



**SFPP, L.P.**  
Operating Partnership

August 9, 2018

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

**Re: Effluent Monitoring Report**  
April through June 2018  
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 Second Quarter 2018 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 9<sup>th</sup> day of August 2018.  
at 3:38 p.m.

A handwritten signature in blue ink, appearing to read 'Stephen Defibaugh', is written over a horizontal line.

\_\_\_\_\_ (signature)

Stephen T. Defibaugh (printed name)

Remediation Project Manager (title)

Mr. Stephen Defibaugh  
Kinder Morgan, Inc.  
1100 Town and Country Road  
Orange, California 92868

August 9, 2018

**Subject: Effluent Monitoring Report, April 1 to June 30, 2018 (Second Quarter 2018)  
SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California  
(NPDES No. CA0063509, CI No. 7497, Order No. R4-2016-0309)**

Dear Mr. Defibaugh,

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

This report describes NPDES monitoring activities during the period of April 1 to June 30, 2018. Kinder Morgan performed operations, maintenance, and monitoring tasks on the product recovery and GWE systems. This report has been prepared based on the NPDES monitoring conducted by Kinder Morgan.

## Remediation Systems

Kinder Morgan operates remediation systems consisting of soil vapor extraction (SVE), total fluids extraction (TFE) of free product and/or groundwater using a top-loading pump, GWE 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 for remediation of the western offsite area was discontinued in August 2008 based on the reduced lateral extent of impacted groundwater and low concentrations of volatile organic compounds (VOCs) west of the site.

The remedial objectives 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)
  - 1 horizontal biosparge well

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

### **Soil Vapor Extraction System**

SVE is performed using a blower to remove soil vapors from the south-central and southeastern areas of the site. The extracted vapors are conveyed to a knock-out tank that separates entrained moisture from the soil vapor. 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 systems is conducted in accordance with Permits to Operate (Permit Numbers [Nos.] G46188 A/N 578779 and G46187 A/N 578777, respectively; ID 110835) issued by the South Coast Air Quality Management District.

### **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 a dissolved air floatation oil-water separator (DAF/OWS). Free product, if any, from the DAF/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 installed downstream of the equalization tank treat fuel oxygenates such as tertiary butyl alcohol and methyl tertiary butyl ether. 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 the NPDES permit (Permit No. CA0063509; Order No. R4-2016-0309), which was adopted on September 7, 2016, and became effective on November 1, 2016.

### **Horizontal Biosparge System**

Kinder Morgan completed installation of a horizontal biosparge system in the south-central area of the site in 2014. 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 (bgs). The lateral distance of the screen interval is 600 feet; the screen interval is situated below the central portion of the south-central area hydrocarbon plume. Further details regarding the construction of the biosparge well are documented in the *Horizontal Biosparge Well and Soil Vapor Monitoring Probe Completion Report* (CH2M, 2015<sup>1</sup>).

Biosparging involves introducing air into the groundwater in situ to enhance biodegradation of VOCs present in product and groundwater. The biosparge compressor delivers ambient air to the biosparge well at a maximum design rate of approximately 500 standard cubic feet per minute. Vapors generated by the biosparge well are captured by the SVE system. The SVE system has an interlock that prevents the biosparge system from turning on unless the SVE system is operating. Operation of the SVE system reduces the potential for off-gassing of VOCs during biosparge operations.

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<sup>1</sup> CH2M HILL Engineers Inc. (CH2M). 2015. *Horizontal Biosparge Well and Soil Vapor Monitoring Probe Completion Report, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*. February 18.

A second horizontal biosparge well was installed in the southeastern area of the site in November 2017. The design of the second biosparge well is similar to the south-central biosparge well: 4-inch-diameter Schedule 80 PVC casing and screen completed to a depth of approximately 45 feet bgs. The lateral distance of the screen interval is 240 feet centered below the southeastern area hydrocarbon plume. A construction completion report documenting construction activities and specifications was submitted to the Regional Water Quality Control Board (Water Board) on July 12, 2018 (Jacobs, 2018<sup>2</sup>). A second biosparge compressor will be installed in 2018 to deliver ambient air to the new biosparge well. The air compressor will be appropriately sized to allow for future system expansion.

A summary of the GWTS operations during the reporting period is presented below. Operations of the SVE and biosparge systems are presented separately in quarterly remediation progress reports that are provided to the Water Board and Restoration Advisory Board (RAB).

## Summary of Quarterly Groundwater Treatment System Operations

A total of 580,334 gallons of groundwater was extracted from the south-central and southeastern areas, treated, and discharged to Coyote Creek during the second quarter 2018. Wells that were in operation included MW-SF-3, GMW-9, GMW-10, GMW-O-11, GMW-O-20, and GMW-O-23 in the south-central area, and GMW-O-15, GMW-O-18, GMW-36, 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 off from April 10 through April 20, 2018, to facilitate gauging and sampling activities during the DFSP first semiannual groundwater sampling event that was conducted April 16 through April 20, 2018.
- The GWTS was also shut down briefly on June 5, 2018, to install the new chart recorder.
- The GWTS system was off from June 9 to June 11, 2018, due to a power outage.
- The GWTS system was also off on June 28, 2018, for well rehabilitation on GMW-O-18, GMW-O-15, GMW-SF-9, and MW-SF-15.

Well rehabilitation of GMW-O-18, GMW-O-15, GMW-SF-9, and MW-SF-15 consisted of bailing the wells to remove solids, brushing the well screen with a nylon or polyethylene brush, and swabbing the well screen with a tight-fitting swab. The wells were bailed again to remove all accumulated solids from the well. To clean the well of biofouling, approximately 1-ounce of a granular calcium hypochlorite disinfectant (Wel-Chlor Plus) was added to each well, followed by another round of well screen surging and pumping. The wells were purged until available (i.e., free) chlorine concentrations were measured at or below background conditions. Available chlorine concentrations were measured with a Hach colorimeter before and after chlorine addition. Approximately 500 gallons of waste was generated during the well rehabilitation, which was stored temporarily in a 5,000 gallon holding tank. Samples of the waste were collected for laboratory analysis to characterize the waste. The waste will be transported offsite for proper disposal in the third quarter of 2018.

No free product accumulated in the product holding tank of the GWTS during the second quarter 2018. In addition, hand bailing of free product (from wells not equipped for TFE) was not performed during this reporting period because free product was not detected in the wells.

## Routine Effluent Monitoring

During the second quarter 2018, effluent water samples were collected pursuant to the Waste Discharge Requirements (WDRs) under Order No. R4-2016-0309. Samples were collected at the Order-designated monitoring point EFF-001 (Remediation System Effluent) for monthly and quarterly analyses.

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<sup>2</sup> Jacobs Engineering Group Inc. (Jacobs). 2018. *Southeastern Horizontal Biosparge Well (BS-02) Completion Report, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*. July 12.



Toxicity samples were shipped to Pacific EcoRisk in Fairfield, California, for testing. All other compliance samples were shipped to Asset Laboratories in Las Vegas, Nevada, for analysis. Asset Laboratories sent samples to BC Laboratories, Inc. in Bakersfield, California for biochemical oxygen demand and ammonia as nitrogen analysis. Pacific EcoRisk, Asset Laboratories, and BC 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. The laboratory reports are included in Attachment A. A data quality assurance/quality control evaluation conducted by Jacobs is included in Attachment B.

## Summary of Compliance Results

### Monthly and Quarterly Sampling

Effluent daily flow rates are presented in Table 1. All daily flows were below the permit maximum discharge limit of 150,000 gallons per day (gpd). Analytical results for the April, May, and June 2018 effluent sampling events are summarized in Table 2. The effluent samples (EFF-001) were collected after the secondary polishing LGAC vessel, prior to discharge into the storm drain at the site. The results were compared with the maximum daily and average monthly discharge limits under Order No. R4-2016-0309. As shown in Table 2, all discharge limits for the treatment system effluent were met during the reporting period. Laboratory analytical reports and chain-of-custody documents are included in Attachment A. The mass emission (in pounds per day) is calculated by multiplying the daily effluent flow measured during the day of the sampling event (million gallons per day) by the concentration of the analyte (milligrams per liter) and the conversion factor of 8.34, as required by the discharge permit. If the analyte was not detected in the sample, the concentration used is half of the method detection limit.

Under NPDES Order No. R4-2016-0306, a wet weather condition is present when the maximum daily flow in Coyote Creek is equal to or greater than 156 cubic feet per second (cfs) as measured at the Los Angeles County Department of Public Works flow gauge station F354-R, located at the bottom of the creek just above the Long Beach Water Reclamation Plant. The daily flow rate in Coyote Creek, which is based on data from the Los Angeles County Department of Public Works flow gauge station F354-R, is presented in Table 3. Based on these data, the April, May, and June 2018 sampling events, with maximum daily flows less than 7 cfs, all occurred during dry weather conditions. Therefore, the analytical results for April, May, and June 2018 are compared to dry weather discharge limits.

### Toxicity Sampling

Effluent samples from station EFF-001 were collected for chronic toxicity testing on June 4, 6, and 8, 2018. Salinity downstream and upstream of the discharge point in Coyote Creek was measured on June 4, 2018. The salinity result was at 1.0 part per thousand. Therefore, the test species used for the chronic toxicity tests was inland silverside. All toxicity tests were performed on the effluent samples according to EPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition (EPA-821-R-02-014) (EPA, 2002<sup>3</sup>). Results were evaluated with EPA's Test of Significant Toxicity to determine a "Pass" or "Fail" and percent effect (EPA, 2010<sup>4</sup>).

The inland silversides were not significantly affected by the effluent (that is, the results were "Pass") and demonstrated effluent compliance for toxicity (Table 4). Each of the toxicity tests met all test acceptability criteria, and reference toxicity results were within the acceptable range of expected variability. Table 5 shows the water quality parameters during the chronic toxicity tests. The laboratory report and

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<sup>3</sup> United States Environmental Protection Agency (EPA). 2002. *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition*. October.

<sup>4</sup> United States Environmental Protection Agency (EPA). 2010. National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document. June.

chain-of-custody documents for the effluent samples collected during the second quarter 2018 are included in Attachment A.

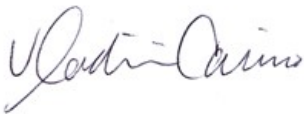
## **Waste Hauling**

On June 19, 2018, approximately 150 pounds of spent bag filters (a non-Resource Conservation and Recovery Act [RCRA] hazardous waste) and 125 pounds of spent filters (a nonhazardous waste) were removed from the site by Clean Harbors Environmental Service Inc. of 1737 East Denni Street, Wilmington, California 90744. The waste was transported to Clean Harbors Wilmington LLC. at 1737 East Denni Street, Wilmington, California 90744. Copies of the waste manifests are included in Attachment C.

Should you require any further information, please contact Vladimir Carino at (949) 224-7548.

Regards,

Jacobs Engineering Group Inc.



Vladimir Carino  
Project Engineer

### Attachments:

- Table 1 – Effluent Flow Rate Measurements, Second Quarter 2018
- Table 2 – NPDES Effluent Monitoring, Second Quarter 2018
- Table 3 – Maximum Daily Flow in Coyote Creek, Second Quarter 2018
- Table 4 – NPDES Effluent Chronic Toxicity Monitoring, Second Quarter 2018
- Table 5 – Initial Water Quality Parameters for the Composite Chronic Toxicity Samples, Second Quarter 2018

- Figure 1 – Site Location Map
- Figure 2 – Remediation System Layout

- Attachment A – Laboratory Analytical Reports, Chain-of-Custody Documents, and Field Measurements
- Attachment B – Data Quality Assurance/Quality Control
- Attachment C – Waste Manifests

Tables

**Table 1. Effluent Flow Rate Measurements, Second Quarter 2018***SFPP Norwalk Pump Station, Norwalk, California*

Date	Average Flow Rate (gpd) (Maximum Daily Discharge Limit = 150,000 gpd <sup>a</sup> )
04/01/18	9,822
04/02/18	9,862
04/03/18	6,556
04/04/18	9,316
04/05/18	6,642
04/06/18	12,966
04/07/18	8,464
04/08/18	8,896
04/09/18	8,500
04/10/18	6,856
04/11/18	0
04/12/18	0
04/13/18	0
04/14/18	0
04/15/18	0
04/16/18	0
04/17/18	0
04/18/18	0
04/19/18	0
04/20/18	0
04/21/18	5,194
04/22/18	9,584
04/23/18	9,520
04/24/18	9,462
04/25/18	11,820
04/26/18	10,800
04/27/18	10,760
04/28/18	11,098
04/29/18	10,798
04/30/18	11,040
05/01/18	10,096
05/02/18	7,856
05/03/18	7,952
05/04/18	7,950
05/05/18	7,954
05/06/18	8,128
05/07/18	10,420
05/08/18	9,912
05/09/18	10,036
05/10/18	10,288
05/11/18	10,400
05/12/18	8,128
05/13/18	7,936
05/14/18	7,868
05/15/18	6,076
05/16/18	6,458
05/17/18	8,434
05/18/18	6,838
05/19/18	7,798
05/20/18	7,584
05/21/18	7,520
05/22/18	6,580
05/23/18	7,202
05/24/18	7,932
05/25/18	6,792
05/26/18	7,488
05/27/18	7,962

