0	0.79	EPA-8270C	ND		1
Benzidine	ND	ug/L	5.0	1.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	ug/L	2.0	0.52	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	ug/L	2.0	0.66	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	ug/L	2.0	0.80	EPA-8270C	ND		1
Benzo[a]pyrene	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	ug/L	2.0	0.94	EPA-8270C	ND		1
Benzoic acid	ND	ug/L	10	6.1	EPA-8270C	ND		1
Benzyl alcohol	ND	ug/L	2.0	0.67	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	ug/L	2.0	0.59	EPA-8270C	ND		1
alpha-BHC	ND	ug/L	2.0	0.50	EPA-8270C	ND		1
beta-BHC	ND	ug/L	2.0	0.48	EPA-8270C	ND		1
delta-BHC	ND	ug/L	2.0	0.60	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	ug/L	2.0	0.56	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	ug/L	2.0	0.58	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	ug/L	1.0	0.52	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	ug/L	3.0	1.1	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	ug/L	2.0	0.69	EPA-8270C	ND		1
4-Chloroaniline	ND	ug/L	2.0	0.87	EPA-8270C	ND		1
2-Chloronaphthalene	ND	ug/L	2.0	0.50	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	ug/L	2.0	0.68	EPA-8270C	ND		1
Chrysene	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
4,4'-DDD	ND	ug/L	2.0	0.50	EPA-8270C	ND		1
4,4'-DDE	ND	ug/L	3.0	0.58	EPA-8270C	ND		1
4,4'-DDT	ND	ug/L	2.0	0.27	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	ug/L	3.0	0.92	EPA-8270C	ND		1
Dibenzofuran	ND	ug/L	2.0	0.81	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	ug/L	2.0	0.58	EPA-8270C	ND		1

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1631576-01 | **Client Sample Name:** N021534-001F / EFF-11-08, 11/8/2016 11:30:00AM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	ug/L	1.0	0.66	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	ug/L	1.0	0.53	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	ug/L	5.0	0.88	EPA-8270C	ND		1
Dieldrin	ND	ug/L	3.0	0.52	EPA-8270C	ND		1
Diethyl phthalate	ND	ug/L	2.0	0.85	EPA-8270C	ND		1
Dimethyl phthalate	ND	ug/L	2.0	0.55	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	ug/L	2.0	0.74	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	ug/L	2.0	0.99	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	ug/L	2.0	0.74	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	ug/L	2.0	0.85	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	ug/L	1.0	0.70	EPA-8270C	ND		1
Endosulfan I	ND	ug/L	10	2.7	EPA-8270C	ND		1
Endosulfan II	ND	ug/L	10	2.4	EPA-8270C	ND		1
Endosulfan sulfate	ND	ug/L	3.0	0.58	EPA-8270C	ND		1
Endrin	ND	ug/L	2.0	0.54	EPA-8270C	ND		1
Endrin aldehyde	ND	ug/L	10	0.86	EPA-8270C	ND		1
Fluoranthene	ND	ug/L	1.0	0.70	EPA-8270C	ND		1
Fluorene	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
Heptachlor	ND	ug/L	2.0	0.60	EPA-8270C	ND		1
Heptachlor epoxide	ND	ug/L	2.0	0.63	EPA-8270C	ND		1
Hexachlorobenzene	ND	ug/L	1.0	0.71	EPA-8270C	ND		1
Hexachlorobutadiene	ND	ug/L	1.0	0.59	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	ug/L	1.0	0.26	EPA-8270C	ND		1
Hexachloroethane	ND	ug/L	1.0	0.52	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2.0	0.92	EPA-8270C	ND		1
Isophorone	ND	ug/L	1.0	0.51	EPA-8270C	ND		1
2-Methylnaphthalene	ND	ug/L	2.0	0.51	EPA-8270C	ND		1
Naphthalene	ND	ug/L	1.0	0.62	EPA-8270C	ND		1
2-Naphthylamine	ND	ug/L	20	6.5	EPA-8270C	ND		1
2-Nitroaniline	ND	ug/L	2.0	0.80	EPA-8270C	ND		1
3-Nitroaniline	ND	ug/L	2.0	0.82	EPA-8270C	ND		1
4-Nitroaniline	ND	ug/L	5.0	1.1	EPA-8270C	ND		1
Nitrobenzene	ND	ug/L	1.0	0.55	EPA-8270C	ND		1

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1631576-01 | **Client Sample Name:** N021534-001F / EFF-11-08, 11/8/2016 11:30:00AM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	ug/L	2.0	0.45	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	ug/L	2.0	0.59	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	ug/L	1.0	0.80	EPA-8270C	ND		1
Phenanthrene	ND	ug/L	2.0	0.60	EPA-8270C	ND		1
Pyrene	ND	ug/L	2.0	0.62	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.67	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	ug/L	1.0	0.67	EPA-8270C	ND		1
2-Chlorophenol	ND	ug/L	2.0	0.65	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	ug/L	1.0	0.60	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	ug/L	1.0	0.52	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	ug/L	5.0	2.2	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	ug/L	5.0	2.4	EPA-8270C	ND		1
2-Methylphenol	ND	ug/L	2.0	0.57	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	ug/L	2.0	0.83	EPA-8270C	ND		1
2-Nitrophenol	ND	ug/L	2.0	0.42	EPA-8270C	ND		1
4-Nitrophenol	ND	ug/L	2.0	1.7	EPA-8270C	ND		1
Pentachlorophenol	ND	ug/L	1.0	0.45	EPA-8270C	ND		1
Phenol	ND	ug/L	1.0	0.37	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	ug/L	5.0	0.93	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	ug/L	5.0	0.43	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	91.8	%	34 - 108 (LCL - UCL)		EPA-8270C			1
Phenol-d5 (Surrogate)	69.2	%	14 - 76 (LCL - UCL)		EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	112	%	54 - 138 (LCL - UCL)		EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	82.9	%	52 - 134 (LCL - UCL)		EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	90.3	%	57 - 162 (LCL - UCL)		EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	53.0	%	38 - 181 (LCL - UCL)		EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/11/16	11/12/16 20:45	MK1	MS-B1	0.980	BZK1325

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Project Number: N021534
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Water Analysis (General Chemistry)

BCL Sample ID: 1631576-01 | **Client Sample Name:** N021534-001F / EFF-11-08, 11/8/2016 11:30:00AM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
MBAS	ND	mg/L	0.20	0.030	SM-5540C	ND	A07	1
Total Cyanide	ND	mg/L	0.0050	0.0019	EPA-335.4	0.0031		2
Ammonia as N (Distilled)	ND	mg/L	0.20	0.082	SM-4500-NH3G	ND		3
Total Sulfide	ND	mg/L	0.10	0.050	SM-4500SD	ND		4
Biochemical Oxygen Demand - Seeded	ND	mg/L	1.5	1.5	SM17-5210B			5

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	SM-5540C	11/10/16	11/10/16 11:15	JMN	MANUAL	2	BZK0979
2	EPA-335.4	11/15/16	11/15/16 16:10	RCC	KONE-1	1	BZK1412
3	SM-4500-NH3G	11/17/16	11/17/16 13:24	JMH	SC-1	1	BZK1556
4	SM-4500SD	11/14/16	11/14/16 10:00	MC1	SPEC06	1	BZK1306
5	SM17-5210B	11/10/16	11/10/16 07:10	HPR	SKA-1	1.525	BZK1403

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Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Organochlorine Pesticides (EPA Method 8081A)

BCL Sample ID: 1631576-02 | **Client Sample Name:** N021534-002 / RSW-001-11-08, 11/8/2016 12:30:00PM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Aldrin	ND	ug/L	0.0010	0.00025	EPA-8081A	ND		1
alpha-BHC	ND	ug/L	0.0010	0.00022	EPA-8081A	ND		1
beta-BHC	ND	ug/L	0.0010	0.00041	EPA-8081A	ND		1
delta-BHC	ND	ug/L	0.0010	0.00027	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	ug/L	0.0010	0.00019	EPA-8081A	ND		1
Chlordane (Technical)	ND	ug/L	0.10	0.076	EPA-8081A	ND		1
4,4'-DDD	ND	ug/L	0.0010	0.00033	EPA-8081A	ND		1
4,4'-DDE	ND	ug/L	0.0010	0.00037	EPA-8081A	ND		1
4,4'-DDT	ND	ug/L	0.0010	0.00016	EPA-8081A	ND		1
Dieldrin	ND	ug/L	0.0010	0.00024	EPA-8081A	ND		1
Endosulfan I	ND	ug/L	0.0010	0.00031	EPA-8081A	ND		1
Endosulfan II	ND	ug/L	0.0010	0.00027	EPA-8081A	ND		1
Endosulfan sulfate	ND	ug/L	0.0010	0.00051	EPA-8081A	ND		1
Endrin	ND	ug/L	0.0010	0.00017	EPA-8081A	ND		1
Endrin aldehyde	ND	ug/L	0.0020	0.00064	EPA-8081A	ND		1
Heptachlor	ND	ug/L	0.0010	0.00023	EPA-8081A	ND		1
Heptachlor epoxide	ND	ug/L	0.0010	0.00020	EPA-8081A	ND		1
Methoxychlor	ND	ug/L	0.0010	0.00021	EPA-8081A	ND		1
Toxaphene	ND	ug/L	0.40	0.084	EPA-8081A	ND		1
TCMX (Surrogate)	69.9	%	40 - 140 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	40.6	%	40 - 120 (LCL - UCL)		EPA-8081A			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8081A	11/11/16	11/17/16 09:42	HKS	GC-17	1	BZK1346

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Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

PCB Analysis (EPA Method 8082)

BCL Sample ID: 1631576-02 | **Client Sample Name:** N021534-002 / RSW-001-11-08, 11/8/2016 12:30:00PM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
PCB-1016	ND	ug/L	0.20	0.061	EPA-8082	ND		1
PCB-1221	ND	ug/L	0.20	0.20	EPA-8082	ND		1
PCB-1232	ND	ug/L	0.20	0.12	EPA-8082	ND		1
PCB-1242	ND	ug/L	0.20	0.15	EPA-8082	ND		1
PCB-1248	ND	ug/L	0.20	0.060	EPA-8082	ND		1
PCB-1254	ND	ug/L	0.20	0.060	EPA-8082	ND		1
PCB-1260	ND	ug/L	0.20	0.051	EPA-8082	ND		1
Total PCB's (Summation)	ND	ug/L	0.20	0.10	EPA-8082	ND		1
Decachlorobiphenyl (Surrogate)	21.7	%	30 - 120 (LCL - UCL)		EPA-8082		S09	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8082	11/14/16	11/17/16 14:49	ZZZ	GC-14	1	BZK1320

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1631576-02 | **Client Sample Name:** N021534-002 / RSW-001-11-08, 11/8/2016 12:30:00PM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	ug/L	1.0	0.48	EPA-8270C	ND		1
Acenaphthylene	ND	ug/L	2.0	0.64	EPA-8270C	ND		1
Aldrin	ND	ug/L	2.0	0.80	EPA-8270C	ND		1
Aniline	ND	ug/L	5.0	0.46	EPA-8270C	ND		1
Anthracene	ND	ug/L	2.0	0.79	EPA-8270C	ND		1
Benzidine	ND	ug/L	5.0	1.0	EPA-8270C	ND		1
Benzo[a]anthracene	ND	ug/L	2.0	0.52	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	ug/L	2.0	0.66	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	ug/L	2.0	0.80	EPA-8270C	ND		1
Benzo[a]pyrene	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	ug/L	2.0	0.94	EPA-8270C	ND		1
Benzoic acid	ND	ug/L	10	6.1	EPA-8270C	ND		1
Benzyl alcohol	ND	ug/L	2.0	0.67	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	ug/L	2.0	0.59	EPA-8270C	ND		1
alpha-BHC	ND	ug/L	2.0	0.50	EPA-8270C	ND		1
beta-BHC	ND	ug/L	2.0	0.48	EPA-8270C	ND		1
delta-BHC	ND	ug/L	2.0	0.60	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	ug/L	2.0	0.56	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	ug/L	2.0	0.58	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	ug/L	1.0	0.52	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	ug/L	3.0	1.1	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	ug/L	2.0	0.69	EPA-8270C	ND		1
4-Chloroaniline	ND	ug/L	2.0	0.87	EPA-8270C	ND		1
2-Chloronaphthalene	ND	ug/L	2.0	0.50	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	ug/L	2.0	0.68	EPA-8270C	ND		1
Chrysene	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
4,4'-DDD	ND	ug/L	2.0	0.50	EPA-8270C	ND		1
4,4'-DDE	ND	ug/L	3.0	0.58	EPA-8270C	ND		1
4,4'-DDT	ND	ug/L	2.0	0.27	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	ug/L	3.0	0.92	EPA-8270C	ND		1
Dibenzofuran	ND	ug/L	2.0	0.81	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	ug/L	2.0	0.58	EPA-8270C	ND		1

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1631576-02 | **Client Sample Name:** N021534-002 / RSW-001-11-08, 11/8/2016 12:30:00PM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	ug/L	1.0	0.66	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	ug/L	1.0	0.53	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	ug/L	5.0	0.88	EPA-8270C	ND		1
Dieldrin	ND	ug/L	3.0	0.52	EPA-8270C	ND		1
Diethyl phthalate	ND	ug/L	2.0	0.85	EPA-8270C	ND		1
Dimethyl phthalate	ND	ug/L	2.0	0.55	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	ug/L	2.0	0.74	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	ug/L	2.0	0.99	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	ug/L	2.0	0.74	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	ug/L	2.0	0.85	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	ug/L	1.0	0.70	EPA-8270C	ND		1
Endosulfan I	ND	ug/L	10	2.7	EPA-8270C	ND		1
Endosulfan II	ND	ug/L	10	2.4	EPA-8270C	ND		1
Endosulfan sulfate	ND	ug/L	3.0	0.58	EPA-8270C	ND		1
Endrin	ND	ug/L	2.0	0.54	EPA-8270C	ND		1
Endrin aldehyde	ND	ug/L	10	0.86	EPA-8270C	ND		1
Fluoranthene	ND	ug/L	1.0	0.70	EPA-8270C	ND		1
Fluorene	ND	ug/L	2.0	0.73	EPA-8270C	ND		1
Heptachlor	ND	ug/L	2.0	0.60	EPA-8270C	ND		1
Heptachlor epoxide	ND	ug/L	2.0	0.63	EPA-8270C	ND		1
Hexachlorobenzene	ND	ug/L	1.0	0.71	EPA-8270C	ND		1
Hexachlorobutadiene	ND	ug/L	1.0	0.59	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	ug/L	1.0	0.26	EPA-8270C	ND		1
Hexachloroethane	ND	ug/L	1.0	0.52	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2.0	0.92	EPA-8270C	ND		1
Isophorone	ND	ug/L	1.0	0.51	EPA-8270C	ND		1
2-Methylnaphthalene	ND	ug/L	2.0	0.51	EPA-8270C	ND		1
Naphthalene	ND	ug/L	1.0	0.62	EPA-8270C	ND		1
2-Naphthylamine	ND	ug/L	20	6.5	EPA-8270C	ND		1
2-Nitroaniline	ND	ug/L	2.0	0.80	EPA-8270C	ND		1
3-Nitroaniline	ND	ug/L	2.0	0.82	EPA-8270C	ND		1
4-Nitroaniline	ND	ug/L	5.0	1.1	EPA-8270C	ND		1
Nitrobenzene	ND	ug/L	1.0	0.55	EPA-8270C	ND		1

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 1631576-02 | **Client Sample Name:** N021534-002 / RSW-001-11-08, 11/8/2016 12:30:00PM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	ug/L	2.0	0.45	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	ug/L	2.0	0.59	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	ug/L	1.0	0.80	EPA-8270C	ND		1
Phenanthrene	ND	ug/L	2.0	0.60	EPA-8270C	ND		1
Pyrene	ND	ug/L	2.0	0.62	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.67	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	ug/L	1.0	0.67	EPA-8270C	ND		1
2-Chlorophenol	ND	ug/L	2.0	0.65	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	ug/L	1.0	0.60	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	ug/L	1.0	0.52	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	ug/L	5.0	2.2	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	ug/L	5.0	2.4	EPA-8270C	ND		1
2-Methylphenol	ND	ug/L	2.0	0.57	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	ug/L	2.0	0.83	EPA-8270C	ND		1
2-Nitrophenol	ND	ug/L	2.0	0.42	EPA-8270C	ND		1
4-Nitrophenol	ND	ug/L	2.0	1.7	EPA-8270C	ND		1
Pentachlorophenol	ND	ug/L	1.0	0.45	EPA-8270C	ND		1
Phenol	ND	ug/L	1.0	0.37	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	ug/L	5.0	0.93	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	ug/L	5.0	0.43	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	68.8	%	34 - 108 (LCL - UCL)		EPA-8270C			1
Phenol-d5 (Surrogate)	45.4	%	14 - 76 (LCL - UCL)		EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	113	%	54 - 138 (LCL - UCL)		EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	90.7	%	52 - 134 (LCL - UCL)		EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	95.9	%	57 - 162 (LCL - UCL)		EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	46.8	%	38 - 181 (LCL - UCL)		EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/11/16	11/12/16 21:11	MK1	MS-B1	1	BZK1325

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Project Manager: Molky Brar

Water Analysis (General Chemistry)

BCL Sample ID: 1631576-02 | **Client Sample Name:** N021534-002 / RSW-001-11-08, 11/8/2016 12:30:00PM, James Dye

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	**0.0020**	**mg/L**	**0.0050**	**0.0019**	**EPA-9012**	0.0031		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-9012	11/15/16	11/15/16 16:10	RCC	KONE-1	1	BZK1412

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Project Number: N021534
Project Manager: Molky Brar

Organochlorine Pesticides (EPA Method 8081A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZK1346						
Aldrin	BZK1346-BLK1	ND	ug/L	0.0010	0.00025	
alpha-BHC	BZK1346-BLK1	ND	ug/L	0.0010	0.00022	
beta-BHC	BZK1346-BLK1	ND	ug/L	0.0010	0.00041	
delta-BHC	BZK1346-BLK1	ND	ug/L	0.0010	0.00027	
gamma-BHC (Lindane)	BZK1346-BLK1	ND	ug/L	0.0010	0.00019	
Chlordane (Technical)	BZK1346-BLK1	ND	ug/L	0.10	0.076	
4,4'-DDD	BZK1346-BLK1	ND	ug/L	0.0010	0.00033	
4,4'-DDE	BZK1346-BLK1	ND	ug/L	0.0010	0.00037	
4,4'-DDT	BZK1346-BLK1	ND	ug/L	0.0010	0.00016	
Dieldrin	BZK1346-BLK1	ND	ug/L	0.0010	0.00024	
Endosulfan I	BZK1346-BLK1	ND	ug/L	0.0010	0.00031	
Endosulfan II	BZK1346-BLK1	ND	ug/L	0.0010	0.00027	
Endosulfan sulfate	BZK1346-BLK1	ND	ug/L	0.0010	0.00051	
Endrin	BZK1346-BLK1	ND	ug/L	0.0010	0.00017	
Endrin aldehyde	BZK1346-BLK1	ND	ug/L	0.0020	0.00064	
Heptachlor	BZK1346-BLK1	ND	ug/L	0.0010	0.00023	
Heptachlor epoxide	BZK1346-BLK1	ND	ug/L	0.0010	0.00020	
Methoxychlor	BZK1346-BLK1	ND	ug/L	0.0010	0.00021	
Toxaphene	BZK1346-BLK1	ND	ug/L	0.40	0.084	
TCMX (Surrogate)	**BZK1346-BLK1**	**59.7**	%	**40 - 140 (LCL - UCL)**		
Decachlorobiphenyl (Surrogate)	**BZK1346-BLK1**	**71.0**	%	**40 - 120 (LCL - UCL)**		

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Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Organochlorine Pesticides (EPA Method 8081A)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BZK1346										
Aldrin	BZK1346-BS1	LCS	0.017914	0.030000	ug/L	59.7		60 - 130		L01
gamma-BHC (Lindane)	BZK1346-BS1	LCS	0.023318	0.030000	ug/L	77.7		60 - 130		
4,4'-DDT	BZK1346-BS1	LCS	0.024968	0.030000	ug/L	83.2		60 - 130		
Dieldrin	BZK1346-BS1	LCS	0.022744	0.030000	ug/L	75.8		60 - 130		
Endrin	BZK1346-BS1	LCS	0.030816	0.030000	ug/L	103		60 - 130		
Heptachlor	BZK1346-BS1	LCS	0.020104	0.030000	ug/L	67.0		60 - 130		
TCMX (Surrogate)	BZK1346-BS1	LCS	0.038842	0.060000	ug/L	64.7		40 - 140		
Decachlorobiphenyl (Surrogate)	BZK1346-BS1	LCS	0.046210	0.12000	ug/L	38.5		40 - 120		S09

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Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Organochlorine Pesticides (EPA Method 8081A)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZK1346	Used client sample: N										
Aldrin	MS	1625251-52	ND	0.018002	0.030000	ug/L		60.0		50 - 130	
	MSD	1625251-52	ND	0.018348	0.030000	ug/L	1.9	61.2	30	50 - 130	
gamma-BHC (Lindane)	MS	1625251-52	ND	0.023284	0.030000	ug/L		77.6		60 - 130	
	MSD	1625251-52	ND	0.023566	0.030000	ug/L	1.2	78.6	30	60 - 130	
4,4'-DDT	MS	1625251-52	ND	0.024042	0.030000	ug/L		80.1		60 - 130	
	MSD	1625251-52	ND	0.024624	0.030000	ug/L	2.4	82.1	30	60 - 130	
Dieldrin	MS	1625251-52	ND	0.022556	0.030000	ug/L		75.2		65 - 130	
	MSD	1625251-52	ND	0.023178	0.030000	ug/L	2.7	77.3	30	65 - 130	
Endrin	MS	1625251-52	ND	0.030470	0.030000	ug/L		102		60 - 130	
	MSD	1625251-52	ND	0.031238	0.030000	ug/L	2.5	104	30	60 - 130	
Heptachlor	MS	1625251-52	ND	0.020324	0.030000	ug/L		67.7		50 - 130	
	MSD	1625251-52	ND	0.020802	0.030000	ug/L	2.3	69.3	30	50 - 130	
TCMX (Surrogate)	MS	1625251-52	ND	0.039056	0.060000	ug/L		65.1		40 - 140	
	MSD	1625251-52	ND	0.039420	0.060000	ug/L	0.9	65.7		40 - 140	
Decachlorobiphenyl (Surrogate)	MS	**1625251-52**	**ND**	**0.043806**	**0.12000**	**ug/L**		**36.5**		**40 - 120**	**S09**
	MSD	**1625251-52**	**ND**	**0.045528**	**0.12000**	**ug/L**	**3.9**	**37.9**		**40 - 120**	**S09**

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PCB Analysis (EPA Method 8082)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZK1320						
PCB-1016	BZK1320-BLK1	ND	ug/L	0.20	0.061	
PCB-1221	BZK1320-BLK1	ND	ug/L	0.20	0.20	
PCB-1232	BZK1320-BLK1	ND	ug/L	0.20	0.12	
PCB-1242	BZK1320-BLK1	ND	ug/L	0.20	0.15	
PCB-1248	BZK1320-BLK1	ND	ug/L	0.20	0.060	
PCB-1254	BZK1320-BLK1	ND	ug/L	0.20	0.060	
PCB-1260	BZK1320-BLK1	ND	ug/L	0.20	0.051	
Total PCB's (Summation)	BZK1320-BLK1	ND	ug/L	0.20	0.10	
Decachlorobiphenyl (Surrogate)	**BZK1320-BLK1**	**85.0**	%	**30 - 120 (LCL - UCL)**		

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PCB Analysis (EPA Method 8082)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BZK1320										
PCB-1016	BZK1320-BS1	LCS	2.5400	2.5000	ug/L	102		60 - 120		
PCB-1260	BZK1320-BS1	LCS	2.4300	2.5000	ug/L	97.2		60 - 130		
Decachlorobiphenyl (Surrogate)	BZK1320-BS1	LCS	0.49000	0.60000	ug/L	81.7		30 - 120		