**Table 1. Effluent Flow Rate Measurements, Second Quarter 2018***SFPP Norwalk Pump Station, Norwalk, California*

Date	Average Flow Rate (gpd) (Maximum Daily Discharge Limit = 150,000 gpd <sup>a</sup> )
05/28/18	7,608
05/29/18	8,216
05/30/18	8,392
05/31/18	7,368
06/01/18	8,280
06/02/18	3,980
06/03/18	12,352
06/04/18	8,284
06/05/18	6,516
06/06/18	7,672
06/07/18	4,352
06/08/18	6,228
06/09/18	4,512
06/10/18	0
06/11/18	556
06/12/18	4,474
06/13/18	7,392
06/14/18	7,462
06/15/18	7,522
06/16/18	7,586
06/17/18	7,448
06/18/18	7,414
06/19/18	4,416
06/20/18	3,610
06/21/18	3,884
06/22/18	3,888
06/23/18	3,974
06/24/18	3,862
06/25/18	3,398
06/26/18	690
06/27/18	772
06/28/18	0
06/29/18	352
06/30/18	340

Notes:

<sup>a</sup> California Regional Water Quality Control Board Waste Discharge Requirements (WDRs).

gpd = gallons per day

**Table 2. NPDES Effluent Monitoring, Second Quarter 2018**

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Sampling Frequency	Analytical Method	Units	MDL <sup>c</sup>	RL <sup>c</sup>	ML <sup>a</sup>	4/5/2018	4/10/2018	5/1/2018	6/4/2018	6/5/2018	6/6/2018	6/8/2018	Discharge Limits <sup>b</sup>	
														Monthly Average	Daily Maximum
Flow	Daily	--	gpd	--	--	--	6,642	6,856	10,096	--	6,516	--	--	--	150,000
TPH as gas (C4-C12)	Monthly	EPA 8015B	µg/L	16	50	NE	<20	--	<44	--	<32	--	--	--	--
TPH as Diesel (C13-C22)	Monthly	EPA 8015B	µg/L	15	25	NE	<15	--	<15	--	<15	--	--	--	--
TPH as Oil (C23+)	Monthly	EPA 8015B	µg/L	14	25	NE	<21	--	<14	--	<16	--	--	--	--
Total TPH	Monthly	EPA 8015B	µg/L	16	50	NE	<41	--	<44	--	<48	--	--	--	100
Total TPH	Monthly	Calculated	lbs/day	--	--	--	0.001136	--	0.001852	--	0.001304	--	--	--	0.13
Benzene	Monthly	EPA 8260B	µg/L	0.34	1	2.0	<0.34	--	<0.34	--	<0.34	--	--	--	--
1,1-Dichloroethane	Monthly	EPA 8260B	µg/L	0.45	0.5	1.0	<0.45	--	<0.45 J	--	<0.45	--	--	--	--
1,2-Dichloroethane	Monthly	EPA 8260B	µg/L	0.29	0.5	2.0	<0.29	--	<0.29	--	<0.29	--	--	--	--
Ethylbenzene	Monthly	EPA 8260B	µg/L	0.31	1.0	2.0	<0.31	--	<0.31	--	<0.31	--	--	--	--
Phenol	Monthly	EPA 8270C	µg/L	0.33	1.0	1	<0.33	--	<0.33	--	<0.33	--	--	--	--
Toluene	Monthly	EPA 8260B	µg/L	0.46	2.0	2.0	<0.46	--	<0.46	--	<0.46	--	--	--	--
Methyl tertiary-butyl ether	Monthly	EPA 8260B	µg/L	0.34	1.0	NE	<0.34	--	<0.34	--	<0.34	--	--	--	--
Tertiary butyl alcohol	Monthly	EPA 8260B	µg/L	2.4	5.0	NE	<2.4	--	<2.4	--	<2.4	--	--	--	--
Total Xylenes	Monthly	EPA 8260B	µg/L	1.5	2.0	NE	<1.5	--	<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	--	<0.26	--	--	9.7	32
Copper (total recoverable) (dry weather)	Monthly	Calculated	lbs/day	--	--	--	0.000007	--	0.000011	--	0.000007	--	--	0.012	0.04
Lead (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.13	0.5	0.5	<0.13	--	<0.13	--	<0.13	--	--	33	106
Lead (total recoverable) (wet weather)	Monthly	Calculated	lbs/day	--	--	--	0.000004	--	0.000005	--	0.000004	--	--	0.041	0.13
Mercury (total recoverable)	Monthly	EPA 245.1	µg/L	0.018	0.1	0.2	<0.018	--	<0.018	--	<0.044	--	--	0.051	0.10
Mercury (total recoverable)	Monthly	Calculated	lbs/day	--	--	--	0	--	0.000001	--	0.000001	--	--	6.4E-05	1.3E-04
Zinc (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.27	1.0	1.0	2.6	--	<0.27	--	<0.27	--	--	64	220
Zinc (total recoverable) (dry weather)	Monthly	Calculated	lbs/day	--	--	--	0.000144	--	0.000011	--	0.000007	--	--	0.080	0.28
BOD	Quarterly	SM 5210B	mg/L	1.5	1.5	NE	--	<1.5	--	--	--	--	--	20	30
BOD	Quarterly	Calculated	lbs/day	--	--	--	--	0.042884	--	--	--	--	--	25	38
Total Suspended Solids	Quarterly	SM 2540D	mg/L	10	10.00	NE	<10	--	--	--	--	--	--	50	75
Total Suspended Solids	Quarterly	Calculated	lbs/day	--	--	--	0.276971	--	--	--	--	--	--	63	94
pH	Quarterly	--	s.u.	--	--	NE	6.6	--	--	7.3	--	7.45	7.43	--	6.5/8.5
Oil and Grease	Quarterly	EPA 1664A	mg/L	0.71	4.40	NE	0.77	--	--	--	--	--	--	10	15
Oil and Grease	Quarterly	Calculated	lbs/day	--	--	--	0.042654	--	--	--	--	--	--	13	19
Ammonia Nitrogen (as N)	Quarterly	EPA 350.1	mg/L	0.025	0.13	NE	<0.025	--	--	--	--	--	--	--	--
Settleable Solids	Quarterly	SM 2540F	mL/L/hr	0.099	0.10	NE	--	<0.099	--	--	--	--	--	0.1	0.3
Temperature	Quarterly	Temperature	°F	--	--	NE	69	--	--	77.2	--	77.8	82.5	--	86
Turbidity	Quarterly	SM 2130B	NTU	0.1	0.10	NE	--	0.81	--	--	--	--	--	50	75
Salinity	2x/year	SM 2520B	ppt	--	--	NE	--	--	--	1	--	1	1	--	--
Chronic Toxicity	2x/year	--	PASS/FAIL	--	--	NE	--	--	--	Table 4	--	--	--	Pass	Pass and % Effect <50
Di-isopropyl Ether	Annually	EPA 8260B	µg/L	--	--	NE	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	Annually	EPA 8260B	µg/L	--	--	NE	--	--	--	--	--	--	--	--	--
Methylene Blue Active Substances	Annually	SM 5540C	mg/L	--	--	NE	--	--	--	--	--	--	--	--	--
Nitrate + Nitrite as N	Annually	EPA 300.0	mg/L	--	--	NE	--	--	--	--	--	--	--	--	--
Sulfides	Annually	SM 4500 SD	mg/L	--	--	NE	--	--	--	--	--	--	--	--	--
Tert-amyl-methyl Ether	Annually	EPA 8260B	µg/L	--	--	NE	--	--	--	--	--	--	--	--	--
TCDD Equivalents	Annually	EPA 8290	pg/L	--	--	NE	--	--	--	--	--	--	--	--	--
Other Priority Pollutants	Annually	--	See Table 3	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

<sup>a</sup> 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.

<sup>b</sup> California Regional Water Quality Control Board Waste Discharge Requirements (WDRs) under Order No. R4-2016-0309.

<sup>c</sup> The highest MDL and RL during this reporting period are shown.

-- = not measured or not analyzed

< = 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.

Reported value is estimated.

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



**Table 3. Maximum Daily Flow in Coyote Creek, Second Quarter 2018***SFPP Norwalk Pump Station, Norwalk, California*

<b>Date</b>	<b>Maximum Daily Flow Rate (cfs)<sup>a</sup></b>	<b>Comments</b>
04/01/18	10.2	
04/02/18	29.7	
04/03/18	28.2	
04/04/18	1.1	
04/05/18	1.7	April 2018 sampling conducted
04/06/18	3.2	
04/07/18	3.3	
04/08/18	3.9	
04/09/18	4.2	
04/10/18	5.2	April 2018 sampling conducted
04/11/18	15.6	
04/12/18	17.9	
04/13/18	8.7	
04/14/18	31.4	
04/15/18	12.7	
04/16/18	74.0	
04/17/18	47.6	
04/18/18	44.7	
04/19/18	47.9	
04/20/18	27.3	
04/21/18	28.1	
04/22/18	31.8	
04/23/18	50.9	
04/24/18	34.5	
04/25/18	40.1	
04/26/18	37.1	
04/27/18	10.2	
04/28/18	11.1	
04/29/18	11.9	
04/30/18	13.0	
05/01/18	6.6	May 2018 sampling conducted
05/02/18	6.0	
05/03/18	5.5	
05/04/18	4.8	
05/05/18	5.5	
05/06/18	5.5	
05/07/18	6.0	
05/08/18	3.0	
05/09/18	3.0	
05/10/18	13.0	
05/11/18	5.5	
05/12/18	4.5	
05/13/18	4.2	
05/14/18	3.9	
05/15/18	5.2	
05/16/18	7.7	
05/17/18	7.1	
05/18/18	3.9	
05/19/18	3.9	
05/20/18	3.9	
05/21/18	3.9	
05/22/18	11.2	
05/23/18	3.3	
05/24/18	7.1	

**Table 3. Maximum Daily Flow in Coyote Creek, Second Quarter 2018**

*SFPP Norwalk Pump Station, Norwalk, California*

<b>Date</b>	<b>Maximum Daily Flow Rate (cfs)<sup>a</sup></b>	<b>Comments</b>
05/25/18	3.9	
05/26/18	4.5	
05/27/18	3.9	
05/28/18	3.9	
05/29/18	4.8	
05/30/18	5.5	
05/31/18	4.2	
06/01/18	6.0	
06/02/18	5.2	
06/03/18	4.2	
06/04/18	5.2	
06/05/18	6.0	June 2018 sampling conducted
06/06/18	12.0	
06/07/18	10.4	
06/08/18	5.5	
06/09/18	6.6	
06/10/18	15.3	
06/11/18	11.2	
06/12/18	10.4	
06/13/18	7.7	
06/14/18	11.2	
06/15/18	8.4	
06/16/18	8.4	
06/17/18	5.2	
06/18/18	5.2	
06/19/18	7.1	
06/20/18	13.0	
06/21/18	17.8	
06/22/18	17.8	
06/23/18	19.1	
06/24/18	17.8	
06/25/18	16.5	
06/26/18	15.3	
06/27/18	16.5	
06/28/18	9.7	
06/29/18	5.5	
06/30/18	5.2	

Notes:

<sup>a</sup> A wet weather event is any day when the maximum daily flow of Coyote Creek is greater than or equal to 156 cfs. A dry weather event is any day when the maximum daily flow of Coyote Creek is less than 156 cfs.

cfs = cubic feet per second

**Table 4. NPDES Effluent Chronic Toxicity Monitoring, Second Quarter 2018**

*SFPF Norwalk Pump Station, Norwalk, California*

		Sampling Dates	6/4, 6/6, and 6/8
		Test Dates	6/5 to 6/12
Test Organism	Toxicity Endpoint	% Effect	EFF-001 (Effluent) TST Result
Inland silversides ( <i>Menidia beryllina</i> )	Survival	0.0	Pass
	Growth	11.2	Pass

Notes:

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded when a chronic toxicity test results in "Fail" and the "Percent Effect" is  $\geq 50\%$ .

Two additional effluent toxicity tests will be conducted within the same calendar month if the initial test results in a "Fail" to evaluate the Median Monthly Effluent Limit (MMEL).

A TIE (Toxicity Identification Evaluation) will be conducted on any effluent sample that causes a chronic result of "Fail" with an effect  $> 50\%$ .

Accelerated testing will be implemented if the MMEL result is a "Fail" or if a single effluent toxicity test results in a "Fail" with % effect  $> 50\%$ .

NPDES = National Pollutant Discharge Elimination System

TRE = toxicity reduction evaluation

TST = Test of Significant Toxicity (statistical analysis) per EPA 833-R-10-003

**Table 5. Initial Water Quality Parameters for the Composite Chronic Toxicity Samples, Second Quarter 2018**

*SFPP Norwalk Pump Station, Norwalk, California*

Parameter Tests	Unit	Measurement Method	Sampling Dates				
			EFF-060418 <sup>a</sup> 6/4/2018 11:30:00 AM	RSW-001 6/4/2018 9:20:00 AM	RSW-002 6/4/2018 9:26:00 AM	EFF-06062018 <sup>a</sup> 6/6/2018 12:05:00 PM	EFF-06082018 <sup>a</sup> 6/8/2018 11:45:00 AM
pH	s.u.	Field <sup>b</sup>	7.30	8.57	8.57	7.45	7.43
pH	s.u.	Laboratory	7.40	--	--	7.30	7.17
Temperature	°F	Field <sup>b</sup>	67.3	75.5	75.5	70.0	70.0
Temperature	°F	Laboratory	33.8	--	--	32.4	32.0
Salinity	ppt	Field <sup>b</sup>	1.0	1.0	1.0	1.0	1.0
Salinity	ppt	Laboratory	1.0	--	--	1.1	1.0
Chlorine	mg/L	Laboratory	0.03	--	--	0.00	0.00
Dissolved Oxygen	mg/L	Laboratory	6.4	--	--	6.4	6.7
Conductivity	µS/cm	Laboratory	1959	--	--	1983	2004
Total Ammonia	mg/L	Laboratory	<1.0	--	--	<1.0	<1.0

Notes:

<sup>a</sup> The EFF-060418 is a 24-hour composite sample collected from 6/3/2018 11:30 a.m. to 6/4/2018 11:30 a.m. The EFF-06062018 is a 24-hour composite sample collected from 6/5/2018 12:05 p.m. to 6/6/2018 12:05 p.m. The EFF-06082018 is a 24-hour composite sample collected from 6/7/2018 11:45 a.m. to 6/8/2018 11:45 a.m.

<sup>b</sup> Field measurements were collected using a Horiba U-52.

-- = not measured or not applicable

° F = degrees Fahrenheit

µS/cm = microSiemens per centimeter

mg/L = milligrams per liter

ppt = parts per trillion

s.u. = standard units

Figures

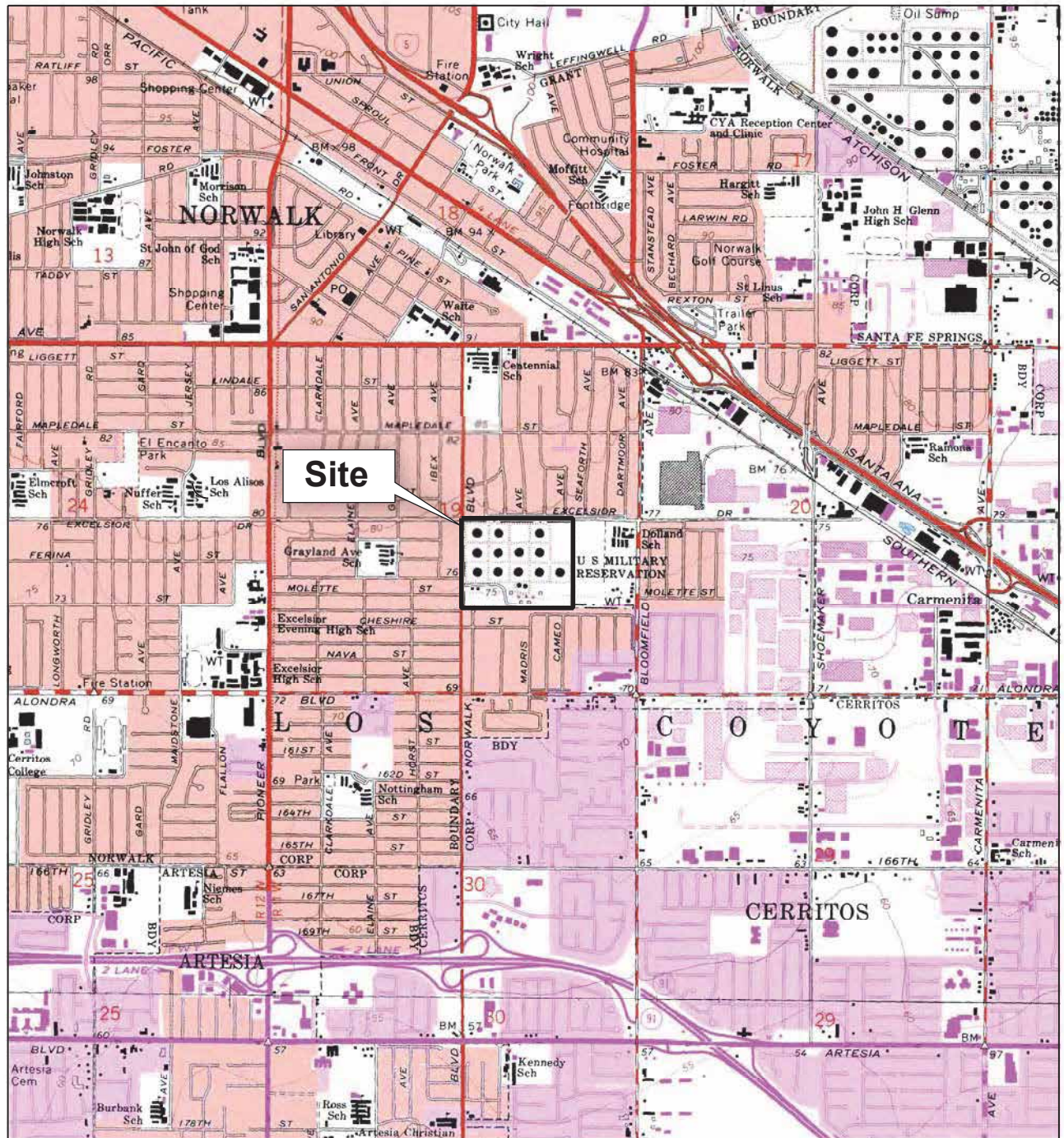
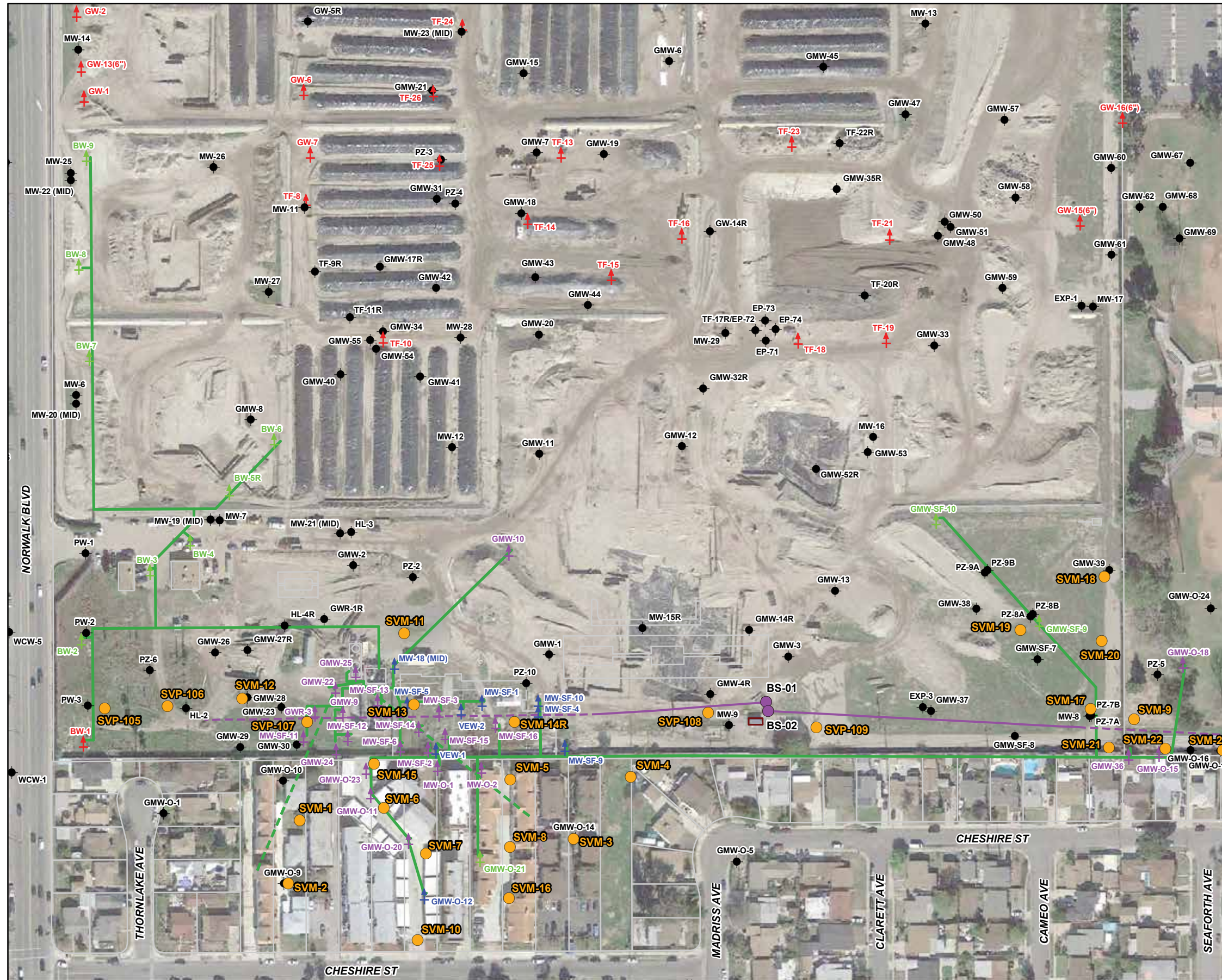


Figure 1. Site Location Map  
 SFPP Norwalk Pump Station  
 Norwalk, California

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**
- Soil Vapor Probe/Soil Vapor Monitoring Probe
  - Horizontal Biosparge Well Entry Point
  - Existing Groundwater Monitoring Well
  - ⬆ Existing Remediation Well
  - ⬆ Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
  - ⬆ Kinder Morgan Soil Vapor Extraction Wells
  - ⬆ Kinder Morgan Total Fluids and/or Groundwater Extraction Wells
  - Kinder Morgan Remediation Piping Layout (Above Ground and Below Ground)
  - Horizontal Vapor Extraction Well Piping
  - Horizontal Biosparge Well (Dashed Line Depicts Approximate Lateral Extent of Well Screen)
  - ▭ Air Compressor System

Imagery Source:  
Google Earth October 18, 2016.

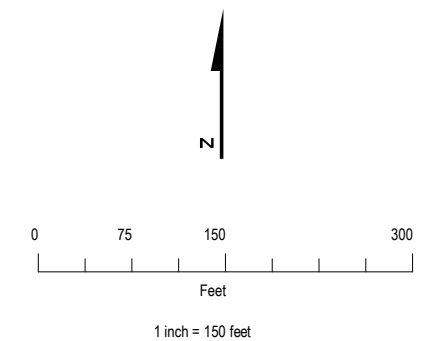


Figure 2. Remediation System Layout  
SFPP Norwalk Pump Station  
Norwalk, California



Attachment A  
Laboratory Analytical Reports,  
Chain-of-Custody Documents,  
and Field Measurements

April 20, 2018

Eric Davis  
CH2MHill  
1000 Wilshire Blvd.  
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N029685

RE: SFPP Norwalk

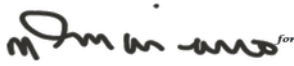
Attention: Eric Davis

Enclosed are the results for sample(s) received on April 10, 2018 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,



Quennie Manimtim  
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N029685

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

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

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

Sample was 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.

Ammonia was subcontracted to BC Laboratories, Bakersfield, CA.



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N029685  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N029685-001A	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001B	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001C	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001D	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001E	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001F	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001G	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001H	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018
N029685-001I	EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	4/10/2018	4/20/2018



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Apr-18

**CLIENT:** CH2MHill  
**Lab Order:** N029685  
**Project:** SFPP Norwalk  
**Lab ID:** N029685-001

**Client Sample ID:** EFF-04-05  
**Collection Date:** 4/5/2018 12:45:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE**

**SM2540D**

RunID: <b>NV00922-WC_180411G</b>	QC Batch: <b>67591</b>	PrepDate: <b>4/11/2018</b>	Analyst: <b>LR</b>			
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	4/11/2018 09:22 AM

**HEXANE EXTRACTABLE MATERIAL (HEM)**

**EPA 1664 \_HEM REV B**

RunID: <b>NV00922-WC_180413A</b>	QC Batch: <b>67645</b>	PrepDate: <b>4/13/2018</b>	Analyst: <b>LR</b>			
Oil & Grease	0.77	0.71	4.4	J mg/L	1	4/13/2018 08:15 AM

**SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 3510C**

**EPA 8270C**

RunID: <b>NV00922-MS3_180412B</b>	QC Batch: <b>67613</b>	PrepDate: <b>4/12/2018</b>	Analyst: <b>JJS</b>			
Phenol	ND	0.33	1.0	µg/L	1	4/12/2018 05:20 PM
Surr: 1,2-Dichlorobenzene-d4	60.0	0	16-120	%REC	1	4/12/2018 05:20 PM
Surr: 2-Fluorobiphenyl	69.0	0	25-120	%REC	1	4/12/2018 05:20 PM
Surr: 4-Terphenyl-d14	112	0	46-132	%REC	1	4/12/2018 05:20 PM
Surr: Phenol-d5	27.0	0	15-120	%REC	1	4/12/2018 05:20 PM

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 8260B**

RunID: <b>MS8_180411A</b>	QC Batch: <b>R18VW012</b>	PrepDate:	Analyst: <b>QBM</b>			
1,1-Dichloroethane	ND	0.45	0.50	ug/L	1	4/11/2018 02:04 PM
1,2-Dichloroethane	ND	0.29	0.50	ug/L	1	4/11/2018 02:04 PM
Benzene	ND	0.34	1.0	ug/L	1	4/11/2018 02:04 PM
Ethylbenzene	ND	0.31	1.0	ug/L	1	4/11/2018 02:04 PM
m,p-Xylene	ND	0.23	1.0	ug/L	1	4/11/2018 02:04 PM
MTBE	ND	0.34	1.0	ug/L	1	4/11/2018 02:04 PM
o-Xylene	ND	0.31	1.0	ug/L	1	4/11/2018 02:04 PM
Tert-Butanol	ND	2.4	5.0	ug/L	1	4/11/2018 02:04 PM
Toluene	ND	0.46	2.0	ug/L	1	4/11/2018 02:04 PM
Xylenes, Total	ND	1.5	2.0	ug/L	1	4/11/2018 02:04 PM
Surr: 1,2-Dichloroethane-d4	101	0	72-119	%REC	1	4/11/2018 02:04 PM
Surr: 4-Bromofluorobenzene	99.8	0	76-119	%REC	1	4/11/2018 02:04 PM
Surr: Dibromofluoromethane	96.2	0	85-115	%REC	1	4/11/2018 02:04 PM
Surr: Toluene-d8	98.5	0	81-120	%REC	1	4/11/2018 02:04 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