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PCB Analysis (EPA Method 8082)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZK1320	Used client sample: N										
PCB-1016	MS	1625251-77	ND	2.3300	2.5000	ug/L		93.2		60 - 120	
	MSD	1625251-77	ND	2.3900	2.5000	ug/L	2.5	95.6	30	60 - 120	
PCB-1260	MS	1625251-77	ND	2.3000	2.5000	ug/L		92.0		60 - 130	
	MSD	1625251-77	ND	2.3200	2.5000	ug/L	0.9	92.8	30	60 - 130	
Decachlorobiphenyl (Surrogate)	MS	1625251-77	ND	0.49000	0.60000	ug/L		81.7		30 - 120	
	MSD	1625251-77	ND	0.47000	0.60000	ug/L	4.2	78.3		30 - 120	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZK1325						
Acenaphthene	BZK1325-BLK1	ND	ug/L	1.0	0.48	
Acenaphthylene	BZK1325-BLK1	ND	ug/L	2.0	0.64	
Aldrin	BZK1325-BLK1	ND	ug/L	2.0	0.80	
Aniline	BZK1325-BLK1	ND	ug/L	5.0	0.46	
Anthracene	BZK1325-BLK1	ND	ug/L	2.0	0.79	
Benzidine	BZK1325-BLK1	ND	ug/L	5.0	1.0	
Benzo[a]anthracene	BZK1325-BLK1	ND	ug/L	2.0	0.52	
Benzo[b]fluoranthene	BZK1325-BLK1	ND	ug/L	2.0	0.66	
Benzo[k]fluoranthene	BZK1325-BLK1	ND	ug/L	2.0	0.80	
Benzo[a]pyrene	BZK1325-BLK1	ND	ug/L	2.0	0.73	
Benzo[g,h,i]perylene	BZK1325-BLK1	ND	ug/L	2.0	0.94	
Benzoic acid	BZK1325-BLK1	ND	ug/L	10	6.1	
Benzyl alcohol	BZK1325-BLK1	ND	ug/L	2.0	0.67	
Benzyl butyl phthalate	BZK1325-BLK1	ND	ug/L	2.0	0.59	
alpha-BHC	BZK1325-BLK1	ND	ug/L	2.0	0.50	
beta-BHC	BZK1325-BLK1	ND	ug/L	2.0	0.48	
delta-BHC	BZK1325-BLK1	ND	ug/L	2.0	0.60	
gamma-BHC (Lindane)	BZK1325-BLK1	ND	ug/L	2.0	0.56	
bis(2-Chloroethoxy)methane	BZK1325-BLK1	ND	ug/L	2.0	0.58	
bis(2-Chloroethyl) ether	BZK1325-BLK1	ND	ug/L	1.0	0.52	
bis(2-Chloroisopropyl)ether	BZK1325-BLK1	ND	ug/L	2.0	0.73	
bis(2-Ethylhexyl)phthalate	BZK1325-BLK1	ND	ug/L	3.0	1.1	
4-Bromophenyl phenyl ether	BZK1325-BLK1	ND	ug/L	2.0	0.69	
4-Chloroaniline	BZK1325-BLK1	ND	ug/L	2.0	0.87	
2-Chloronaphthalene	BZK1325-BLK1	ND	ug/L	2.0	0.50	
4-Chlorophenyl phenyl ether	BZK1325-BLK1	ND	ug/L	2.0	0.68	
Chrysene	BZK1325-BLK1	ND	ug/L	2.0	0.73	
4,4'-DDD	BZK1325-BLK1	ND	ug/L	2.0	0.50	
4,4'-DDE	BZK1325-BLK1	ND	ug/L	3.0	0.58	
4,4'-DDT	BZK1325-BLK1	ND	ug/L	2.0	0.27	
Dibenzo[a,h]anthracene	BZK1325-BLK1	ND	ug/L	3.0	0.92	
Dibenzofuran	BZK1325-BLK1	ND	ug/L	2.0	0.81	
1,2-Dichlorobenzene	BZK1325-BLK1	ND	ug/L	2.0	0.58	
1,3-Dichlorobenzene	BZK1325-BLK1	ND	ug/L	1.0	0.66	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZK1325						
1,4-Dichlorobenzene	BZK1325-BLK1	ND	ug/L	1.0	0.53	
3,3-Dichlorobenzidine	BZK1325-BLK1	ND	ug/L	5.0	0.88	
Dieldrin	BZK1325-BLK1	ND	ug/L	3.0	0.52	
Diethyl phthalate	BZK1325-BLK1	ND	ug/L	2.0	0.85	
Dimethyl phthalate	BZK1325-BLK1	ND	ug/L	2.0	0.55	
Di-n-butyl phthalate	BZK1325-BLK1	ND	ug/L	2.0	0.74	
2,4-Dinitrotoluene	BZK1325-BLK1	ND	ug/L	2.0	0.99	
2,6-Dinitrotoluene	BZK1325-BLK1	ND	ug/L	2.0	0.74	
Di-n-octyl phthalate	BZK1325-BLK1	ND	ug/L	2.0	0.85	
1,2-Diphenylhydrazine	BZK1325-BLK1	ND	ug/L	1.0	0.70	
Endosulfan I	BZK1325-BLK1	ND	ug/L	10	2.7	
Endosulfan II	BZK1325-BLK1	ND	ug/L	10	2.4	
Endosulfan sulfate	BZK1325-BLK1	ND	ug/L	3.0	0.58	
Endrin	BZK1325-BLK1	ND	ug/L	2.0	0.54	
Endrin aldehyde	BZK1325-BLK1	ND	ug/L	10	0.86	
Fluoranthene	BZK1325-BLK1	ND	ug/L	1.0	0.70	
Fluorene	BZK1325-BLK1	ND	ug/L	2.0	0.73	
Heptachlor	BZK1325-BLK1	ND	ug/L	2.0	0.60	
Heptachlor epoxide	BZK1325-BLK1	ND	ug/L	2.0	0.63	
Hexachlorobenzene	BZK1325-BLK1	ND	ug/L	1.0	0.71	
Hexachlorobutadiene	BZK1325-BLK1	ND	ug/L	1.0	0.59	
Hexachlorocyclopentadiene	BZK1325-BLK1	ND	ug/L	1.0	0.26	
Hexachloroethane	BZK1325-BLK1	ND	ug/L	1.0	0.52	
Indeno[1,2,3-cd]pyrene	BZK1325-BLK1	ND	ug/L	2.0	0.92	
Isophorone	BZK1325-BLK1	ND	ug/L	1.0	0.51	
2-Methylnaphthalene	BZK1325-BLK1	ND	ug/L	2.0	0.51	
Naphthalene	BZK1325-BLK1	ND	ug/L	1.0	0.62	
2-Naphthylamine	BZK1325-BLK1	ND	ug/L	20	6.5	
2-Nitroaniline	BZK1325-BLK1	ND	ug/L	2.0	0.80	
3-Nitroaniline	BZK1325-BLK1	ND	ug/L	2.0	0.82	
4-Nitroaniline	BZK1325-BLK1	ND	ug/L	5.0	1.1	
Nitrobenzene	BZK1325-BLK1	ND	ug/L	1.0	0.55	
N-Nitrosodimethylamine	BZK1325-BLK1	ND	ug/L	2.0	0.45	
N-Nitrosodi-N-propylamine	BZK1325-BLK1	ND	ug/L	2.0	0.59	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZK1325						
N-Nitrosodiphenylamine	BZK1325-BLK1	ND	ug/L	1.0	0.80	
Phenanthrene	BZK1325-BLK1	ND	ug/L	2.0	0.60	
Pyrene	BZK1325-BLK1	ND	ug/L	2.0	0.62	
1,2,4-Trichlorobenzene	BZK1325-BLK1	ND	ug/L	1.0	0.67	
4-Chloro-3-methylphenol	BZK1325-BLK1	ND	ug/L	1.0	0.67	
2-Chlorophenol	BZK1325-BLK1	ND	ug/L	2.0	0.65	
2,4-Dichlorophenol	BZK1325-BLK1	ND	ug/L	1.0	0.60	
2,4-Dimethylphenol	BZK1325-BLK1	ND	ug/L	1.0	0.52	
4,6-Dinitro-2-methylphenol	BZK1325-BLK1	ND	ug/L	5.0	2.2	
2,4-Dinitrophenol	BZK1325-BLK1	ND	ug/L	5.0	2.4	
2-Methylphenol	BZK1325-BLK1	ND	ug/L	2.0	0.57	
3- & 4-Methylphenol	BZK1325-BLK1	ND	ug/L	2.0	0.83	
2-Nitrophenol	BZK1325-BLK1	ND	ug/L	2.0	0.42	
4-Nitrophenol	BZK1325-BLK1	ND	ug/L	2.0	1.7	
Pentachlorophenol	BZK1325-BLK1	ND	ug/L	1.0	0.45	
Phenol	BZK1325-BLK1	ND	ug/L	1.0	0.37	
2,4,5-Trichlorophenol	BZK1325-BLK1	ND	ug/L	5.0	0.93	
2,4,6-Trichlorophenol	BZK1325-BLK1	ND	ug/L	5.0	0.43	
2-Fluorophenol (Surrogate)	**BZK1325-BLK1**	**66.8**	%	**34 - 108 (LCL - UCL)**		
Phenol-d5 (Surrogate)	**BZK1325-BLK1**	**44.7**	%	**14 - 76 (LCL - UCL)**		
Nitrobenzene-d5 (Surrogate)	**BZK1325-BLK1**	**102**	%	**54 - 138 (LCL - UCL)**		
2-Fluorobiphenyl (Surrogate)	**BZK1325-BLK1**	**82.4**	%	**52 - 134 (LCL - UCL)**		
2,4,6-Tribromophenol (Surrogate)	**BZK1325-BLK1**	**79.9**	%	**57 - 162 (LCL - UCL)**		
p-Terphenyl-d14 (Surrogate)	**BZK1325-BLK1**	**49.0**	%	**38 - 181 (LCL - UCL)**		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BZK1325										
Acenaphthene	BZK1325-BS1	LCS	39.430	50.000	ug/L	78.9		58 - 118		
1,4-Dichlorobenzene	BZK1325-BS1	LCS	70.296	50.000	ug/L	141		55 - 109		L01
2,4-Dinitrotoluene	BZK1325-BS1	LCS	44.668	50.000	ug/L	89.3		53 - 122		
Hexachlorobenzene	BZK1325-BS1	LCS	28.421	40.000	ug/L	71.1		32 - 77		
Hexachlorobutadiene	BZK1325-BS1	LCS	28.654	50.000	ug/L	57.3		39 - 101		
Hexachloroethane	BZK1325-BS1	LCS	33.455	50.000	ug/L	66.9		48 - 110		
Nitrobenzene	BZK1325-BS1	LCS	51.332	50.000	ug/L	103		50 - 122		
N-Nitrosodi-N-propylamine	BZK1325-BS1	LCS	50.217	50.000	ug/L	100		48 - 133		
Pyrene	BZK1325-BS1	LCS	44.921	50.000	ug/L	89.8		35 - 157		
1,2,4-Trichlorobenzene	BZK1325-BS1	LCS	37.752	50.000	ug/L	75.5		53 - 110		
4-Chloro-3-methylphenol	BZK1325-BS1	LCS	43.078	50.000	ug/L	86.2		44 - 121		
2-Chlorophenol	BZK1325-BS1	LCS	45.697	50.000	ug/L	91.4		50 - 104		
2-Methylphenol	BZK1325-BS1	LCS	40.410	50.000	ug/L	80.8		39 - 104		
3- & 4-Methylphenol	BZK1325-BS1	LCS	66.775	100.00	ug/L	66.8		31 - 92		
4-Nitrophenol	BZK1325-BS1	LCS	18.197	50.000	ug/L	36.4		17 - 48		
Pentachlorophenol	BZK1325-BS1	LCS	29.022	40.000	ug/L	72.6		43 - 116		
Phenol	BZK1325-BS1	LCS	23.814	50.000	ug/L	47.6		19 - 58		
2,4,6-Trichlorophenol	BZK1325-BS1	LCS	39.372	50.000	ug/L	78.7		53 - 117		
2-Fluorophenol (Surrogate)	BZK1325-BS1	LCS	28.411	40.000	ug/L	71.0		34 - 108		
Phenol-d5 (Surrogate)	BZK1325-BS1	LCS	18.740	40.000	ug/L	46.8		14 - 76		
Nitrobenzene-d5 (Surrogate)	BZK1325-BS1	LCS	41.691	40.000	ug/L	104		54 - 138		
2-Fluorobiphenyl (Surrogate)	BZK1325-BS1	LCS	35.211	40.000	ug/L	88.0		52 - 134		
2,4,6-Tribromophenol (Surrogate)	BZK1325-BS1	LCS	40.944	40.000	ug/L	102		57 - 162		
p-Terphenyl-d14 (Surrogate)	BZK1325-BS1	LCS	12.581	20.000	ug/L	62.9		38 - 181		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZK1325	Used client sample: N										
Acenaphthene	MS	1625251-73	ND	38.338	50.000	ug/L		76.7		53 - 124	
	MSD	1625251-73	ND	39.292	50.000	ug/L	2.5	78.6	24	53 - 124	
1,4-Dichlorobenzene	MS	**1625251-73**	**ND**	**67.150**	**50.000**	**ug/L**		**134**		**52 - 114**	**Q03**
	MSD	**1625251-73**	**ND**	**67.934**	**50.000**	**ug/L**	**1.2**	**136**	**28**	**52 - 114**	**Q03**
2,4-Dinitrotoluene	MS	1625251-73	ND	41.493	50.000	ug/L		83.0		53 - 125	
	MSD	1625251-73	ND	43.482	50.000	ug/L	4.7	87.0	23	53 - 125	
Hexachlorobenzene	MS	1625251-73	ND	28.087	40.000	ug/L		70.2		32 - 78	
	MSD	1625251-73	ND	27.806	40.000	ug/L	1.0	69.5	21	32 - 78	
Hexachlorobutadiene	MS	1625251-73	ND	26.754	50.000	ug/L		53.5		35 - 106	
	MSD	1625251-73	ND	28.120	50.000	ug/L	5.0	56.2	30	35 - 106	
Hexachloroethane	MS	1625251-73	ND	31.752	50.000	ug/L		63.5		49 - 111	
	MSD	1625251-73	ND	31.768	50.000	ug/L	0.1	63.5	30	49 - 111	
Nitrobenzene	MS	1625251-73	ND	48.745	50.000	ug/L		97.5		46 - 125	
	MSD	1625251-73	ND	51.576	50.000	ug/L	5.6	103	26	46 - 125	
N-Nitrosodi-N-propylamine	MS	1625251-73	ND	47.795	50.000	ug/L		95.6		55 - 124	
	MSD	1625251-73	ND	48.469	50.000	ug/L	1.4	96.9	30	55 - 124	
Pyrene	MS	1625251-73	ND	37.897	50.000	ug/L		75.8		28 - 170	
	MSD	1625251-73	ND	41.372	50.000	ug/L	8.8	82.7	29	28 - 170	
1,2,4-Trichlorobenzene	MS	1625251-73	ND	35.162	50.000	ug/L		70.3		49 - 115	
	MSD	1625251-73	ND	36.214	50.000	ug/L	2.9	72.4	27	49 - 115	
4-Chloro-3-methylphenol	MS	1625251-73	ND	40.543	50.000	ug/L		81.1		46 - 120	
	MSD	1625251-73	ND	42.180	50.000	ug/L	4.0	84.4	25	46 - 120	
2-Chlorophenol	MS	1625251-73	ND	44.629	50.000	ug/L		89.3		51 - 103	
	MSD	1625251-73	ND	45.724	50.000	ug/L	2.4	91.4	27	51 - 103	
2-Methylphenol	MS	1625251-73	ND	38.524	50.000	ug/L		77.0		39 - 105	
	MSD	1625251-73	ND	40.384	50.000	ug/L	4.7	80.8	27	39 - 105	
3- & 4-Methylphenol	MS	1625251-73	ND	65.562	100.00	ug/L		65.6		30 - 96	
	MSD	1625251-73	ND	66.614	100.00	ug/L	1.6	66.6	29	30 - 96	
4-Nitrophenol	MS	1625251-73	ND	20.600	50.000	ug/L		41.2		11 - 55	
	MSD	1625251-73	ND	19.598	50.000	ug/L	5.0	39.2	26	11 - 55	
Pentachlorophenol	MS	1625251-73	ND	29.253	40.000	ug/L		73.1		41 - 120	
	MSD	1625251-73	ND	27.892	40.000	ug/L	4.8	69.7	23	41 - 120	
Phenol	MS	1625251-73	ND	23.108	50.000	ug/L		46.2		14 - 65	
	MSD	1625251-73	ND	23.769	50.000	ug/L	2.8	47.5	29	14 - 65	
2,4,6-Trichlorophenol	MS	1625251-73	ND	43.365	50.000	ug/L		86.7		52 - 120	
	MSD	1625251-73	ND	38.884	50.000	ug/L	10.9	77.8	20	52 - 120	