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**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Apr-18

**CLIENT:** CH2MHill  
**Lab Order:** N029685  
**Project:** SFPP Norwalk  
**Lab ID:** N029685-001

**Client Sample ID:** EFF-04-05  
**Collection Date:** 4/5/2018 12:45:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID: <b>NV00922-GC3_180411A</b>	QC Batch: <b>67595</b>				PrepDate: <b>4/11/2018</b>		Analyst: <b>SS</b>
TPH-Diesel (C13-C22)	ND	15	25		ug/L	1	4/11/2018 07:07 PM
TPH-Oil (C23-C36)	21	14	25	J	ug/L	1	4/11/2018 07:07 PM
Surr: Octacosane	115	0	26-152		%REC	1	4/11/2018 07:07 PM
Surr: p-Terphenyl	107	0	57-132		%REC	1	4/11/2018 07:07 PM

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>NV00922-GC4_180411A</b>	QC Batch: <b>E18VW027</b>				PrepDate:		Analyst: <b>QBM</b>
TPH-Gasoline (C4-C12)	20	16	50	J	ug/L	1	4/11/2018 03:01 PM
Surr: Chlorobenzene - d5	111	0	74-138		%REC	1	4/11/2018 03:01 PM

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID: <b>NV00922-AA1_180411A</b>	QC Batch: <b>67583</b>				PrepDate: <b>4/11/2018</b>		Analyst: <b>CEI</b>
Mercury	ND	0.018	0.050		ug/L	1	4/11/2018 03:45 PM

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_180411B</b>	QC Batch: <b>67588</b>				PrepDate: <b>4/11/2018</b>		Analyst: <b>CEI</b>
Copper	ND	0.26	0.50		ug/L	1	4/11/2018 05:57 PM
Lead	ND	0.13	0.50		ug/L	1	4/11/2018 05:57 PM
Zinc	2.6	0.27	1.0		ug/L	1	4/11/2018 05:57 PM

**TOTAL TPH**

**EPA 8015B**

RunID: <b>NV00922-GC3_180411A</b>	QC Batch: <b>R123296</b>				PrepDate:		Analyst: <b>SS</b>
Total TPH	41	16	50	J	ug/L	1	4/11/2018

**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



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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 160.2\_2540D\_W**

Sample ID: <b>LCS-67591</b>	SampType: <b>LCS</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123323</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>67591</b>	TestNo: <b>SM2540D</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2990115</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter)	958.000	10	1000	0	95.8	80	120				

Sample ID: <b>MB-67591</b>	SampType: <b>MBLK</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123323</b>							
Client ID: <b>PBW</b>	Batch ID: <b>67591</b>	TestNo: <b>SM2540D</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2990116</b>							
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: <b>N029687-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123323</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67591</b>	TestNo: <b>SM2540D</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2990119</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter)	94.000	10						93.00	1.07	5	

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 1664\_HEM\_W**

Sample ID: <b>MB-67645</b>	SampType: <b>MBLK</b>	TestCode: <b>1664_HEM_W</b>	Units: <b>mg/L</b>	Prep Date: <b>4/13/2018</b>	RunNo: <b>123350</b>						
Client ID: <b>PBW</b>	Batch ID: <b>67645</b>	TestNo: <b>EPA 1664_H</b>		Analysis Date: <b>4/13/2018</b>	SeqNo: <b>2991881</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Oil & Grease	ND	4.0									
--------------	----	-----	--	--	--	--	--	--	--	--	--

Sample ID: <b>LCS-67645</b>	SampType: <b>LCS</b>	TestCode: <b>1664_HEM_W</b>	Units: <b>mg/L</b>	Prep Date: <b>4/13/2018</b>	RunNo: <b>123350</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>67645</b>	TestNo: <b>EPA 1664_H</b>		Analysis Date: <b>4/13/2018</b>	SeqNo: <b>2991882</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Oil & Grease	32.300	4.0	40.00	0	80.8	78	114				
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Sample ID: <b>LCSD-67645</b>	SampType: <b>LCSD</b>	TestCode: <b>1664_HEM_W</b>	Units: <b>mg/L</b>	Prep Date: <b>4/13/2018</b>	RunNo: <b>123350</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>67645</b>	TestNo: <b>EPA 1664_H</b>		Analysis Date: <b>4/13/2018</b>	SeqNo: <b>2991883</b>						
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	32.30	1.54	18	
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**Qualifiers:**

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|--|--|--|
| 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                 |



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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-67588</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123320</b>						
Client ID: <b>PBW</b>	Batch ID: <b>67588</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989844</b>						
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									
Zinc	ND	1.0									

Sample ID: <b>LCS-67588</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123320</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>67588</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989845</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	10.587	0.50	10.00	0	106	85	115				
Lead	9.912	0.50	10.00	0	99.1	85	115				
Zinc	95.996	1.0	100.0	0	96.0	85	115				

Sample ID: <b>N029685-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123320</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67588</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989850</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.442	0.50	10.00	0	84.4	75	125				
Lead	9.942	0.50	10.00	0	99.4	75	125				
Zinc	109.870	1.0	100.0	2.620	107	75	125				

Sample ID: <b>N029685-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123320</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67588</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989851</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.479	0.50	10.00	0	84.8	75	125	8.442	0.448	20	
Lead	9.763	0.50	10.00	0	97.6	75	125	9.942	1.82	20	
Zinc	107.486	1.0	100.0	2.620	105	75	125	109.9	2.19	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N029685-001C-DUP</b>		SampType: <b>DUP</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>4/11/2018</b>		RunNo: <b>123320</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>67588</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>4/11/2018</b>		SeqNo: <b>2989853</b>		
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	
Zinc	2.496	1.0						2.620	4.85	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_LL**

Sample ID: <b>MB-67583</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123303</b>						
Client ID: <b>PBW</b>	Batch ID: <b>67583</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989769</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.050

Sample ID: <b>LCS-67583</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123303</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>67583</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989770</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.621 0.050 2.500 0 105 85 115

Sample ID: <b>N029685-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123303</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67583</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989771</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.605 0.050 2.500 0 104 75 125

Sample ID: <b>N029685-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123303</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67583</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989772</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.414 0.050 2.500 0 96.6 75 125 2.605 7.60 20

Sample ID: <b>N029685-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123303</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67583</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989775</b>						
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:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_FP\_SFPP**

Sample ID: <b>MB-67595</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123296</b>						
Client ID: <b>PBW</b>	Batch ID: <b>67595</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2988788</b>						
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)	24.427	25									J
Surr: Octacosane	86.840		80.00		109	26	152				
Surr: p-Terphenyl	80.518		80.00		101	57	132				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPTOT**

Sample ID: <b>MB-R123296</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123296</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R123296</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2990052</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	51.000	50									

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID: <b>E180411LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123288</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E18VW027</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2988359</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	861.000	50	1000	0	86.1	67	136				
Surr: Chlorobenzene - d5	42175.000		50000		84.4	74	138				

Sample ID: <b>E180411MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123288</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E18VW027</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2988360</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	27.000	50									J
Surr: Chlorobenzene - d5	42796.000		50000		85.6	74	138				

Sample ID: <b>N029685-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123288</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E18VW027</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2988429</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	714.000	50	1000	20.00	69.4	67	136				
Surr: Chlorobenzene - d5	42456.000		50000		84.9	74	138				

Sample ID: <b>N029685-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123288</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E18VW027</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2988430</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	886.000	50	1000	20.00	86.6	67	136	714.0	21.5	30	
Surr: Chlorobenzene - d5	44981.000		50000		90.0	74	138		0	0	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>R180411LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:			RunNo: <b>123295</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>R18VW012</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>4/11/2018</b>			SeqNo: <b>2988730</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	20.070	0.50	20.00	0	100	69	133				
1,2-Dichloroethane	21.560	0.50	20.00	0	108	69	132				
Benzene	20.730	1.0	20.00	0	104	81	122				
Ethylbenzene	19.740	1.0	20.00	0	98.7	73	127				
m,p-Xylene	40.470	1.0	40.00	0	101	76	128				
MTBE	20.530	1.0	20.00	0	103	65	123				
o-Xylene	19.870	1.0	20.00	0	99.4	80	121				
Tert-Butanol	115.380	5.0	100.0	0	115	70	130				
Toluene	19.930	2.0	20.00	0	99.7	77	122				
Xylenes, Total	60.340	2.0	60.00	0	101	75	125				
Surr: 1,2-Dichloroethane-d4	26.690		25.00		107	72	119				
Surr: 4-Bromofluorobenzene	26.410		25.00		106	76	119				
Surr: Dibromofluoromethane	26.310		25.00		105	85	115				
Surr: Toluene-d8	26.930		25.00		108	81	120				

Sample ID: <b>N029685-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:			RunNo: <b>123295</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R18VW012</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>4/11/2018</b>			SeqNo: <b>2988732</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.230	0.50	20.00	0	96.2	69	133	19.18	0.260	20	
1,2-Dichloroethane	20.250	0.50	20.00	0	101	69	132	20.97	3.49	20	
Benzene	20.030	1.0	20.00	0	100	81	122	20.89	4.20	20	
Ethylbenzene	19.900	1.0	20.00	0	99.5	73	127	21.43	7.40	20	
m,p-Xylene	40.750	1.0	40.00	0	102	76	128	43.08	5.56	20	
MTBE	18.940	1.0	20.00	0	94.7	65	123	19.01	0.369	20	
o-Xylene	19.990	1.0	20.00	0	100	80	121	20.93	4.59	20	
Tert-Butanol	109.520	5.0	100.0	0	110	70	130	105.5	3.76	20	
Toluene	19.480	2.0	20.00	0	97.4	77	122	20.37	4.47	20	
Xylenes, Total	60.740	2.0	60.00	0	101	75	125	64.01	5.24	20	
Surr: 1,2-Dichloroethane-d4	25.280		25.00		101	72	119		0		

**Qualifiers:**

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

**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N029685-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>123295</b>	
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R18VW012</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>4/11/2018</b>		SeqNo: <b>2988732</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	26.120		25.00		104	76	119		0		
Surr: Dibromofluoromethane	24.950		25.00		99.8	85	115		0		
Surr: Toluene-d8	26.030		25.00		104	81	120		0		

Sample ID: <b>N029685-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>123295</b>	
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R18VW012</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>4/11/2018</b>		SeqNo: <b>2988734</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.180	0.50	20.00	0	95.9	69	133				
1,2-Dichloroethane	20.970	0.50	20.00	0	105	69	132				
Benzene	20.890	1.0	20.00	0	104	81	122				
Ethylbenzene	21.430	1.0	20.00	0	107	73	127				
m,p-Xylene	43.080	1.0	40.00	0	108	76	128				
MTBE	19.010	1.0	20.00	0	95.1	65	123				
o-Xylene	20.930	1.0	20.00	0	105	80	121				
Tert-Butanol	105.480	5.0	100.0	0	105	70	130				
Toluene	20.370	2.0	20.00	0	102	77	122				
Xylenes, Total	64.010	2.0	60.00	0	107	75	125				
Surr: 1,2-Dichloroethane-d4	24.450		25.00		97.8	72	119				
Surr: 4-Bromofluorobenzene	26.160		25.00		105	76	119				
Surr: Dibromofluoromethane	23.940		25.00		95.8	85	115				
Surr: Toluene-d8	25.480		25.00		102	81	120				

Sample ID: <b>R180411MB4</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>123295</b>	
Client ID: <b>PBW</b>		Batch ID: <b>R18VW012</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>4/11/2018</b>		SeqNo: <b>2988737</b>			
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									

**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                 |



**ASSET LABORATORIES**

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

"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>R180411MB4</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123295</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R18VW012</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2988737</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	25.340		25.00		101	72	119				
Surr: 4-Bromofluorobenzene	24.630		25.00		98.5	76	119				
Surr: Dibromofluoromethane	25.150		25.00		101	85	115				
Surr: Toluene-d8	25.410		25.00		102	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                 |



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**CLIENT:** CH2MHill  
**Work Order:** N029685  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270WATER\_SIMEXT**

Sample ID: <b>LCS-67613</b>	SampType: <b>LCS</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>4/12/2018</b>	RunNo: <b>123336</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>67613</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>4/12/2018</b>	SeqNo: <b>2991025</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.040	1.0	6.000	0	34.0	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.540		1.000		54.0	16	120				
Surr: 2-Fluorobiphenyl	0.660		1.000		66.0	25	120				
Surr: 4-Terphenyl-d14	1.220		1.000		122	46	132				
Surr: Phenol-d5	0.210		1.000		21.0	15	120				

Sample ID: <b>LCS-67613</b>	SampType: <b>LCS</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>4/12/2018</b>	RunNo: <b>123336</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>67613</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>4/12/2018</b>	SeqNo: <b>2991026</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.360	1.0	6.000	0	39.3	24	120	2.040	14.5	20	
Surr: 1,2-Dichlorobenzene-d4	0.490		1.000		49.0	16	120		0		
Surr: 2-Fluorobiphenyl	0.650		1.000		65.0	25	120		0		
Surr: 4-Terphenyl-d14	1.050		1.000		105	46	132		0		
Surr: Phenol-d5	0.230		1.000		23.0	15	120		0		

Sample ID: <b>MB-67613</b>	SampType: <b>MBLK</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>4/12/2018</b>	RunNo: <b>123336</b>						
Client ID: <b>PBW</b>	Batch ID: <b>67613</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>4/12/2018</b>	SeqNo: <b>2991027</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	1.0									
Surr: 1,2-Dichlorobenzene-d4	0.570		1.000		57.0	16	120				
Surr: 2-Fluorobiphenyl	0.710		1.000		71.0	25	120				
Surr: 4-Terphenyl-d14	1.030		1.000		103	46	132				
Surr: Phenol-d5	0.200		1.000		20.0	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                 |



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# 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: 4/10/2018 Workorder: N029685  
 Rep sample Temp (Deg C): 3.3/3.9 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 3224/3225 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 <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | Not Present <input type="checkbox"/>   |
| 2. Custody seals intact, signed, dated on shipping container/cooler?                    | Yes <input type="checkbox"/>                                 | No <input type="checkbox"/>                                | Not Present <input checked="" type="checkbox"/>                                  |
| 3. Custody seals intact on sample bottles?  | Yes <input type="checkbox"/>                                 | No <input type="checkbox"/>                                | Not Present <input checked="" type="checkbox"/>                                  |
| 4. Chain of custody present?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 5. Sampler's name present in COC?   | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 6. Chain of custody signed when relinquished and received?                              | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 7. Chain of custody agrees with sample labels?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 8. Samples in proper container/bottle?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 9. Sample containers intact?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 10. Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 11. All samples received within holding time?   | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 12. Temperature of rep sample or Temp Blank within acceptable limit?                    | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 13. Water - VOA vials have zero headspace?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 14. Water - pH acceptable upon receipt?<br>Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 15. Did the bottle labels indicate correct preservatives used?                          | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 16. Were there Non-Conformance issues at login?<br>Was Client notified?                 | Yes <input type="checkbox"/><br>Yes <input type="checkbox"/> | No <input type="checkbox"/><br>No <input type="checkbox"/> | NA <input checked="" type="checkbox"/><br>NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed By: YR  4/11/2018

Reviewed By:  04/12/2018

## Hanah Glodoviza

---

**From:** Marlon B. Cartin [marlon@assetlaboratories.com]  
**Sent:** Thursday, April 12, 2018 2:47 PM  
**To:** 'Carino, Vladimir/SCO'  
**Cc:** hanah@assetlaboratories.com; 'Yoandra Rodriguez'  
**Subject:** COC Effluent  
**Attachments:** image001.jpg; CH2MHILL 4.10.18.pdf

Hi Vladimir,

Per conversation with you, we will run BOD and Settleable Solids only on the COC dated 4/10. I will also take turbidity from the same sample. Normally, the holding time we follow for Jacob's on Turbidity is 7 days, but we'll just take it from the 4/10 sample just so we're on the safe side.

Thanks,

### Marlon Cartin

Project Manager

California: 11110 Artesia Blvd., Ste. B, 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

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[www.atl-labs.com](http://www.atl-labs.com)  
 TEL: 7023072659 FAX: 7023072691

**- COPY -**

**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

10-Apr-18

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3C		
N029685-001H / EFF-04-05	Wastewater	4/5/2018 12:45:00 PM	16OZP	1		

**General Comments:**

Please email sample receipt acknowledgement to the PM.

Please use PO#:N29685A Please email Invoices and Account Receivable Statements to [elvira@assetlaboratories.com](mailto:elvira@assetlaboratories.com). For questions, call Marlon at (702)-307-2659. Please e-mail results to [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com) by: Normal TAT

Please analyze for Ammonia. MDL/PQL "J-Flag" report format. EDD Requirement: CH2MHILL LabSpec7.

	<b>Date/Time</b>		<b>Date/Time</b>
Relinquished by: <u>Hannah Glodoviza HSG</u>	<u>4/10/18 1730</u>	Received by: _____	_____
Relinquished by: _____	_____	Received by: _____	_____

# ASSET Laboratories

## WORK ORDER Summary

11-Apr-18

WorkOrder: N029685

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 4/10/2018

Comments: Report metals, TPH and VOC preliminary data on 24-hr TAT. Report total xylenes.

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N029685-001A	EFF-04-05	4/5/2018 12:45:00 PM	4/11/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			4/11/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N029685-001B			4/11/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/11/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/11/2018		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N029685-001C			4/11/2018			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/11/2018		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/11/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/11/2018			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N029685-001D			4/17/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/17/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N029685-001E			4/17/2018		SM 5210 B	BIOCHEMICAL OXYGEN DEMAND	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N029685-001F			4/17/2018		SM2540D	TOTAL NON-FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			4/17/2018			Total Suspended Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			4/17/2018		SM 2130B	TURBIDITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N029685-001G			4/17/2018			Oil and Grease Sample Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/17/2018		EPA 1664 _HEM Pov. P	Hexane Extractable Material (HEM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N029685-001H			4/17/2018		SM4500-NH3C	AMMONIA-N	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N029685-001I			4/17/2018		SM2540F	SETTLEABLE MATTER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			4/17/2018			Setteable Matter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW

# ASSET Laboratories

## WORK ORDER Summary

11-Apr-18

**WorkOrder:** N029685

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 4/10/2018

**Comments:** Report metals, TPH and VOC preliminary data on 24-hr TAT. Report total xylenes.

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N029685-002A	FOLDER	4/11/2018	4/11/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			4/11/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



800-322-5555  
www.gso.com

**Ship From**

ASSET LABORATORIES  
MOLKY BRAR  
11110 ARTESIA BLVD. SUITE B  
CERRITOS, CA 90703

Tracking #: 540153225

**CPS**



**Ship To**

ASSET LABORATORIES  
MARLON CARTIN  
3151 W. POST RD.,  
LAS VEGAS, NV 89118

**LVS**  
**LAS VEGAS**

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

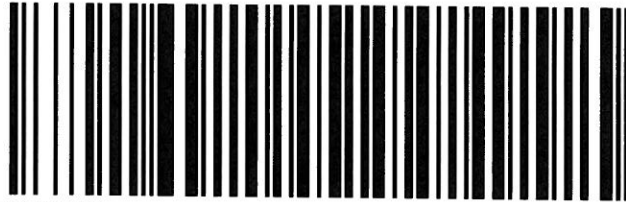
**Reference:**

**C89102A**

**Delivery Instructions:**

HOLD FOR PICKUP

**Signature Type:** NOT REQUIRED



82305538

Print Date: 4/10/2018 5:31 PM

Package 2 of 2

**LABEL INSTRUCTIONS:**

**Do not copy or reprint this label for additional shipments - each package must have a unique barcode.**

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

**TERMS AND CONDITIONS:**

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at [www.gso.com](http://www.gso.com).

3.92  
JR # 2





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**GLS**

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**Ship From**

ASSET LABORATORIES  
MOLKY BRAR  
11110 ARTESIA BLVD. SUITE B  
CERRITOS, CA 90703

Tracking #: 540153224

**CPS**



**Ship To**

ASSET LABORATORIES  
MARLON CARTIN  
3151 W. POST RD.,  
LAS VEGAS, NV 89118

**LVS**  
LAS VEGAS

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

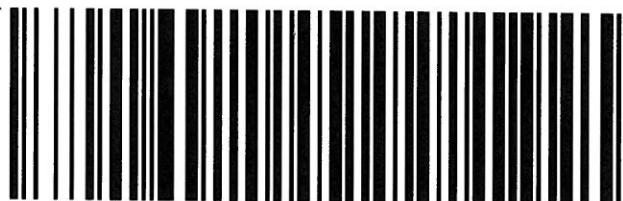
**Reference:**

**C89102A**

**Delivery Instructions:**

HOLD FOR PICKUP

**Signature Type:** NOT REQUIRED



82305537

Print Date: 4/10/2018 5:31 PM

Package 1 of 2

**LABEL INSTRUCTIONS:**

**Do not copy or reprint this label for additional shipments - each package must have a unique barcode.**

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

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By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at [www.gso.com](http://www.gso.com).

3.3<sup>0</sup>c  
m#2



Date of Report: 07/23/2018

Marlon Cartin

ASSET Laboratories  
3151-3153 W. Post Rd  
Las Vegas, NV 89118

Client Project: N029685  
BCL Project: CH2MHILL  
BCL Work Order: 1811653  
Invoice ID: B300984

Enclosed are the results of analyses for samples received by the laboratory on 4/ 11/2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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ASSET Laboratories  
3151-3153 W. Post Rd  
Las Vegas, NV 89118

**Reported:** 07/23/2018 11:05  
**Project:** CH2MHILL  
**Project Number:** N029685  
**Project Manager:** Marlon Cartin

### Laboratory / Client Sample Cross Reference

Laboratory ID	Client Sample Information		
1811653-01	<b>COC Number:</b>	---	<b>Receive Date:</b> 04/11/2018 08:28
	<b>Project Number:</b>	---	<b>Sampling Date:</b> 04/05/2018 12:45
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b>	N029685-001H / EFF-04-05	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b>	Client	<b>Sample Type:</b> Wastewater

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**Reported:** 07/23/2018 11:05  
**Project:** CH2MHILL  
**Project Number:** N029685  
**Project Manager:** Marlon Cartin

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1811653-01	<b>Client Sample Name:</b> N029685-001H / EFF-04-05, 4/5/2018 12:45:00PM, Client
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Ammonia as NH3	ND	mg/L	0.13	0.025	EPA-350.1	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-350.1	04/16/18 09:14	04/16/18 11:22	JMH	SC-1	1	B010825

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**Reported:** 07/23/2018 11:05  
Project: CH2MHILL  
Project Number: N029685  
Project Manager: Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B010825</b>						
Ammonia as NH3	B010825-BLK1	ND	mg/L	0.13	0.025	

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**Reported:** 07/23/2018 11:05  
Project: CH2MHILL  
Project Number: N029685  
Project Manager: Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B010825</b>										
Ammonia as NH3	B010825-BS1	LCS	1.1364	1.2160	mg/L	93.4		90	110	

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Las Vegas, NV 89118

Reported: 07/23/2018 11:05  
Project: CH2MHILL  
Project Number: N029685  
Project Manager: Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B010825</b>		Used client sample: N								
Ammonia as NH3	DUP	1811935-02	0.078918	0.066758		mg/L	16.7		10	J,A02
	MS	1811935-02	0.078918	1.3229	1.3511	mg/L		92.1	90 - 110	
	MSD	1811935-02	0.078918	1.3657	1.3511	mg/L	3.2	95.2	10 90 - 110	

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**Reported:** 07/23/2018 11:05  
Project: CH2MHILL  
Project Number: N029685  
Project Manager: Marlon Cartin

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A02 The difference between duplicate readings is less than the quantitation limit.

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### Kinder Morgan Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	CH2M Personnel	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 1/8/18	
SFPP Norwalk Pump Station	Norwalk, CA	Steve Defibaugh	Eric Davis, PM Vladimir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
4/5/18	0825	<input checked="" type="radio"/> Grab, Composite, Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2				
James Dye	_____				
<b>EQUIPMENT</b>					
Multimeter	Make:	YSI			
	Model:	556 MPS			
	Serial Number:	240275 AC			
<b>CALIBRATION</b>					
Date of Calibration:	4/5/18	Time:			
Calibration Standard:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard		4	3/19	<input checked="" type="radio"/> Yes	<input type="radio"/> No
		7	1/19	<input type="radio"/> Yes	<input type="radio"/> No
		10	N/A	<input type="radio"/> Yes	<input type="radio"/> No
Cond. Calibration	N/A	Equipment Reading:	N/A	Calibrated to or within 10%?	<input type="radio"/> Yes <input type="radio"/> No
<b>FIELD PARAMETERS</b>			<b>FIELD MEASUREMENTS</b>		
		Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
TIME	0845				
pH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually)		6.6			
TEMP (°F) (DISCHARGE LIMIT 86°F) (Quarterly, Annually)		69			
SALINITY (ppt)					
COND (mS/cm or uS/cm; Specific Cond.) <i>Circle or Note Units Used</i>					
<b>OBSERVATIONS</b>					

**KINDER MORGAN**

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

4/5/18

April 20, 2018

Eric Davis  
CH2MHill  
1000 Wilshire Blvd.  
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N029686

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on April 10, 2018 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,



Quennie Manimtim  
Laboratory Director

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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N029686

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

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

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

Sample was 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.

BOD was subcontracted to BC Laboratories, Bakersfield, CA.