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZK1325	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1625251-73	ND	28.920	40.000	ug/L		72.3		34 - 108	
	MSD	1625251-73	ND	29.431	40.000	ug/L	1.8	73.6		34 - 108	
Phenol-d5 (Surrogate)	MS	1625251-73	ND	18.306	40.000	ug/L		45.8		14 - 76	
	MSD	1625251-73	ND	19.314	40.000	ug/L	5.4	48.3		14 - 76	
Nitrobenzene-d5 (Surrogate)	MS	1625251-73	ND	39.661	40.000	ug/L		99.2		54 - 138	
	MSD	1625251-73	ND	41.363	40.000	ug/L	4.2	103		54 - 138	
2-Fluorobiphenyl (Surrogate)	MS	1625251-73	ND	36.975	40.000	ug/L		92.4		52 - 134	
	MSD	1625251-73	ND	34.172	40.000	ug/L	7.9	85.4		52 - 134	
2,4,6-Tribromophenol (Surrogate)	MS	1625251-73	ND	39.680	40.000	ug/L		99.2		57 - 162	
	MSD	1625251-73	ND	39.577	40.000	ug/L	0.3	98.9		57 - 162	
p-Terphenyl-d14 (Surrogate)	MS	1625251-73	ND	10.878	20.000	ug/L		54.4		38 - 181	
	MSD	1625251-73	ND	11.752	20.000	ug/L	7.7	58.8		38 - 181	

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZK0979						
MBAS	BZK0979-BLK1	ND	mg/L	0.10	0.015	
QC Batch ID: BZK1306						
Total Sulfide	BZK1306-BLK1	ND	mg/L	0.10	0.050	
QC Batch ID: BZK1403						
Biochemical Oxygen Demand - Seeded	BZK1403-BLK1	ND	mg/L	1.0	1.0	
QC Batch ID: BZK1412						
Total Cyanide	**BZK1412-BLK1**	**0.0031140**	**mg/L**	**0.0050**	**0.0019**	
Total Cyanide	**BZK1412-BLK1**	**0.0031140**	**mg/L**	**0.0050**	**0.0019**	
QC Batch ID: BZK1556						
Ammonia as N (Distilled)	BZK1556-BLK1	ND	mg/L	0.20	0.082	

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BZK0979										
MBAS	BZK0979-BS1	LCS	0.20020	0.20000	mg/L	100		85 - 115		
QC Batch ID: BZK1306										
Total Sulfide	BZK1306-BS1	LCS	0.51408	0.50000	mg/L	103		90 - 110		
QC Batch ID: BZK1403										
Biochemical Oxygen Demand - Seeded	BZK1403-BS1	LCS	182.62	198.00	mg/L	92.2		85 - 115		
QC Batch ID: BZK1412										
Total Cyanide	BZK1412-BS1	LCS	0.16129	0.15000	mg/L	108		90 - 110		
Total Cyanide	BZK1412-BS1	LCS	0.16129	0.15000	mg/L	108		90 - 110		
QC Batch ID: BZK1556										
Ammonia as N (Distilled)	BZK1556-BS1	LCS	0.99650	1.0000	mg/L	99.6		85 - 115		

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BZK0979	Used client sample: Y - Description: N021534-001F / EFF-11-08, 11/08/2016 11:30										
MBAS	DUP	1631576-01	ND	ND		mg/L			20		
	MS	1631576-01	ND	0.43100	0.40000	mg/L		108		80 - 120	
	MSD	1631576-01	ND	0.43100	0.40000	mg/L	0	108	20	80 - 120	
QC Batch ID: BZK1306	Used client sample: N										
Total Sulfide	DUP	1631538-01	ND	ND		mg/L			10		
	MS	1631538-01	ND	0.46567	0.50000	mg/L		93.1		80 - 120	
	MSD	1631538-01	ND	0.46728	0.50000	mg/L	0.3	93.5	10	80 - 120	
QC Batch ID: BZK1403	Used client sample: N										
Biochemical Oxygen Demand - Seeded	DUP	1631540-02	6.8523	8.1130		mg/L	16.8		20		
QC Batch ID: BZK1412	Used client sample: N										
Total Cyanide	DUP	**1630428-01**	**ND**	**ND**		**mg/L**			**10**		
	MS	**1630428-01**	**ND**	**ND**	**0.10000**	**mg/L**		**-20.7**		**90 - 110**	**Q03**
	MSD	**1630428-01**	**ND**	**ND**	**0.10000**	**mg/L**	**160**	**-2.3**	**10**	**90 - 110**	**Q03**
Total Cyanide	DUP	**1630428-01**	**ND**	**ND**		**mg/L**			**10**		
	MS	**1630428-01**	**ND**	**ND**	**0.10000**	**mg/L**		**-20.7**		**90 - 110**	**Q03**
	MSD	**1630428-01**	**ND**	**ND**	**0.10000**	**mg/L**	**160**	**-2.3**	**20**	**90 - 110**	**Q03**
QC Batch ID: BZK1556	Used client sample: N										
Ammonia as N (Distilled)	DUP	1631018-02	0.093700	0.10620		mg/L	12.5		20		
	MS	1631018-02	0.093700	1.0023	1.0000	mg/L		90.9		80 - 120	
	MSD	1631018-02	0.093700	1.0707	1.0000	mg/L	6.6	97.7	20	80 - 120	

ASSET Laboratories
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 11/22/2016 12:17
Project: Cerritos
Project Number: N021534
Project Manager: Molky Brar

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A07	Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
L01	The Laboratory Control Sample Water (LCSW) recovery is not within laboratory established control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Marlon Cartin
Asset Laboratories
3151 West Post Road
Las Vegas NV 89118

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Prepared Date:
December 5, 2016

Report Information:

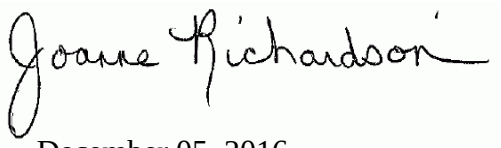
Pace Project #: 10369432
Sample Receipt Date: 11/10/2016
Client Project #: N021534
Client Sub PO #: N21534C
State Cert #: 01155CA

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Joanne Richardson, your Pace Project Manager.

This report has been reviewed by:



December 05, 2016

Joanne Richardson,
(612) 607-6453
(612) 607-6444 (fax)

Report of Laboratory Analysis

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on two samples submitted by a representative of Asset Laboratories. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The reporting limits were set to correspond to the lowest calibration points and a nominal 1-liter sample amount. Estimated Maximum Possible Concentration (EMPC) values were treated as positives in the toxic equivalence calculations.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 62-97%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits. This indicates that the sample preparation procedures did not significantly impact the results reported for the field samples.