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N029686  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N029686-001A	EFF-4-10	Wastewater	4/10/2018 2:05:00 PM	4/10/2018	4/20/2018
N029686-001B	EFF-4-10	Wastewater	4/10/2018 2:05:00 PM	4/10/2018	4/20/2018
N029686-001C	EFF-4-10	Wastewater	4/10/2018 2:05:00 PM	4/10/2018	4/20/2018



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Apr-18

<b>CLIENT:</b> CH2MHill	<b>Client Sample ID:</b> EFF-4-10
<b>Lab Order:</b> N029686	<b>Collection Date:</b> 4/10/2018 2:05:00 PM
<b>Project:</b> SFPP Norwalk	<b>Matrix:</b> WASTEWATER
<b>Lab ID:</b> N029686-001	

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SETTLEABLE MATTER</b>							
				<b>SM2540F</b>			
RunID: NV00922-WC_180411H	QC Batch: 67596			PrepDate:	4/11/2018		Analyst: QBM
Settleable Matter	ND	0.099	0.099		ml/L	1	4/11/2018
<b>TURBIDITY</b>							
				<b>SM 2130B</b>			
RunID: NV00922-WC_180411C	QC Batch: R123316			PrepDate:			Analyst: LR
Turbidity	0.81	0.10	0.10		NTU	1	4/11/2018 09:40 AM

- |                    |    |  |    |  |
|--------------------|----|--|----|--|
| <b>Qualifiers:</b> | 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  |



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**CLIENT:** CH2MHill  
**Work Order:** N029686  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 160.5\_2540F\_W**

Sample ID: <b>MB-67596</b>	SampType: <b>MBLK</b>	TestCode: <b>160.5_2540F_</b> Units: <b>ml/L</b>	Prep Date: <b>4/11/2018</b>	RunNo: <b>123533</b>							
Client ID: <b>PBW</b>	Batch ID: <b>67596</b>	TestNo: <b>SM2540F</b>	Analysis Date: <b>4/11/2018</b>	SeqNo: <b>3002405</b>							
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
  - J Analyte detected below quantitation limits
  - S Spike/Surrogate outside of limits due to matrix interference
  - E Value above quantitation range
  - ND Not Detected at the Reporting Limit
  - DO Surrogate Diluted Out
  - H Holding times for preparation or analysis exceeded
  - R RPD outside accepted recovery limits
- Calculations are based on raw values



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**CLIENT:** CH2MHill  
**Work Order:** N029686  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 2130\_W**

Sample ID: <b>MB-R123316</b>	SampType: <b>MBLK</b>	TestCode: <b>2130_W</b>	Units: <b>NTU</b>	Prep Date:	RunNo: <b>123316</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R123316</b>	TestNo: <b>SM 2130B</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989836</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Turbidity	ND	0.10	
-----------	----	------	--

Sample ID: <b>N029686-001CDUP</b>	SampType: <b>DUP</b>	TestCode: <b>2130_W</b>	Units: <b>NTU</b>	Prep Date:	RunNo: <b>123316</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R123316</b>	TestNo: <b>SM 2130B</b>		Analysis Date: <b>4/11/2018</b>	SeqNo: <b>2989838</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Turbidity	0.800	0.10		0.8100	1.24	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                 |



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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: 4/10/2018 Workorder: N029686  
 Rep sample Temp (Deg C): 3.3 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 3224 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 <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| 2. Custody seals intact, signed, dated on shipping container/cooler?                    | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 5. Sampler's name present in COC?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 6. Chain of custody signed when relinquished and received?                              | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 7. Chain of custody agrees with sample labels?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 8. Samples in proper container/bottle?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 9. Sample containers intact?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 10. Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 11. All samples received within holding time?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 12. Temperature of rep sample or Temp Blank within acceptable limit?                    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 13. Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |
| 14. Water - pH acceptable upon receipt?<br>Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |
| 15. Did the bottle labels indicate correct preservatives used?                          | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |
| 16. Were there Non-Conformance issues at login?<br>Was Client notified?                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |
|   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |

Comments:

Checklist Completed By: YR  4/11/2018

Reviewed By:  04/17/2018

## Hanah Glodoviza

---

**From:** Carino, Vladimir/SCO [Vladimir.Carino@CH2M.com]  
**Sent:** Friday, April 13, 2018 8:14 AM  
**To:** Marlon B. Cartin  
**Cc:** hanah@assetlaboratories.com; 'Yoandra Rodriguez'  
**Subject:** RE: COC Effluent  
**Attachments:** image001.jpg

Ok. BOD, Settleable solids, and turbidity for 4/10 sample.

Thanks.  
Vladimir

---

**From:** Marlon B. Cartin [mailto:marlon@assetlaboratories.com]  
**Sent:** Thursday, April 12, 2018 2:47 PM  
**To:** Carino, Vladimir/SCO <Vladimir.Carino@CH2M.com>  
**Cc:** hanah@assetlaboratories.com; 'Yoandra Rodriguez' <yoandra@assetlaboratories.com>  
**Subject:** [EXTERNAL] COC Effluent

Hi Vladimir,

Per conversation with you, we will run BOD and Settleable Solids only on the COC dated 4/10. I will also take turbidity from the same sample. Normally, the holding time we follow for Jacob's on Turbidity is 7 days, but we'll just take it from the 4/10 sample just so we're on the safe side.

Thanks,

**Marlon Cartin**  
Project Manager

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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:

10-Apr-18

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM 5210 B		
N029686-001A / EFF-4-10	Wastewater	4/10/2018 <del>2:00:00 PM</del>	32OZP	1		

2:05:00 PM

4/12/2018

**General Comments:**

Please email sample receipt acknowledgement to the PM.

Please use PO#:N29686A Please email Invoices and Account Receivable Statements to [elvira@assetlaboratories.com](mailto:elvira@assetlaboratories.com). For questions, call Marlon at (702)-307-2659. Please e-mail results to [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com) by: Normal TAT

Please analyze for BOD. MDL/PQL "J-Flag" report format. EDD Requirement: CH2MHILL LabSpec7.

	Date/Time		Date/Time
Relinquished by: <u>Hannah Glodoviza HSG</u>	<u>4/10/18 1730</u>	Received by: _____	_____
Relinquished by: _____	_____	Received by: _____	_____

# ASSET Laboratories

## WORK ORDER Summary

11-Apr-18

WorkOrder: N029686

Client ID: CH2HI03

Project: SFPP Norwalk

QC Level: RTNE

Date Received: 4/10/2018

### Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N029686-001A	EFF-4-10	4/10/2018 2:05:00 PM	4/17/2018	Wastewater	SM 5210 B	BIOCHEMICAL OXYGEN DEMAND	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N029686-001B			4/17/2018		SM2540F	SETTLEABLE MATTER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			4/17/2018			Setteable Matter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N029686-001C			4/17/2018		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N029686-002A	FOLDER	4/17/2018	4/17/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			4/17/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



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11110 ARTESIA BLVD. SUITE B  
CERRITOS, CA 90703

Tracking #: 540153224

**CPS**



**Ship To**

ASSET LABORATORIES  
MARLON CARTIN  
3151 W. POST RD.,  
LAS VEGAS, NV 89118

**LVS**  
LAS VEGAS

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

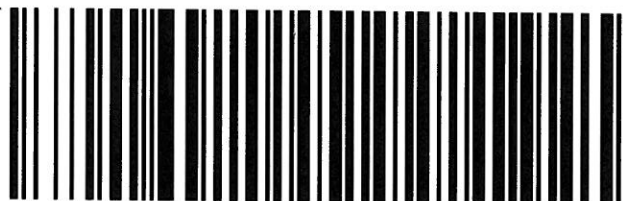
**Reference:**

**C89102A**

**Delivery Instructions:**

HOLD FOR PICKUP

**Signature Type:** NOT REQUIRED



82305537

Print Date: 4/10/2018 5:31 PM

Package 1 of 2

**LABEL INSTRUCTIONS:**

**Do not copy or reprint this label for additional shipments - each package must have a unique barcode.**

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

**TERMS AND CONDITIONS:**

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at [www.gso.com](http://www.gso.com).

3.3%  
m#2





Date of Report: 04/19/2018

Marlon Cartin

ASSET Laboratories

3151-3153 W. Post Rd

Las Vegas, NV 89118

Client Project: N029686

BCL Project: CH2MHILL

BCL Work Order: 1811652

Invoice ID: B300904

Enclosed are the results of analyses for samples received by the laboratory on 4/ 11/2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Page 1 of 1

# CHAIN-OF-CUSTODY RECORD

18-11652

**ASSET Laboratories**  
 3151-3153 W Post Rd., Las Vegas, NV 89118  
 www.assetlabs.com  
 TEL: 7023072659 FAX: 7023072691

QC Level: RTNE

Subcontractor:

BC Labs  
 4100 Atlas Court  
 Bakersfield, CA 93308

TEL: (661) 327-4911  
 FAX: (661) 327-1918  
 Acct #:

Field Sampler:

10-Apr-18

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests
N029686-001A / EFF-4-10	Wastewater	4/10/2018 2:03:00 PM	320ZP	SM 5210 B 1

SHORT HOLDING TIME  
 Cr+6 NO<sub>2</sub> NO<sub>3</sub> OP SS  
 DO Cl<sub>2</sub> BOD MBAS COT

CHIKY DISTRIBUTION  
 SUB-CUT

General Comments: Please email sample receipt acknowledgement to the PM.  
 Please use PO#N28686A. Please email invoices and Account Receivable Statements to [elucia@assetlaboratories.com](mailto:elucia@assetlaboratories.com). For questions, call Marlen at (702)-307-2659. Please e-mail results to [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com) by: Normal TAT  
 Please analyze for BOD, MDU,PQL \*J-Flag\* report format. EDD Requirement: CH2MHILL LabSpec7.

Relinquished by: <u>Hannah Stokoviza fgs</u>	Date/Time: <u>4/10/18 1730</u>
Received by: <u>[Signature]</u>	Date/Time: <u>4-11-18 08:28</u>
Relinquished by:	Received by:

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 18-11452

**SHIPPING INFORMATION**  
 Fed Ex  UPS  Ontrac  Hand Delivery   
 BC Lab Field Service  Other  (Specify) GSO

**SHIPPING CONTAINER**  
 Ice Chest  None  Box   
 Other  (Specify) \_\_\_\_\_

**FREE LIQUID**  
 YES  NO   
 W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals 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: Styro Thermometer ID: 274 Date/Time: 9-11-18  
 Temperature: (A) 0.0 °C / (C) 32 °C Analyst Init: ND 08:28

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	A									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6+</sup>										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/509/510										
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 8915M										
QT EPA 3270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: [Signature] Date/Time: 9/11/18 17:57  
 = Actual / C = Corrected



ASSET Laboratories  
3151-3153 W. Post Rd  
Las Vegas, NV 89118

**Reported:** 04/19/2018 11:43  
**Project:** CH2MHILL  
**Project Number:** N029686  
**Project Manager:** Marlon Cartin

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1811652-01	<b>COC Number:</b>	---	<b>Receive Date:</b>	04/11/2018 08:28
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	04/10/2018 14:03
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	N029686-001A / EFF-4-10	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	Client	<b>Sample Type:</b>	Wastewater

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Las Vegas, NV 89118

**Reported:** 04/19/2018 11:43  
**Project:** CH2MHILL  
**Project Number:** N029686  
**Project Manager:** Marlon Cartin

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1811652-01	<b>Client Sample Name:</b> N029686-001A / EFF-4-10, 4/10/2018 2:03:00PM, Client
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Biochemical Oxygen Demand - Seeded	ND	mg/L	1.5	1.5	SM17-5210B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	SM17-5210B	04/12/18 06:25	04/12/18 06:25	HPR	YSIPRO	1.525	B011014

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Las Vegas, NV 89118

**Reported:** 04/19/2018 11:43  
Project: CH2MHILL  
Project Number: N029686  
Project Manager: Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B011014</b>						
Biochemical Oxygen Demand - Seeded	B011014-BLK1	ND	mg/L	1.0	1.0	

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Las Vegas, NV 89118

**Reported:** 04/19/2018 11:43  
Project: CH2MHILL  
Project Number: N029686  
Project Manager: Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B011014</b>										
Biochemical Oxygen Demand - Seeded	B011014-BS1	LCS	193.98	198.00	mg/L	98.0		85	115	

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Las Vegas, NV 89118

**Reported:** 04/19/2018 11:43  
**Project:** CH2MHILL  
**Project Number:** N029686  
**Project Manager:** Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B011014</b>		Used client sample: Y - Description: N029686-001A / EFF-4-10, 04/10/2018 14:03								
Biochemical Oxygen Demand - Seeded	DUP	1811652-01	ND	ND		mg/L			20	

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Las Vegas, NV 89118

**Reported:** 04/19/2018 11:43  
**Project:** CH2MHILL  
**Project Number:** N029686  
**Project Manager:** Marlon Cartin

**Notes And Definitions**

MDL      Method Detection Limit  
ND      Analyte Not Detected  
PQL      Practical Quantitation Limit

May 09, 2018

Eric Davis  
CH2MHill  
1000 Wilshire Blvd.  
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N030137

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on May 03, 2018 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,



Quennie Manimtim  
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N030137

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

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

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

Sample was 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 Comment for EPA 8260B:**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for 1,1-Dichloroethane possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N030137  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N030137-001A	EFF-05-01	Wastewater	5/1/2018 12:40:00 PM	5/3/2018	5/9/2018
N030137-001B	EFF-05-01	Wastewater	5/1/2018 12:40:00 PM	5/3/2018	5/9/2018
N030137-001C	EFF-05-01	Wastewater	5/1/2018 12:40:00 PM	5/3/2018	5/9/2018
N030137-001D	EFF-05-01	Wastewater	5/1/2018 12:40:00 PM	5/3/2018	5/9/2018



# ANALYTICAL RESULTS

Print Date: 09-May-18

## ASSET Laboratories

**CLIENT:** CH2MHill  
**Lab Order:** N030137  
**Project:** SFPP Norwalk  
**Lab ID:** N030137-001

**Client Sample ID:** EFF-05-01  
**Collection Date:** 5/1/2018 12:40:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

### SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS

#### EPA 3510C

#### EPA 8270C

RunID: <b>NV00922-MS3_180508A</b>	QC Batch: <b>68001</b>	PrepDate: <b>5/8/2018</b>	Analyst: <b>JJS</b>			
Phenol	ND	0.33	1.0	µg/L	1	5/8/2018 03:09 PM
Surr: 1,2-Dichlorobenzene-d4	74.0	0	16-120	%REC	1	5/8/2018 03:09 PM
Surr: 2-Fluorobiphenyl	77.0	0	25-120	%REC	1	5/8/2018 03:09 PM
Surr: 4-Terphenyl-d14	104	0	46-132	%REC	1	5/8/2018 03:09 PM
Surr: Phenol-d5	27.0	0	15-120	%REC	1	5/8/2018 03:09 PM