Laboratory spike samples were also prepared using clean reference matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 83-121% with relative percent differences of 0.0-6.1%. These results were within the target ranges for the method. Matrix spikes were not prepared with the sample batch.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Mississippi	MN00064
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	NE-OS-18-06
Arizona	AZ0014	Nevada	MN_00064_200
Arkansas	88-0680	New Jersey (NE	MN002
California	01155CA	New York (NEL	11647
Colorado	MN00064	North Carolina	27700
Connecticut	PH-0256	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP	E87605	Oklahoma	D9922
Georgia (DNR)	959	Oregon (ELAP)	MN200001-005
Guam	959	Oregon (OREL	MN300001-001
Hawaii	SLD	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192-08
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	00251
Louisiana	03086	Washington	C755
Maine	2007029	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

10369432

QC Level: RTNE

Subcontractor:

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414

TEL: (612) 607-1700
FAX: (612) 607-6444
Acct #:

Field Sampler: James Dye

09-Nov-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				EPA 8290		
N021534-001M / EFF-11-08	Wastewater	11/8/2016 11:30:00 AM	32OZA	1		001
N021534-002B / RSW-001-11-08	Wastewater	11/8/2016 12:30:00 PM	32OZA	1		002

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N21534C Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze for Dioxin and Furan by EPA 8290 full list + TEQ.

Fedex #: 777678579089

		Date/Time			Date/Time
Relinquished by:	Yoandra Rodriguez	11/9/16 16:00	**Received by:**		11/10/16 10:00
Relinquished by:			**Received by:**		

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 02Aug2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.17**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: ASSET Labs.

Project #: WO# : 10369432

10369432

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7776 7857 9089

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals intact?** ☐ Yes ☒ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164 ☐ B88A912167504 ☐ B88A0143310098 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 5.0 **Cooler Temp Corrected (°C):** 4.9 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** -0.1 **Date and Initials of Person Examining Contents:** RMN 11/10/16

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☐ No	☒ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Hannah Date/Time: 11/11/16

Comments/Resolution: Samples were collected in California

Project Manager Review: Carolyne Hunt **Date:** 11/11/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Asset Laboratories

Client's Sample ID	N021534-001M		
Lab Sample ID	10369432001		
Filename	U161130A_11		
Injected By	SMT		
Total Amount Extracted	962 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/08/2016 11:30
ICAL ID	U161025	Received	11/10/2016 10:00
CCal Filename(s)	U161130A_01 & U161130A_17	Extracted	11/28/2016 10:00
Method Blank ID	BLANK-52911	Analyzed	12/01/2016 00:37

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	10	2,3,7,8-TCDF-13C	2.00	88
Total TCDF	ND	-----	10	2,3,7,8-TCDD-13C	2.00	91
				1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	ND	-----	10	2,3,4,7,8-PeCDF-13C	2.00	91
Total TCDD	ND	-----	10	1,2,3,7,8-PeCDD-13C	2.00	97
				1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	-----	50	1,2,3,6,7,8-HxCDF-13C	2.00	73
2,3,4,7,8-PeCDF	ND	-----	50	2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	ND	-----	50	1,2,3,7,8,9-HxCDF-13C	2.00	84
				1,2,3,4,7,8-HxCDD-13C	2.00	78
1,2,3,7,8-PeCDD	ND	-----	50	1,2,3,6,7,8-HxCDD-13C	2.00	62
Total PeCDD	ND	-----	50	1,2,3,4,6,7,8-HpCDF-13C	2.00	68
				1,2,3,4,7,8,9-HpCDF-13C	2.00	76
1,2,3,4,7,8-HxCDF	ND	-----	50	1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	ND	-----	50	OCDD-13C	4.00	76
2,3,4,6,7,8-HxCDF	ND	-----	50			
1,2,3,7,8,9-HxCDF	ND	-----	50	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	50	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	50	2,3,7,8-TCDD-37Cl4	0.20	98
1,2,3,6,7,8-HxCDD	ND	-----	50			
1,2,3,7,8,9-HxCDD	ND	-----	50			
Total HxCDD	ND	-----	50			
1,2,3,4,6,7,8-HpCDF	ND	-----	50	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	50	Equivalence: 0.00 pg/L		
Total HpCDF	ND	-----	50	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	50			
Total HpCDD	ND	-----	50			
OCDF	ND	-----	100			
OCDD	ND	-----	100			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Asset Laboratories

Client's Sample ID	N021534-002B		
Lab Sample ID	10369432002		
Filename	U161130A_12		
Injected By	SMT		
Total Amount Extracted	947 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/08/2016 12:30
ICAL ID	U161025	Received	11/10/2016 10:00
CCal Filename(s)	U161130A_01 & U161130A_17	Extracted	11/28/2016 10:00
Method Blank ID	BLANK-52911	Analyzed	12/01/2016 01:23

Native Isomers	**Conc** pg/L	**EMPC** pg/L	**RL** pg/L	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	10	2,3,7,8-TCDF-13C	2.00	90
Total TCDF	ND	-----	10	2,3,7,8-TCDD-13C	2.00	97
				1,2,3,7,8-PeCDF-13C	2.00	71
2,3,7,8-TCDD	ND	-----	10	2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	ND	-----	10	1,2,3,7,8-PeCDD-13C	2.00	94
				1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	-----	50	1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	-----	50	2,3,4,6,7,8-HxCDF-13C	2.00	87
Total PeCDF	ND	-----	50	1,2,3,7,8,9-HxCDF-13C	2.00	96
				1,2,3,4,7,8-HxCDD-13C	2.00	89
1,2,3,7,8-PeCDD	ND	-----	50	1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	ND	-----	50	1,2,3,4,6,7,8-HpCDF-13C	2.00	80
				1,2,3,4,7,8,9-HpCDF-13C	2.00	93
1,2,3,4,7,8-HxCDF	ND	-----	50	1,2,3,4,6,7,8-HpCDD-13C	2.00	92
1,2,3,6,7,8-HxCDF	ND	-----	50	OCDD-13C	4.00	91
2,3,4,6,7,8-HxCDF	ND	-----	50			
1,2,3,7,8,9-HxCDF	ND	-----	50	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	50	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	50	2,3,7,8-TCDD-37Cl4	0.20	98
1,2,3,6,7,8-HxCDD	ND	-----	50			
1,2,3,7,8,9-HxCDD	ND	-----	50			
Total HxCDD	ND	-----	50			
1,2,3,4,6,7,8-HpCDF	ND	-----	50	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	50	Equivalence: 0.00 pg/L		
Total HpCDF	ND	-----	50	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	50			
Total HpCDD	ND	-----	50			
OCDF	ND	-----	100			
OCDD	ND	-----	100			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-52911	Matrix	Water
Filename	F161130A_08	Dilution	NA
Total Amount Extracted	1020 mL	Extracted	11/28/2016 10:00
ICAL ID	F161011	Analyzed	11/30/2016 18:39
CCal Filename(s)	F161130A_01 & F161130A_17	Injected By	SMT

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	10	2,3,7,8-TCDF-13C	2.00	78
Total TCDF	ND	-----	10	2,3,7,8-TCDD-13C	2.00	91
				1,2,3,7,8-PeCDF-13C	2.00	80
2,3,7,8-TCDD	ND	-----	10	2,3,4,7,8-PeCDF-13C	2.00	74
Total TCDD	ND	-----	10	1,2,3,7,8-PeCDD-13C	2.00	81
				1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	-----	50	1,2,3,6,7,8-HxCDF-13C	2.00	87
2,3,4,7,8-PeCDF	ND	-----	50	2,3,4,6,7,8-HxCDF-13C	2.00	88
Total PeCDF	ND	-----	50	1,2,3,7,8,9-HxCDF-13C	2.00	79
				1,2,3,4,7,8-HxCDD-13C	2.00	70
1,2,3,7,8-PeCDD	ND	-----	50	1,2,3,6,7,8-HxCDD-13C	2.00	77
Total PeCDD	ND	-----	50	1,2,3,4,6,7,8-HpCDF-13C	2.00	65
				1,2,3,4,7,8,9-HpCDF-13C	2.00	60
1,2,3,4,7,8-HxCDF	ND	-----	50	1,2,3,4,6,7,8-HpCDD-13C	2.00	66
1,2,3,6,7,8-HxCDF	ND	-----	50	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	ND	-----	50			
1,2,3,7,8,9-HxCDF	ND	-----	50	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	50	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	50	2,3,7,8-TCDD-37Cl4	0.20	83
1,2,3,6,7,8-HxCDD	ND	-----	50			
1,2,3,7,8,9-HxCDD	ND	-----	50			
Total HxCDD	ND	-----	50			
1,2,3,4,6,7,8-HpCDF	ND	-----	50	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	50	Equivalence: 0.00 pg/L		
Total HpCDF	ND	-----	50	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	50			
Total HpCDD	ND	-----	50			
OCDF	ND	-----	100			
OCDD	ND	-----	100			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-52912		
Filename	F161130A_02	Matrix	Water
Total Amount Extracted	1020 mL	Dilution	NA
ICAL ID	F161011	Extracted	11/28/2016 10:00
CCal Filename(s)	F161130A_01 & F161130A_17	Analyzed	11/30/2016 13:51
Method Blank ID	BLANK-52911	Injected By	SMT

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.23	113	2,3,7,8-TCDF-13C	2.0	82
Total TCDF				2,3,7,8-TCDD-13C	2.0	93
				1,2,3,7,8-PeCDF-13C	2.0	85
2,3,7,8-TCDD	0.20	0.17	83	2,3,4,7,8-PeCDF-13C	2.0	81
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	90
				1,2,3,4,7,8-HxCDF-13C	2.0	79
1,2,3,7,8-PeCDF	1.0	1.1	113	1,2,3,6,7,8-HxCDF-13C	2.0	89
2,3,4,7,8-PeCDF	1.0	1.2	117	2,3,4,6,7,8-HxCDF-13C	2.0	89
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	84
				1,2,3,4,7,8-HxCDD-13C	2.0	71
1,2,3,7,8-PeCDD	1.0	0.98	98	1,2,3,6,7,8-HxCDD-13C	2.0	80
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	69
				1,2,3,4,7,8,9-HpCDF-13C	2.0	70
1,2,3,4,7,8-HxCDF	1.0	1.1	114	1,2,3,4,6,7,8-HpCDD-13C	2.0	71
1,2,3,6,7,8-HxCDF	1.0	1.1	112	OCDD-13C	4.0	56
2,3,4,6,7,8-HxCDF	1.0	1.0	105			
1,2,3,7,8,9-HxCDF	1.0	1.0	104	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	115	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	1.0	1.1	111			
1,2,3,7,8,9-HxCDD	1.0	1.2	116			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	108			
1,2,3,4,7,8,9-HpCDF	1.0	0.97	97			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.98	98			
Total HpCDD						
OCDF	2.0	2.3	116			
OCDD	2.0	2.2	109			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCSD-52913		
Filename	F161130A_03	Matrix	Water
Total Amount Extracted	1010 mL	Dilution	NA
ICAL ID	F161011	Extracted	11/28/2016 10:00
CCal Filename(s)	F161130A_01 & F161130A_17	Analyzed	11/30/2016 14:38
Method Blank ID	BLANK-52911	Injected By	SMT

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.23	115	2,3,7,8-TCDF-13C	2.0	81
Total TCDF				2,3,7,8-TCDD-13C	2.0	94
				1,2,3,7,8-PeCDF-13C	2.0	86
2,3,7,8-TCDD	0.20	0.17	85	2,3,4,7,8-PeCDF-13C	2.0	80
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	89
				1,2,3,4,7,8-HxCDF-13C	2.0	81
1,2,3,7,8-PeCDF	1.0	1.1	114	1,2,3,6,7,8-HxCDF-13C	2.0	88
2,3,4,7,8-PeCDF	1.0	1.2	118	2,3,4,6,7,8-HxCDF-13C	2.0	90
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	85
				1,2,3,4,7,8-HxCDD-13C	2.0	75
1,2,3,7,8-PeCDD	1.0	0.99	99	1,2,3,6,7,8-HxCDD-13C	2.0	77
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	69
				1,2,3,4,7,8,9-HpCDF-13C	2.0	66
1,2,3,4,7,8-HxCDF	1.0	1.2	121	1,2,3,4,6,7,8-HpCDD-13C	2.0	72
1,2,3,6,7,8-HxCDF	1.0	1.1	115	OCDD-13C	4.0	59
2,3,4,6,7,8-HxCDF	1.0	1.1	108			
1,2,3,7,8,9-HxCDF	1.0	1.0	101	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	110	2,3,7,8-TCDD-37Cl4	0.20	88
1,2,3,6,7,8-HxCDD	1.0	1.2	118			
1,2,3,7,8,9-HxCDD	1.0	1.2	116			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	108			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	102			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	1.00	100			
Total HpCDD						
OCDF	2.0	2.3	115			
OCDD	2.0	2.1	107			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290

Spike Recovery Relative Percent Difference (RPD) Results

Client	Asset Laboratories		
Spike 1 ID	LCS-52912	Spike 2 ID	LCSD-52913
Spike 1 Filename	F161130A_02	Spike 2 Filename	F161130A_03

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	113	115	1.8
2,3,7,8-TCDD	83	85	2.4
1,2,3,7,8-PeCDF	113	114	0.9
2,3,4,7,8-PeCDF	117	118	0.9
1,2,3,7,8-PeCDD	98	99	1.0
1,2,3,4,7,8-HxCDF	114	121	6.0
1,2,3,6,7,8-HxCDF	112	115	2.6
2,3,4,6,7,8-HxCDF	105	108	2.8
1,2,3,7,8,9-HxCDF	104	101	2.9
1,2,3,4,7,8-HxCDD	115	110	4.4
1,2,3,6,7,8-HxCDD	111	118	6.1
1,2,3,7,8,9-HxCDD	116	116	0.0
1,2,3,4,6,7,8-HpCDF	108	108	0.0
1,2,3,4,7,8,9-HpCDF	97	102	5.0
1,2,3,4,6,7,8-HpCDD	98	100	2.0
OCDF	116	115	0.9
OCDD	109	107	1.9

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

February 09, 2017

Dan Jablonski
CH2MHill
1000 Wilshire Blvd.
Los Angeles, CA 90017

TEL:
FAX:

Workorder No.: N022401

RE: SFPP Norwalk

Attention: Dan Jablonski

Enclosed are the results for sample(s) received on December 27, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Puri Romualdo
Laboratory Director

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time.