### VOLATILE ORGANIC COMPOUNDS BY GC/MS

#### EPA 8260B

RunID: <b>MS8_180504A</b>	QC Batch: <b>R18VW013</b>	PrepDate:	Analyst: <b>QBM</b>			
1,1-Dichloroethane	ND	0.45	0.50	µg/L	1	5/4/2018 09:53 AM
1,2-Dichloroethane	ND	0.29	0.50	µg/L	1	5/4/2018 09:53 AM
Benzene	ND	0.34	1.0	µg/L	1	5/4/2018 09:53 AM
Ethylbenzene	ND	0.31	1.0	µg/L	1	5/4/2018 09:53 AM
m,p-Xylene	ND	0.23	1.0	µg/L	1	5/4/2018 09:53 AM
MTBE	ND	0.34	1.0	µg/L	1	5/4/2018 09:53 AM
o-Xylene	ND	0.31	1.0	µg/L	1	5/4/2018 09:53 AM
Tert-Butanol	ND	2.4	5.0	µg/L	1	5/4/2018 09:53 AM
Toluene	ND	0.46	2.0	µg/L	1	5/4/2018 09:53 AM
Xylenes, Total	ND	1.5	2.0	µg/L	1	5/4/2018 09:53 AM
Surr: 1,2-Dichloroethane-d4	99.6	0	72-119	%REC	1	5/4/2018 09:53 AM
Surr: 4-Bromofluorobenzene	97.1	0	76-119	%REC	1	5/4/2018 09:53 AM
Surr: Dibromofluoromethane	97.3	0	85-115	%REC	1	5/4/2018 09:53 AM
Surr: Toluene-d8	102	0	81-120	%REC	1	5/4/2018 09:53 AM

### TPH EXTRACTABLE BY GC/FID

#### EPA 3510C

#### EPA 8015B

RunID: <b>NV00922-GC3_180503C</b>	QC Batch: <b>67958</b>	PrepDate: <b>5/4/2018</b>	Analyst: <b>JJS</b>			
TPH-Diesel (C13-C22)	ND	15	25	µg/L	1	5/4/2018 03:57 PM
TPH-Oil (C23-C36)	ND	14	25	µg/L	1	5/4/2018 03:57 PM
Surr: Octacosane	90.5	0	26-152	%REC	1	5/4/2018 03:57 PM
Surr: p-Terphenyl	92.1	0	57-132	%REC	1	5/4/2018 03:57 PM

### GASOLINE RANGE ORGANICS BY GC/FID

#### EPA 8015B

RunID: <b>NV00922-GC4_180505A</b>	QC Batch: <b>E18VW033</b>	PrepDate:	Analyst: <b>QBM</b>			
TPH-Gasoline (C4-C12)	44	16	50	J µg/L	1	5/5/2018 12:16 PM

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



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**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 09-May-18

<b>CLIENT:</b> CH2MHill	<b>Client Sample ID:</b> EFF-05-01
<b>Lab Order:</b> N030137	<b>Collection Date:</b> 5/1/2018 12:40:00 PM
<b>Project:</b> SFPP Norwalk	<b>Matrix:</b> WASTEWATER
<b>Lab ID:</b> N030137-001	

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>NV00922-GC4_180505A</b>	QC Batch: <b>E18VW033</b>	PrepDate:	Analyst: <b>QBM</b>
Surr: Chlorobenzene - d5	113 0	74-138	%REC
			1 5/5/2018 12:16 PM

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID: <b>NV00922-AA1_180504A</b>	QC Batch: <b>67949</b>	PrepDate: <b>5/4/2018</b>	Analyst: <b>MG</b>
Mercury	ND 0.018	0.050	µg/L
			1 5/4/2018 11:45 AM

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_180508C</b>	QC Batch: <b>67948</b>	PrepDate: <b>5/4/2018</b>	Analyst: <b>CEI</b>
Copper	ND 0.26	0.50	µg/L
Lead	ND 0.13	0.50	µg/L
Zinc	ND 0.27	1.0	µg/L
			1 5/8/2018 06:24 PM

**TOTAL TPH**

**EPA 8015B**

RunID: <b>NV00922-GC3_180503C</b>	QC Batch: <b>R123855</b>	PrepDate:	Analyst: <b>JJS</b>
Total TPH	44 16	50	J ug/L
			1 5/3/2018

<b>Qualifiers:</b>	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



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"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-67948</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123929</b>							
Client ID: <b>PBW</b>	Batch ID: <b>67948</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>5/8/2018</b>	SeqNo: <b>3020779</b>							
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									
Zinc	ND	1.0									

Sample ID: <b>LCS-67948</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123929</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>67948</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>5/8/2018</b>	SeqNo: <b>3020780</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	10.189	0.50	10.00	0	102	85	115				
Lead	9.319	0.50	10.00	0	93.2	85	115				
Zinc	98.418	1.0	100.0	0	98.4	85	115				

Sample ID: <b>N030137-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123929</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67948</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>5/8/2018</b>	SeqNo: <b>3020783</b>							
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	
Zinc	ND	1.0						0	0	20	

Sample ID: <b>N030137-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123929</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67948</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>5/8/2018</b>	SeqNo: <b>3020785</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.753	0.50	10.00	0	87.5	75	125				
Lead	8.597	0.50	10.00	0	86.0	75	125				
Zinc	113.971	1.0	100.0	0	114	75	125				

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N030137-001C-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>5/4/2018</b>		RunNo: <b>123929</b>		
Client ID: <b>ZZZZZZ</b>		Batch ID: <b>67948</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>5/8/2018</b>		SeqNo: <b>3020788</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.761	0.50	10.00	0	87.6	75	125	8.753	0.0925	20	
Lead	9.239	0.50	10.00	0	92.4	75	125	8.597	7.20	20	
Zinc	113.471	1.0	100.0	0	113	75	125	114.0	0.440	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                 |



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**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_LL**

Sample ID: <b>MB-67949</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123839</b>						
Client ID: <b>PBW</b>	Batch ID: <b>67949</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016002</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.050

Sample ID: <b>LCS-67949</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123839</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>67949</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016003</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.624 0.050 2.500 0 105 85 115

Sample ID: <b>N030137-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123839</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67949</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016004</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.649 0.050 2.500 0 106 75 125

Sample ID: <b>N030137-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123839</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67949</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016005</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.625 0.050 2.500 0 105 75 125 2.649 0.926 20

Sample ID: <b>N030137-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123839</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>67949</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016007</b>						
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:**

- |  |  |  |
|--|--|--|
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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                 |



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**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_FP\_SFPP**

Sample ID: <b>MB-67958</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b> Units: <b>ug/L</b>	Prep Date: <b>5/4/2018</b>	RunNo: <b>123855</b>							
Client ID: <b>PBW</b>	Batch ID: <b>67958</b>	TestNo: <b>EPA 8015B EPA 3510C</b>	Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3017150</b>							
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	76.559		80.00		95.7	26	152				
Surr: p-Terphenyl	77.245		80.00		96.6	57	132				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPPTOT**

Sample ID: <b>MB-R123855</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123855</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R123855</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>5/3/2018</b>	SeqNo: <b>3018371</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	43.000	50									J

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID: <b>E180505LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123849</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>E18VW033</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>5/5/2018</b>	SeqNo: <b>3016642</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1015.000	50	1000	0	102	67	136				
Surr: Chlorobenzene - d5	50593.000		50000		101	74	138				

Sample ID: <b>E180505MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123849</b>							
Client ID: <b>PBW</b>	Batch ID: <b>E18VW033</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>5/5/2018</b>	SeqNo: <b>3016644</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	43.000	50									J
Surr: Chlorobenzene - d5	42006.000		50000		84.0	74	138				

Sample ID: <b>N030137-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123849</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E18VW033</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>5/5/2018</b>	SeqNo: <b>3016646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	926.000	50	1000	44.00	88.2	67	136				
Surr: Chlorobenzene - d5	46925.000		50000		93.8	74	138				

Sample ID: <b>N030137-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123849</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E18VW033</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>5/5/2018</b>	SeqNo: <b>3016647</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	943.000	50	1000	44.00	89.9	67	136	926.0	1.82	30	
Surr: Chlorobenzene - d5	49953.000		50000		99.9	74	138		0	0	

**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                 |



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**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>R180504LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>123851</b>			
Client ID: <b>LCSW</b>		Batch ID: <b>R18VW013</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2018</b>		SeqNo: <b>3016711</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	25.960	0.50	20.00	0	130	69	133				
1,2-Dichloroethane	20.210	0.50	20.00	0	101	69	132				
Benzene	21.250	1.0	20.00	0	106	81	122				
Ethylbenzene	20.840	1.0	20.00	0	104	73	127				
m,p-Xylene	43.950	1.0	40.00	0	110	76	128				
MTBE	20.520	1.0	20.00	0	103	65	123				
o-Xylene	20.930	1.0	20.00	0	105	80	121				
Tert-Butanol	101.500	5.0	100.0	0	102	70	130				
Toluene	20.350	2.0	20.00	0	102	77	122				
Xylenes, Total	64.880	2.0	60.00	0	108	75	125				
Surr: 1,2-Dichloroethane-d4	23.340		25.00		93.4	72	119				
Surr: 4-Bromofluorobenzene	24.810		25.00		99.2	76	119				
Surr: Dibromofluoromethane	23.330		25.00		93.3	85	115				
Surr: Toluene-d8	25.540		25.00		102	81	120				

Sample ID: <b>R180504MB3</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>123851</b>			
Client ID: <b>PBW</b>		Batch ID: <b>R18VW013</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2018</b>		SeqNo: <b>3016714</b>			
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	24.030		25.00		96.1	72	119				

**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                 |



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**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>R180504MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123851</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R18VW013</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016714</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	23.540		25.00		94.2	76	119				
Surr: Dibromofluoromethane	23.700		25.00		94.8	85	115				
Surr: Toluene-d8	24.700		25.00		98.8	81	120				

Sample ID: <b>N030137-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123851</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R18VW013</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016719</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	11.410	0.50	20.00	0	57.0	69	133				S
1,2-Dichloroethane	19.400	0.50	20.00	0	97.0	69	132				
Benzene	20.090	1.0	20.00	0	100	81	122				
Ethylbenzene	20.160	1.0	20.00	0	101	73	127				
m,p-Xylene	41.200	1.0	40.00	0	103	76	128				
MTBE	18.840	1.0	20.00	0	94.2	65	123				
o-Xylene	19.820	1.0	20.00	0	99.1	80	121				
Tert-Butanol	94.760	5.0	100.0	0	94.8	70	130				
Toluene	19.630	2.0	20.00	0	98.2	77	122				
Xylenes, Total	61.020	2.0	60.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	22.170		25.00		88.7	72	119				
Surr: 4-Bromofluorobenzene	24.960		25.00		99.8	76	119				
Surr: Dibromofluoromethane	22.060		25.00		88.2	85	115				
Surr: Toluene-d8	25.180		25.00		101	81	120				

Sample ID: <b>N030137-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>123851</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R18VW013</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>5/4/2018</b>	SeqNo: <b>3016720</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	11.600	0.50	20.00	0	58.0	69	133	11.41	1.65	20	S
1,2-Dichloroethane	19.040	0.50	20.00	0	95.2	69	132	19.40	1.87	20	
Benzene	19.910	1.0	20.00	0	99.6	81	122	20.09	0.900	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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| S Spike/Surrogate outside of limits due to matrix interference | DO Surrogate Diluted Out               | Calculations are based on raw values                 |



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**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N030137-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>123851</b>	
Client ID: <b>ZZZZZZ</b>		Batch ID: <b>R18VW013</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2018</b>		SeqNo: <b>3016720</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	19.830	1.0	20.00	0	99.2	73	127	20.16	1.65	20	
m,p-Xylene	40.250	1.0	40.00	0	101	76	128	41.20	2.33	20	
MTBE	19.460	1.0	20.00	0	97.3	65	123	18.84	3.24	20	
o-Xylene	19.540	1.0	20.00	0	97.7	80	121	19.82	1.42	20	
Tert-Butanol	99.150	5.0	100.0	0	99.2	70	130	94.76	4.53	20	
Toluene	19.300	2.0	20.00	0	96.5	77	122	19.63	1.70	20	
Xylenes, Total	59.790	2.0	60.00	0	99.7	75	125	61.02	2.04	20	
Surr: 1,2-Dichloroethane-d4	22.820		25.00		91.3	72	119		0		
Surr: 4-Bromofluorobenzene	24.390		25.00		97.6	76	119		0		
Surr: Dibromofluoromethane	23.120		25.00		92.5	85	115		0		
Surr: Toluene-d8	24.610		25.00		98.4	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                 |



**ASSET LABORATORIES**  
ANALYTICAL SERVICES FOR THE OIL AND GAS INDUSTRY

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

"Serving Clients with Passion and Professionalism"



**CLIENT:** CH2MHill  
**Work Order:** N030137  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270WATER\_SIMEXT**

Sample ID: <b>LCS-68001</b>		SampType: <b>LCS</b>		TestCode: <b>8270WATER_</b> Units: <b>µg/L</b>			Prep Date: <b>5/8/2018</b>		RunNo: <b>123923</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>68001</b>		TestNo: <b>EPA 8270C EPA 3510C</b>			Analysis Date: <b>5/8/2018</b>		SeqNo: <b>3020435</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.410	1.0	6.000	0	40.2	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.890		1.000		89.0	16	120				
Surr: 2-Fluorobiphenyl	0.500		1.000		50.0	25	120				
Surr: 4-Terphenyl-d14	0.490		1.000		49.0	46	132				
Surr: Phenol-d5	0.620		1.000		62.0	15	120				