Results were J-Flag. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Analytical Comments for EPA 200.8:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Copper in QC samples N022401-001C-MS and N022401-001C-MSD. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N022401-001A-MS and N022401-001A-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8270C_SIM:

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

ASSET Laboratories

Date: *09-Feb-17*

CLIENT: CH2MHill
Project: SFPP Norwalk
Lab Order: N022401
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N022401-001A	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001B	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001C	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001D	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001E	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001F	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001G	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017
N022401-001H	EFF-12-27	Wastewater	12/27/2016 10:00:00 AM	12/27/2016	2/9/2017

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Feb-17*

CLIENT: CH2MHill
Lab Order: N022401
Project: SFPP Norwalk
Lab ID: N022401-001

Client Sample ID: EFF-12-27
Collection Date: 12/27/2016 10:00:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS							
	EPA 3510C				**EPA 8270C**		
RunID: **NV00922-MS3_161228A**	QC Batch: **60732**				PrepDate: **12/28/2016**		Analyst: **MDM**
Phenol	2.9	0.33	2.0		µg/L	1	12/28/2016 04:47 PM
Surr: 1,2-Dichlorobenzene-d4	71.0	0	16-120		%REC	1	12/28/2016 04:47 PM
Surr: 2-Fluorobiphenyl	79.0	0	25-120		%REC	1	12/28/2016 04:47 PM
Surr: 4-Terphenyl-d14	109	0	46-132		%REC	1	12/28/2016 04:47 PM
Surr: Phenol-d5	40.0	0	15-120		%REC	1	12/28/2016 04:47 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **NV00922-MS5_161228A**	QC Batch: **P16VW251**				PrepDate:		Analyst: **LY**
1,1-Dichloroethane	ND	0.022	0.50		ug/L	1	12/28/2016 01:53 PM
1,2-Dichloroethane	ND	0.064	0.50		ug/L	1	12/28/2016 01:53 PM
Benzene	ND	0.036	1.0		ug/L	1	12/28/2016 01:53 PM
Ethylbenzene	ND	0.036	1.0		ug/L	1	12/28/2016 01:53 PM
m,p-Xylene	ND	0.024	1.0		ug/L	1	12/28/2016 01:53 PM
MTBE	ND	0.062	1.0		ug/L	1	12/28/2016 01:53 PM
o-Xylene	ND	0.042	1.0		ug/L	1	12/28/2016 01:53 PM
Tert-Butanol	ND	0.30	5.0		ug/L	1	12/28/2016 01:53 PM
Toluene	ND	0.042	2.0		ug/L	1	12/28/2016 01:53 PM
Xylenes, Total	ND	1.5	2.0		ug/L	1	12/28/2016 01:53 PM
Surr: 1,2-Dichloroethane-d4	94.0	0	72-119		%REC	1	12/28/2016 01:53 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	12/28/2016 01:53 PM
Surr: Dibromofluoromethane	100	0	85-115		%REC	1	12/28/2016 01:53 PM
Surr: Toluene-d8	105	0	81-120		%REC	1	12/28/2016 01:53 PM
TPH EXTRACTABLE BY GC/FID							
	EPA 3510C				**EPA 8015B**		
RunID: **NV00922-GC3_161228A**	QC Batch: **60730**				PrepDate: **12/28/2016**		Analyst: **FJ**
TPH-Diesel (C13-C22)	ND	16	26		ug/L	1	12/28/2016 01:57 PM
TPH-Oil (C23-C36)	26	14	26	J	ug/L	1	12/28/2016 01:57 PM
Surr: Octacosane	75.4	0	26-152		%REC	1	12/28/2016 01:57 PM
Surr: p-Terphenyl	79.0	0	57-132		%REC	1	12/28/2016 01:57 PM
GASOLINE RANGE ORGANICS BY GC/FID							
			EPA 8015B				
RunID: **NV00922-GC4_161228A**	QC Batch: **E16VW085**				PrepDate:		Analyst: **RB**
TPH-Gasoline (C4-C12)	33	16	50	J	ug/L	1	12/28/2016 03:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified
E	Value above quantitation range
J	Analyte detected below quantitation limits
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out

CLIENT: CH2MHill
Lab Order: N022401
Project: SFPP Norwalk
Lab ID: N022401-001

Client Sample ID: EFF-12-27
Collection Date: 12/27/2016 10:00:00 AM
Matrix: WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID							
			EPA 8015B				
RunID: **NV00922-GC4_161228A** QC Batch: **E16VW085**				PrepDate:			Analyst: **RB**
Surr: Chlorobenzene - d5	124	0	74-138		%REC	1	12/28/2016 03:38 PM
MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 245.1				
RunID: **NV00922-AA1_161228B** QC Batch: **60722**				PrepDate:	**12/28/2016**		Analyst: **MG**
Mercury	ND	0.018	0.050		µg/L	1	12/28/2016 06:36 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_161229A** QC Batch: **60734**				PrepDate:	**12/28/2016**		Analyst: **CEI**
Copper	ND	0.26	0.50		µg/L	1	12/29/2016 12:30 PM
Lead	ND	0.037	0.50		µg/L	1	12/29/2016 12:30 PM
Zinc	8.5	0.27	1.0		µg/L	1	12/29/2016 12:30 PM
TOTAL TPH							
			EPA 8015B				
RunID: **NV00922-GC3_161228A** QC Batch: **R112507**				PrepDate:			Analyst: **FJ**
Total TPH	59	16	100	J	ug/L	1	12/28/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified	DO	Surrogate Diluted Out

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **MB-60734** SampType: **MBLK** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112530**
Client ID: **PBW** Batch ID: **60734** TestNo: **EPA 200.8** Analysis Date: **12/29/2016** SeqNo: **2517829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50									
Lead	ND	0.50									

Sample ID: **LCS-60734** SampType: **LCS** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112530**
Client ID: **LCSW** Batch ID: **60734** TestNo: **EPA 200.8** Analysis Date: **12/29/2016** SeqNo: **2517830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	10.374	0.50	10.00	0	104	85	115				
Lead	10.650	0.50	10.00	0	106	85	115				

Sample ID: **N022401-001C-DUP** SampType: **DUP** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112530**
Client ID: **ZZZZZZ** Batch ID: **60734** TestNo: **EPA 200.8** Analysis Date: **12/29/2016** SeqNo: **2517833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50						0	0	20	
Lead	ND	0.50						0	0	20	

Sample ID: **N022401-001C-MS** SampType: **MS** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112530**
Client ID: **ZZZZZZ** Batch ID: **60734** TestNo: **EPA 200.8** Analysis Date: **12/29/2016** SeqNo: **2517835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.456	0.50	10.00	0	74.6	75	125				S
Lead	10.374	0.50	10.00	0	104	75	125				

Sample ID: **N022401-001C-MSD** SampType: **MSD** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112530**
Client ID: **ZZZZZZ** Batch ID: **60734** TestNo: **EPA 200.8** Analysis Date: **12/29/2016** SeqNo: **2517836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **N022401-001C-MSD**	SampType: **MSD**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **12/28/2016**	RunNo: **112530**
Client ID: **ZZZZZZ**	Batch ID: **60734**	TestNo: **EPA 200.8**		Analysis Date: **12/29/2016**	SeqNo: **2517836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.427	0.50	10.00	0	74.3	75	125	7.456	0.386	20	S
Lead	10.337	0.50	10.00	0	103	75	125	10.37	0.352	20	

Sample ID: **MB-60734**	SampType: **MBLK**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **12/28/2016**	RunNo: **112530**
Client ID: **PBW**	Batch ID: **60734**	TestNo: **EPA 200.8**		Analysis Date: **12/29/2016**	SeqNo: **2561204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	1.0									

Sample ID: **LCS-60734**	SampType: **LCS**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **12/28/2016**	RunNo: **112530**
Client ID: **LCSW**	Batch ID: **60734**	TestNo: **EPA 200.8**		Analysis Date: **12/29/2016**	SeqNo: **2561205**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	106.414	1.0	100.0	0	106	85	115				

Sample ID: **N022401-001C-DUP**	SampType: **DUP**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **12/28/2016**	RunNo: **112530**
Client ID: **ZZZZZZ**	Batch ID: **60734**	TestNo: **EPA 200.8**		Analysis Date: **12/29/2016**	SeqNo: **2561208**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	8.445	1.0						8.543	1.16	20	

Sample ID: **N022401-001C-MS**	SampType: **MS**	TestCode: **200.8_W_SFP**	Units: **µg/L**	Prep Date: **12/28/2016**	RunNo: **112530**
Client ID: **ZZZZZZ**	Batch ID: **60734**	TestNo: **EPA 200.8**		Analysis Date: **12/29/2016**	SeqNo: **2561210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	91.980	1.0	100.0	8.543	83.4	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_SFPP

Sample ID: **N022401-001C-MSD** SampType: **MSD** TestCode: **200.8_W_SFP** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112530**
Client ID: **ZZZZZZ** Batch ID: **60734** TestNo: **EPA 200.8** Analysis Date: **12/29/2016** SeqNo: **2561211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	91.271	1.0	100.0	8.543	82.7	75	125	91.98	0.774	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W_LL

Sample ID: **MB-60722** SampType: **MBLK** TestCode: **245.1_W_LL** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112515**
Client ID: **PBW** Batch ID: **60722** TestNo: **EPA 245.1** Analysis Date: **12/28/2016** SeqNo: **2516738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.020	0.050									J

Sample ID: **LCS-60722** SampType: **LCS** TestCode: **245.1_W_LL** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112515**
Client ID: **LCSW** Batch ID: **60722** TestNo: **EPA 245.1** Analysis Date: **12/28/2016** SeqNo: **2516739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.510	0.050	2.500	0	100	85	115				

Sample ID: **N022401-001C-MS** SampType: **MS** TestCode: **245.1_W_LL** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112515**
Client ID: **ZZZZZZ** Batch ID: **60722** TestNo: **EPA 245.1** Analysis Date: **12/28/2016** SeqNo: **2516740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.562	0.050	2.500	0	102	75	125				

Sample ID: **N022401-001C-MSD** SampType: **MSD** TestCode: **245.1_W_LL** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112515**
Client ID: **ZZZZZZ** Batch ID: **60722** TestNo: **EPA 245.1** Analysis Date: **12/28/2016** SeqNo: **2516741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.521	0.050	2.500	0	101	75	125	2.562	1.62	20	

Sample ID: **N022401-001C-DUP** SampType: **DUP** TestCode: **245.1_W_LL** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112515**
Client ID: **ZZZZZZ** Batch ID: **60722** TestNo: **EPA 245.1** Analysis Date: **12/28/2016** SeqNo: **2516742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.028	0.050						0	0	20	J

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_FP_SFPP

Sample ID: **MB-60730**	SampType: **MBLK**	TestCode: **8015_W_FP_**	Units: **ug/L**	Prep Date: **12/28/2016**	RunNo: **112507**
Client ID: **PBW**	Batch ID: **60730**	TestNo: **EPA 8015B**	**EPA 3510C**	Analysis Date: **12/28/2016**	SeqNo: **2516538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	24.563	25									J
Surr: Octacosane	65.793		80.00		82.2	26	152				
Surr: p-Terphenyl	70.577		80.00		88.2	57	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_SFPPTOT

Sample ID: **MB-R112507** SampType: **MBLK** TestCode: **8015_W_SFP** Units: **ug/L** Prep Date: RunNo: **112507**
Client ID: **PBW** Batch ID: **R112507** TestNo: **EPA 8015B** Analysis Date: **12/28/2016** SeqNo: **2516548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	48.563	100									J

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WSFPP

Sample ID: **E161228BLCS** SampType: **LCS** TestCode: **8015GAS_WS** Units: **ug/L** Prep Date: RunNo: **112508**
Client ID: **LCSW** Batch ID: **E16VW085** TestNo: **EPA 8015B** Analysis Date: **12/28/2016** SeqNo: **2516532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1090.000	50	1000	0	109	67	136				
Surr: Chlorobenzene - d5	53998.000		50000		108	74	138				

Sample ID: **E161228BMB3** SampType: **MBLK** TestCode: **8015GAS_WS** Units: **ug/L** Prep Date: RunNo: **112508**
Client ID: **PBW** Batch ID: **E16VW085** TestNo: **EPA 8015B** Analysis Date: **12/28/2016** SeqNo: **2516535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	24.000	50									J
Surr: Chlorobenzene - d5	49465.000		50000		98.9	74	138				

Sample ID: **N022402-001AMS** SampType: **MS** TestCode: **8015GAS_WS** Units: **ug/L** Prep Date: RunNo: **112508**
Client ID: **ZZZZZZ** Batch ID: **E16VW085** TestNo: **EPA 8015B** Analysis Date: **12/28/2016** SeqNo: **2516654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1065.000	50	1000	140.0	92.5	67	136				
Surr: Chlorobenzene - d5	52531.000		50000		105	74	138				

Sample ID: **N022402-001AMSD** SampType: **MSD** TestCode: **8015GAS_WS** Units: **ug/L** Prep Date: RunNo: **112508**
Client ID: **ZZZZZZ** Batch ID: **E16VW085** TestNo: **EPA 8015B** Analysis Date: **12/28/2016** SeqNo: **2516655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1144.000	50	1000	140.0	100	67	136	1065	7.15	30	
Surr: Chlorobenzene - d5	58031.000		50000		116	74	138		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **P161228LCS** SampType: **LCS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **112504**
Client ID: **LCSW** Batch ID: **P16VW251** TestNo: **EPA 8260B** Analysis Date: **12/28/2016** SeqNo: **2516543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.240	0.50	20.00	0	96.2	69	133				
1,2-Dichloroethane	17.710	0.50	20.00	0	88.6	69	132				
Benzene	20.530	1.0	20.00	0	103	81	122				
Ethylbenzene	21.770	1.0	20.00	0	109	73	127				
m,p-Xylene	47.610	1.0	40.00	0	119	76	128				
MTBE	16.770	1.0	20.00	0	83.9	65	123				
o-Xylene	21.050	1.0	20.00	0	105	80	121				
Tert-Butanol	73.920	5.0	100.0	0	73.9	70	130				
Toluene	20.520	2.0	20.00	0	103	77	122				
Xylenes, Total	68.660	2.0	60.00	0	114	75	125				
Surr: 1,2-Dichloroethane-d4	21.620		25.00		86.5	72	119				
Surr: 4-Bromofluorobenzene	26.110		25.00		104	76	119				
Surr: Dibromofluoromethane	22.740		25.00		91.0	85	115				
Surr: Toluene-d8	25.630		25.00		103	81	120				

Sample ID: **P161228MB3** SampType: **MBLK** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **112504**
Client ID: **PBW** Batch ID: **P16VW251** TestNo: **EPA 8260B** Analysis Date: **12/28/2016** SeqNo: **2516545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
Benzene	ND	1.0									
Ethylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
MTBE	ND	1.0									
o-Xylene	ND	1.0									
Tert-Butanol	ND	5.0									
Toluene	ND	2.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	22.360		25.00		89.4	72	119				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **P161228MB3** SampType: **MBLK** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **112504**
Client ID: **PBW** Batch ID: **P16VW251** TestNo: **EPA 8260B** Analysis Date: **12/28/2016** SeqNo: **2516545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	24.770		25.00		99.1	76	119				
Surr: Dibromofluoromethane	24.490		25.00		98.0	85	115				
Surr: Toluene-d8	26.120		25.00		104	81	120				

Sample ID: **N022401-001AMS** SampType: **MS** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **112504**
Client ID: **ZZZZZZ** Batch ID: **P16VW251** TestNo: **EPA 8260B** Analysis Date: **12/28/2016** SeqNo: **2517135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	20.530	0.50	20.00	0	103	69	133				
1,2-Dichloroethane	18.140	0.50	20.00	0	90.7	69	132				
Benzene	22.000	1.0	20.00	0	110	81	122				
Ethylbenzene	23.110	1.0	20.00	0	116	73	127				
m,p-Xylene	49.970	1.0	40.00	0	125	76	128				
MTBE	17.000	1.0	20.00	0	85.0	65	123				
o-Xylene	22.090	1.0	20.00	0	110	80	121				
Tert-Butanol	66.930	5.0	100.0	0	66.9	70	130				S
Toluene	21.970	2.0	20.00	0	110	77	122				
Xylenes, Total	72.060	2.0	60.00	0	120	75	125				
Surr: 1,2-Dichloroethane-d4	22.140		25.00		88.6	72	119				
Surr: 4-Bromofluorobenzene	27.550		25.00		110	76	119				
Surr: Dibromofluoromethane	23.570		25.00		94.3	85	115				
Surr: Toluene-d8	26.410		25.00		106	81	120				

Sample ID: **N022401-001AMSD** SampType: **MSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **112504**
Client ID: **ZZZZZZ** Batch ID: **P16VW251** TestNo: **EPA 8260B** Analysis Date: **12/28/2016** SeqNo: **2517136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	22.950	0.50	20.00	0	115	69	133	20.53	11.1	20	
1,2-Dichloroethane	18.830	0.50	20.00	0	94.2	69	132	18.14	3.73	20	
Benzene	23.240	1.0	20.00	0	116	81	122	22.00	5.48	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_SFPP

Sample ID: **N022401-001AMSD** SampType: **MSD** TestCode: **8260_WP_SF** Units: **ug/L** Prep Date: RunNo: **112504**
Client ID: **ZZZZZZ** Batch ID: **P16VW251** TestNo: **EPA 8260B** Analysis Date: **12/28/2016** SeqNo: **2517136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	24.650	1.0	20.00	0	123	73	127	23.11	6.45	20	
m,p-Xylene	53.100	1.0	40.00	0	133	76	128	49.97	6.07	20	S
MTBE	17.690	1.0	20.00	0	88.4	65	123	17.00	3.98	20	
o-Xylene	23.040	1.0	20.00	0	115	80	121	22.09	4.21	20	
Tert-Butanol	64.960	5.0	100.0	0	65.0	70	130	66.93	2.99	20	S
Toluene	22.970	2.0	20.00	0	115	77	122	21.97	4.45	20	
Xylenes, Total	76.140	2.0	60.00	0	127	75	125	72.06	5.51	20	S
Surr: 1,2-Dichloroethane-d4	23.230		25.00		92.9	72	119		0		
Surr: 4-Bromofluorobenzene	27.100		25.00		108	76	119		0		
Surr: Dibromofluoromethane	24.060		25.00		96.2	85	115		0		
Surr: Toluene-d8	26.350		25.00		105	81	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270WATER_SIMEXT

Sample ID: **LCS-60732_8270** SampType: **LCS** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112510**
Client ID: **LCSW** Batch ID: **60732** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **12/28/2016** SeqNo: **2516775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	5.180	2.0	6.000	0	86.3	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.600		1.000		60.0	16	120				
Surr: 2-Fluorobiphenyl	0.530		1.000		53.0	25	120				
Surr: 4-Terphenyl-d14	0.780		1.000		78.0	46	132				
Surr: Phenol-d5	0.520		1.000		52.0	15	120				

Sample ID: **MB-60732** SampType: **MBLK** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112510**
Client ID: **PBW** Batch ID: **60732** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **12/28/2016** SeqNo: **2516776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	1.350	2.0									J
Surr: 1,2-Dichlorobenzene-d4	0.610		1.000		61.0	16	120				
Surr: 2-Fluorobiphenyl	0.660		1.000		66.0	25	120				
Surr: 4-Terphenyl-d14	0.930		1.000		93.0	46	132				
Surr: Phenol-d5	0.360		1.000		36.0	15	120				

Sample ID: **N022401-001B-MS** SampType: **MS** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112510**
Client ID: **ZZZZZZ** Batch ID: **60732** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **12/28/2016** SeqNo: **2516778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	5.265	2.0	6.122	2.930	38.1	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.735		1.020		72.0	16	120				
Surr: 2-Fluorobiphenyl	0.714		1.020		70.0	25	120				
Surr: 4-Terphenyl-d14	0.776		1.020		76.0	46	132				
Surr: Phenol-d5	0.582		1.020		57.0	15	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

CLIENT: CH2MHill
Work Order: N022401
Project: SFPP Norwalk

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270WATER_SIMEXT

Sample ID: **N022401-001B-MSD** SampType: **MSD** TestCode: **8270WATER_** Units: **µg/L** Prep Date: **12/28/2016** RunNo: **112510**
Client ID: **ZZZZZZ** Batch ID: **60732** TestNo: **EPA 8270C** **EPA 3510C** Analysis Date: **12/28/2016** SeqNo: **2516779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	6.646	2.0	6.061	2.930	61.3	24	120	5.265	23.2	20	R
Surr: 1,2-Dichlorobenzene-d4	0.677		1.010		67.0	16	120		0		
Surr: 2-Fluorobiphenyl	0.657		1.010		65.0	25	120		0		
Surr: 4-Terphenyl-d14	0.727		1.010		72.0	46	132		0		
Surr: Phenol-d5	0.505		1.010		50.0	15	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike/Surrogate outside of limits due to matrix interference	DO	Surrogate Diluted Out		Calculations are based on raw values

N022401 / 12-28

Advanced Technology Laboratories
3151 W. Post Road
Las Vegas, NV 89118
Tel: 702-307-2659 Fax: 702-307-2691
Marlon Cartin (marlon@atl-labs.com)

CHAIN OF CUSTODY RECORD

DATE: 12/27/16
PAGE: 1 of 1

Section A – Required Client Information		Section B – Required Project Information		Section C – Invoice Information		Section D – Sampler Information	
Company:	**Kinder Morgan Energy Partners** **Attention: Steve Defibaugh**	Report To:	[illegible]	Attention:	Steve Defibaugh - Ref: [illegible]	Sampler Name:	[illegible]
Address:	1100 Town & Country Road Orange, CA 92868	Copy To:	Steve Defibaugh	Company Name:	Kinder Morgan Energy Partners	Sampler Signature:	[signature]
Email To:	[illegible]	Purchase Order No.:		Address:	1100 Town & Country Road Orange, CA 92868	Sample Date:	12/27/16
Phone: 714-560-4802	Fax: 714-560-4801	Project Name:	**SFPP Norwalk**	ATL Project Manager:	Marlon Cartin		

Section E
Required Sample Information

											CONTAINER TYPE		V					
											# OF CONTAINERS							
											PRESERVATIVE		H					
											VOLUME (mL)		40					
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING DATE	SAMPLING TIME	TOTAL # OF CONTAINERS	SAMPLE TEMPERATURE (°C)	Analysis Test	TPH-g, TPH-d, and TPH-oil, Total TPH (8015B)	BTEX, 1,1-DCA, 1,2-DCA, MTBE, TBA (8260B)	Cu, Pb, Zn (200.8)	Hg (245.1)	Phenol (8270)				Comments
1	EFF 12-27	EFFLUENT	WW	G	12/27/16	1000	19	21		X	X	X	X	X	N022401-01			Report [illegible]
2																		Report total xylenes
3																		Report total TPH and TPH-g, TPH-d, and TPH-o
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Relinquished by (Signature and Printed Name)	Date / Time	Received by (Signature and Printed Name)	Date / Time
[signature]	12/27/16 1120	[signature]	12/27/16 1500
[signature]	12/27/16 1600	Yoandrw Rdguez	12/28/16 8:00 am

Turn Around Time (TAT):
- ☐ A = Same Day
- ☐ B = 24 Hours
- ☐ C = 48 Hours
- ☐ D = 72 Hours
- ☐ E = 5 Workdays
- ☐ E = 10 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00 PM.

Special Instruction:
1.7°C / ~~3.9°C~~ 3.9°C
IR #2

Matrix:		
W = Water	WW = Wastewater	
O = Oil	P = Product	S = Soil
Others/Specify:		

Preservatives:		
H = HCl	N = HNO3	S = H2SO4
Z = Zn(AC)2	O = NaOH	T = Na2S2O3
Others/Specify:		

Container Type:			
T = Tube	V = VOA	P = Pint	A = Amber
J = Jar	B = Tedlar	G = Glass	
M = Metal	P = Plastic	C = Can	

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/27/2016	Workorder:	N022401
Rep sample Temp (Deg C):	1.7/3.9	IR Gun ID:	2

Temp Blank: ☑ Yes ☐ No

Carrier name: Golden State Overnight

Last 4 digits of Tracking No.: 7133/7132 Packing Material Used: Bubble Wrap

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: See Correspondence.

Checklist Completed By: YR 12/28/2016

Reviewed By: 12/28/2016

Hanah Glodoviza

From: Marlon Cartin [marlon@assetlaboratories.com]
Sent: Tuesday, December 27, 2016 12:50 PM
To: Daniel.Jablonski@CH2M.com; James_Dye@kindermorgan.com; Vidal.Cortes@ch2m.com
Cc: Cameron.Irvine@CH2M.com; hanah@assetlaboratories.com; 'Fernando Rivera'
Subject: RE: Norwalk Dec Monthly Compliance Sampling

Flag Status: Flagged

Noted on this Dan.

Hanah – Please make sure we follow the parameters below.

Thanks,

Marlon Cartin
Project Manager - ASSET Laboratories
California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421

From: Daniel.Jablonski@CH2M.com [mailto:Daniel.Jablonski@CH2M.com]
Sent: Tuesday, December 27, 2016 8:37 AM
To: marlon@assetlaboratories.com; James_Dye@kindermorgan.com; Vidal.Cortes@ch2m.com
Cc: Cameron.Irvine@CH2M.com
Subject: Norwalk Dec Monthly Compliance Sampling
Importance: High

Hi guys, I believe James is collecting monthly compliance samples today for Norwalk. I believe all we need are the below parameters for December (ON 24-HR TAT).
We should have had a carbon change out last Thursday so we should be good to go today to grab our samples.

James, did Vidal provide you with a COC that matches below parameters?

TPH as gas (C4-C12)
TPH as Diesel (C13-C22)
TPH as Oil (C23+)
Total TPH
Benzene
1,1-Dichloroethane
1,2-Dichloroethane
Ethylbenzene
Phenol
Toluene
Methyl Tertiary-Butyl Ether (MTBE)
Tertiary Butyl Alcohol (TBA)
Total Xylenes
Copper (total recoverable)
Lead (total recoverable)
Mercury (total recoverable)
Zinc (total recoverable)

Daniel Jablonski

ASSET Laboratories

WORK ORDER Summary

29-Dec-16

WorkOrder: N022401

Client ID: CH2HI03

Project: SFPP Norwalk **QC Level:** RTNE **Date Received:** 12/27/2016

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N022401-001A	EFF-12-27	12/27/2016 10:00:00 AM	12/28/2016	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			12/28/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N022401-001B			12/28/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM	☐	☐	☐	Consumed
			12/28/2016		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	Consumed
N022401-001C			12/28/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/28/2016		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			12/28/2016		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			12/28/2016			MERCURY PREP	☐	☐	☐	WW
N022401-001D			12/28/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			12/28/2016		EPA 8015B	TPH EXTRACTABLE BY GC/FID	☐	☐	☐	WW
			12/28/2016		EPA 8015B	Total TPH	☐	☐	☐	WW
N022401-001E							☐	☐	☐	WW
N022401-001F							☐	☐	☐	WW
N022401-001G							☐	☐	☐	WW
N022401-001H							☐	☐	☐	WW
N022401-002A	FOLDER		12/28/2016		Folder	Folder	☐	☐	☐	LAB

GSO
GOLDEN STATE OVERNIGHT

300-322-5555 www.gso.com

Ship From
ASSET LABORATORIES
MOLKY BRAR
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

Ship To
ATL INC
MARLON CARTIN
3151 W. POST RD.,
LAS VEGAS, NV 89118

COD: $0.00
Weight: 0 lb(s)
Reference:

Delivery Instructions:
HOLD FOR PICK UP
Signature Type: REQUIRED

Tracking #: 534497133 **CPS**

LVS **A**
LAS VEGAS

C89102A

50841782

Print Date: 12/27/2016 5:27 PM

Package 2 of 3

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additior **ıments - each package must have a unique barcode.**

Use the "Print Label" button on this page to print t**ɔing label on a laser or inkjet printer. Securely attach** this label to your package, do not cover the barcc

1.7%
JR#2

GSO
GOLDEN STATE OVERNIGHT

800-322-5555 www.gso.com

Ship From
ASSET LABORATORIES
MOLKY BRAR
11110 ARTESIA BLVD. SUITE B
CERRITOS, CA 90703

Ship To
ATL INC
MARLON CARTIN
3151 W. POST RD.,
LAS VEGAS, NV 89118

COD: $0.00
Weight: 0 lb(s)
Reference:

Delivery Instructions:
HOLD FOR PICK UP
Signature Type: REQUIRED

Tracking #: 534497132 **CPS**

LVS **A**
LAS VEGAS

C89102A

50841781

Print Date: 12/27/2016 5:27 PM

Package 1 of 3

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additio
barcode.

ıments - each package must have a unique

Use the "Print Label" button on this page to print t
this label to your package, do not cover the barc

ɔing label on a laser or inkjet printer. Securely attach

3.9°C
JR #2

Jannette Joy Soria

From: Marlon B. Cartin [marlon@assetlaboratories.com]
Sent: Wednesday, February 08, 2017 3:46 PM
To: 'Jannette Joy Soria'
Subject: FW: SFPP Norwalk (Asset Labs No. N022401)
Attachments: image001.jpg

Forwarding.

Thanks,

Marlon B. Cartin
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 Ext. 410 | F: 702.307.2691 | M: 702.439.0421

From: Vidal.Cortes@ch2m.com [mailto:Vidal.Cortes@ch2m.com]
Sent: Wednesday, February 08, 2017 3:27 PM
To: marlon@assetlaboratories.com; fernando@assetlaboratories.com
Subject: RE: SFPP Norwalk (Asset Labs No. N022401)

Marlon,

Please advise on the following as soon as possible. The lab did not meet the required permit MLs for the following analytes for the 10/21/16 sampling event.

For Zinc, RL=10 ug/L for 12/27/16; The ML was NOT met on this date because the RL does not equal the ML of 1.0 ug/L.
For Phenol, RL=2.0 ug/L for 12/27/16; The ML was NOT met on this date because the RL does not equal the ML of 1.0 ug/L.

This also applies for 01/19/17 effluent sampling event (Asset Labs No. N022744).

Zinc RL = 10 ug/L
Phenol RL = 2.1 ug/L

And the 02/03/17 effluent sampling event for which we've received the preliminary results for (Asset Labs No. N022961).

Zinc RL = 10 ug/L
Phenol RL was not included in the preliminary results.

Please advise as soon as possible!

Thank you,

Vidal Cortes
Environmental Engineer
D 1 714 435 6255
M 1 949 400 0608

CH2M
6 Hutton Centre Dr

Suite 700
Santa Ana, CA 92707
www.ch2m.com | LinkedIn | Twitter | Facebook

From: reports.lv@assetlaboratories.com [mailto:reports.lv@assetlaboratories.com]
Sent: Thursday, December 29, 2016 2:39 PM
To: Jablonski, Daniel/LAC <Daniel.Jablonski@CH2M.com>; Cortes, Vidal/SCO <Vidal.Cortes@ch2m.com>
Cc: 'Marlon B. Cartin' <marlon@assetlaboratories.com>
Subject: SFPP Norwalk (Asset Labs No. N022401) [EXTERNAL]

Enclosed is the final report for the above project.

Thanks,
Jannette

From: reports.lv@assetlaboratories.com [mailto:reports.lv@assetlaboratories.com]
Sent: Thursday, December 29, 2016 9:49 AM
To: 'Daniel.Jablonski@CH2M.com'; 'Vidal.Cortes@ch2m.com'
Cc: 'Marlon B. Cartin'
Subject: RE: SFPP Norwalk (Asset Labs No. N022401)

Resending Preliminary reports. Final report to follow

From: reports.lv@assetlaboratories.com [mailto:reports.lv@assetlaboratories.com]
Sent: Wednesday, December 28, 2016 8:18 PM
To: 'Daniel.Jablonski@CH2M.com'; 'Vidal.Cortes@ch2m.com'
Cc: 'Marlon B. Cartin'
Subject: RE: SFPP Norwalk (Asset Labs No. N022401)

Enclosed is additional preliminary report for the above project

---

From: reports.lv@assetlaboratories.com [mailto:reports.lv@assetlaboratories.com]
Sent: Wednesday, December 28, 2016 6:59 PM
To: 'Daniel.Jablonski@CH2M.com'; 'Vidal.Cortes@ch2m.com'
Cc: 'Marlon B. Cartin'
Subject: SFPP Norwalk (Asset Labs No. N022401)

Enclosed is Preliminary report for the above project.

It's Christmas and We, at ASSET Laboratories would like to say Thank You and that...it's been a pleasure working with you this past year...We wish you and your family a Wonderful Holidays and a Happy New Year!

ASSET Laboratories will be closed on December 26 and January 2 to spend time with our families. Please be advised that any samples with short hold analyses will need to be received by ASSET Laboratories no later than Thursdays, December 22nd and 29th. For special projects, please coordinate with your project managers in advance.

Thanks,

Jannette Joy Soria

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691 |
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

Appendix B
Waste Manifests

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CAT080033962	1	800-624-9136	015282509 JJK

GENERATOR

5. Generator's Name and Mailing Address
SFPP. LP (NORWALK STATION)
1100 TOWN AND COUNTRY RD. ATTN: Karina H.
ORANGE CA 92868
Generator's Phone: 714-560-4887

Generator's Site Address (if different than mailing address)
15306 NORWALK BLVD.
NORWALK, CA 90651

6. Transporter 1 Company Name
PATRIOT ENVIRONMENTAL SERVICES
U.S. EPA ID Number
CAD053866794

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
DEMENNO KERDOON
2000 N. ALAMEDA ST.
COMPTON CA 90222
Facility's Phone: 310-537-7100
U.S. EPA ID Number
CAT080013352

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN1993, WASTE FLAMMABLE LIQUID, N.O.S., (Gasoline) 3, PG II (D001)(D018)	001	TT	1,700	G	D001 D018 134
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
WEAR APPROPRIATE PPE WHEN HANDLING
9b1.) PROFILE NUMBER: 393888 (REMEDIATION SYSTEM RINSATE)
PATRIOT JOB #:
BILL TO SFPP, LP
ATTN: STEVE DEFIBAUGH

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X JAMES DYK — Signature: X — Month 11 Day 15 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month Day Year
Transporter 2 Printed/Typed Name: X Jorge A Deleon — Signature: X — Month 11 Day 15 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)