Sample ID: <b>LCS-D-68001</b>		SampType: <b>LCS-D</b>		TestCode: <b>8270WATER_</b> Units: <b>µg/L</b>			Prep Date: <b>5/8/2018</b>		RunNo: <b>123923</b>		
Client ID: <b>LCS02</b>		Batch ID: <b>68001</b>		TestNo: <b>EPA 8270C EPA 3510C</b>			Analysis Date: <b>5/8/2018</b>		SeqNo: <b>3020437</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.210	1.0	6.000	0	36.8	24	120	2.410	8.66	20	
Surr: 1,2-Dichlorobenzene-d4	0.760		1.000		76.0	16	120		0		
Surr: 2-Fluorobiphenyl	0.570		1.000		57.0	25	120		0		
Surr: 4-Terphenyl-d14	0.500		1.000		50.0	46	132		0		
Surr: Phenol-d5	0.550		1.000		55.0	15	120		0		

Sample ID: <b>MB-68001</b>		SampType: <b>MBLK</b>		TestCode: <b>8270WATER_</b> Units: <b>µg/L</b>			Prep Date: <b>5/8/2018</b>		RunNo: <b>123923</b>		
Client ID: <b>PBW</b>		Batch ID: <b>68001</b>		TestNo: <b>EPA 8270C EPA 3510C</b>			Analysis Date: <b>5/8/2018</b>		SeqNo: <b>3020437</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	1.0									
Surr: 1,2-Dichlorobenzene-d4	0.840		1.000		84.0	16	120				
Surr: 2-Fluorobiphenyl	0.790		1.000		79.0	25	120				
Surr: 4-Terphenyl-d14	1.020		1.000		102	46	132				
Surr: Phenol-d5	0.300		1.000		30.0	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                 |



**ASSET LABORATORIES**  
ANALYTICAL SERVICES FOR THE ENVIRONMENT AND ENERGY

CALIFORNIA | P: 562.219.7435 F: 562.219.7436  
11110 Artesia Blvd., Ste B, Cerritos, CA 90703  
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NEVADA | P: 702.307.2659 F: 702.307.2691  
3151 W. Post Rd., Las Vegas, NV 89118  
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N03013-7

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

CHAIN OF CUSTODY RECORD  
 DATE: 5/1/18  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	<b>Section D</b> Sampler Information:
Company: <b>Kinder Morgan Energy Partners</b> Attention: <b>Steve Defibaugh</b>	Report To: Eric Davis	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: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a> <a href="mailto:eric_davis@ch2m.com">eric_davis@ch2m.com</a>	Purchase Order No.:	Address: 1100 Town & Country Road Orange, CA 92868	Sample Date: <b>JAMES DYE</b>
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: <b>SFPP Norwalk</b>	ATL Project Manager: Marlon Cartin	

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G-GRAB C-COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	CONTAINER TYPE					Comments
					DATE	TIME			V	V	A	P	A	
1	EFF-05-01	EFFLUENT	WW	G	5/1/18	1240	11	X BTEX, 1,1-DCA, 1,2-DCA, MTBE, TBA, (82608)	X	X	X	X	X	N030137-01
2								X TPH-gas (80158)						Report metals, TPH and VOC preliminary data on 24-hr TAT
3								X TPH-d, TPH-oil, Total TPH (80158)						Report total Xylenes
4								X Cu, Pb, Zn (200.8); Hg (245.1)						
5								X Phenol (8270)						
6														
7														
8														
9														
10														
11														
12														

Relinquished by (Signature and Printed Name):  Date / Time: 5/1/18 1330	Relinquished by (Signature and Printed Name):  Date / Time: 5/3/18 1155	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special instruction:  23°C in #2  GSO #: 9360
Relinquished by (Signature and Printed Name):  Date / Time: 5/3/18 5:00	Relinquished by (Signature and Printed Name): <b>Yoandry Rodriguez</b> Date / Time: 5/4/18 8:10 am		

<b>Matrix:</b> W = Water    WW = Wastewater O = Oil    P = Product    S = Soil Others/Specify:	<b>Preservatives:</b> H = HCl    N = HNO3    S = H2SO4 Z = Zn(AC)2    O = NaOH    T = Na2S2O3 Others/Specify:	<b>Container Type:</b> 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: 5/3/2018 Workorder: N030137  
 Rep sample Temp (Deg C): 2.3 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 9360 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 <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | Not Present <input type="checkbox"/>   |
| 2. Custody seals intact, signed, dated on shipping container/cooler?                    | Yes <input type="checkbox"/>                                 | No <input type="checkbox"/>                                | Not Present <input checked="" type="checkbox"/>                                  |
| 3. Custody seals intact on sample bottles?  | Yes <input type="checkbox"/>                                 | No <input type="checkbox"/>                                | Not Present <input checked="" type="checkbox"/>                                  |
| 4. Chain of custody present?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 5. Sampler's name present in COC?   | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 6. Chain of custody signed when relinquished and received?                              | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 7. Chain of custody agrees with sample labels?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 8. Samples in proper container/bottle?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 9. Sample containers intact?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 10. Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 11. All samples received within holding time?   | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                |  |
| 12. Temperature of rep sample or Temp Blank within acceptable limit?                    | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 13. Water - VOA vials have zero headspace?  | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 14. Water - pH acceptable upon receipt?<br>Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 15. Did the bottle labels indicate correct preservatives used?                          | Yes <input checked="" type="checkbox"/>                      | No <input type="checkbox"/>                                | NA <input type="checkbox"/>  |
| 16. Were there Non-Conformance issues at login?<br>Was Client notified?                 | Yes <input type="checkbox"/><br>Yes <input type="checkbox"/> | No <input type="checkbox"/><br>No <input type="checkbox"/> | NA <input checked="" type="checkbox"/><br>NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed By: YR  5/4/2018

Reviewed By:  05/04/2018

# ASSET Laboratories

## WORK ORDER Summary

04-May-18

**WorkOrder:** N030137

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 5/3/2018

**Comments:** Report metals, TPH and VOC preliminary data on 24hr TAT

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N030137-001A	EFF-05-01	5/1/2018 12:40:00 PM	5/4/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			5/4/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N030137-001B			5/4/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/4/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/4/2018		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N030137-001C			5/4/2018			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/4/2018		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/4/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/4/2018			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N030137-001D			5/10/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			5/10/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N030137-002A	FOLDER	5/4/2018	5/4/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			5/4/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



a GLS company

800-322-5555  
 www.gso.com

**Ship From**

ASSET LABORATORIES  
 MOLKY BRAR  
 11110 ARTESIA BLVD. SUITE B  
 CERRITOS, CA 90703

Tracking #: 540459360

CPS

**Ship To**

ASSET LABORATORIES  
 MARLON CARTIN  
 3151 W. POST RD.,  
 LAS VEGAS, NV 89118

**LVS**  
 LAS VEGAS

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

**Reference:**

**C89102A**

**Delivery Instructions:**

HOLD FOR PICK-UP

**Signature Type:** NOT REQUIRED



83615245

Print Date: 5/3/2018 5:47 PM

Package 1 of 2

**LABEL INSTRUCTIONS:**

**Do not copy or reprint this label for additional shipments - each package must have a unique barcode.**

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

**TERMS AND CONDITIONS:**

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at [www.gso.com](http://www.gso.com).

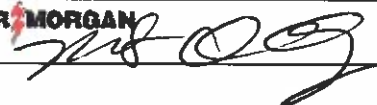
2.3 lb  
 m# 2

### Kinder Morgan Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	CH2M Personnel	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 1/8/18	
SFPP Norwalk Pump Station	Norwalk, CA	Steve Defibaugh	Eric Davis, PM Vladimir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
6-4-18	0920	<input checked="" type="radio"/> Grab, <input checked="" type="radio"/> Composite, Flow-through, Other <i>etc</i>		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2				
<del>James Dye</del> ALD 6-4-18	Nils Orlosky				
<b>EQUIPMENT</b>					
Multimeter	Make:	Horiba			
	Model:	U-5200			
	Serial Number:	NFPULLFN			
<b>CALIBRATION</b>					
Date of Calibration:	6-4-18	Time:	0920		
Calibration Standard:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	<input checked="" type="radio"/> 4	8/2018	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
	<input type="radio"/> 7		<input type="radio"/> Yes	<input type="radio"/> No	
	<input type="radio"/> 10		<input type="radio"/> Yes	<input type="radio"/> No	
Cond. Calibration 4.49	Equipment Reading: 4.48	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	<input type="radio"/> No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
TIME		1030	0920	0926	
pH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually)		7.30	8.57	8.57	
TEMP (°F) (DISCHARGE LIMIT 86°F) (Quarterly, Annually)		77.2	75.5	75.5	
SALINITY (ppt)		1.0	1.0	1.0	
COND (mS/cm or uS/cm; Specific Cond.) <i>Circle or Note Units Used</i>		1.95	13.08	13.08	
<b>OBSERVATIONS</b>					

**KINDER MORGAN**

Signed: \_\_\_\_\_



Date: \_\_\_\_\_

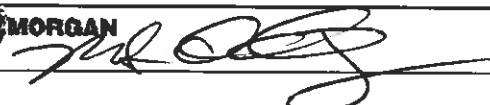
6-4-18

### Kinder Morgan Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	CH2M Personnel	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 1/8/18		
SFPP Norwalk Pump Station	Norwalk, CA	Steve Defibaugh	Eric Davis, PM Vladimir Carino			
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date	
6-6-18	1205	Grab, <u>Composite</u> , Flow-through, Other		R4-2016-0309	11/1/2021	
O&M Technician#1	O&M Technician#2					
<del>NO 6-6-18</del> James Dye	Nls Orlicky					
<b>EQUIPMENT</b>						
Multimeter	Make:	Horiba				
	Model:	U-5200				
	Serial Number:	NFPULLFN				
<b>CALIBRATION</b>						
Date of Calibration:	6-6-18	Time:	1205			
Calibration Standard:	<input checked="" type="checkbox"/> Yes    No	Standard	Expiration Date	Calibrated Within 0.2 pH units?		
pH Calibration Standard		<input checked="" type="checkbox"/> 10	8/2018	<input checked="" type="checkbox"/> Yes	No	
		7		Yes	No	
		10		Yes	No	
Cond. Calibration	4.49	Equipment Reading:	4.48	Calibrated to or within 10%?	<input checked="" type="checkbox"/> Yes    No	
<b>FIELD PARAMETERS</b>			<b>FIELD MEASUREMENTS</b>			
			Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
TIME			1232			
pH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually)			7.45			
TEMP (°F) (DISCHARGE LIMIT 86°F) (Quarterly, Annually)			77.8			
SALINITY (ppt)			1.0			
COND (mS/cm or uS/cm; Specific Cond.) Circle or Note Units Used			1.98			
<b>OBSERVATIONS</b>						
ORP = 169 mV						
Turbidity = 0.0 NTU						
DO = 6.00 mg/L						
TDS = 1.27 g/L						

**KINDER MORGAN**

Signed: \_\_\_\_\_



Date: \_\_\_\_\_

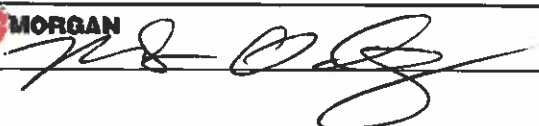
6-6-18

### Kinder Morgan Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	CH2M Personnel	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 1/8/18	
SFPP Norwalk Pump Station	Norwalk, CA	Steve Defibaugh	Eric Davis, PM Vladimir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
6-8-18	1115	Grab <u>Composite</u> , Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2				
<del>No 6-8-18</del> James Dye	N, Orliczky				
<b>EQUIPMENT</b>					
Multimeter	Make: Horiba				
	Model: U-5200				
	Serial Number: NFP				
<b>CALIBRATION</b>					
Date of Calibration:	6-8-18	Time:	1130		
Calibration Standard:	<input checked="" type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard		<input checked="" type="radio"/> 2	8/2018	<input checked="" type="radio"/> Yes	No
		7		Yes	No
		10		Yes	No
Cond. Calibration 4.49	Equipment Reading: 4.48	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
TIME		1200			
pH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually)		7.43			
TEMP (°F) (DISCHARGE LIMIT 86°F) (Quarterly, Annually)		82.5°F			
SALINITY (ppt)		1.0			
COND ( <u>µS/cm</u> or uS/cm; Specific Cond.) Circle or Note Units Used		203			
<b>OBSERVATIONS</b>					
ORP = 177 mV					
Turb = 0.0 NTU					
DO = 4.40 mg/L					
TDS = 1.30 g/L					
Temp = 28.08 °C					

**KINDER MORGAN**

Signed: \_\_\_\_\_



Date: \_\_\_\_\_

6-8-18





Eric Davis  
CH2M  
1000 Wilshire Boulevard, Suite 2100  
Los Angeles, CA 90017

June 26, 2018

Eric,

I have enclosed our report “NPDES Compliance Chronic Toxicity Testing of the SFPP Norwalk Pump Station Effluent” for the effluent samples collected on June 4, 6, and 8, 2018, 2018. As per your new NPDES permit, the test and the resultant data analysis conformed to the EPA’s Test of Significant Toxicity (TST) framework, with all testing of the effluent being performed only at the Instream Waste Concentration (IWC) of 100% effluent. The species tested consisted of:

- 7-day survival and growth test with inland silversides, *Menidia beryllina*.

The results of the testing are summarized below, and indicated that there was no toxicity to the species tested:

Test Species	Test Endpoint	Percent (%) Effect	TST Analysis
<i>Menidia beryllina</i>	Survival	0%	“Pass” (= non-toxic)
	Growth	11.2%	“Pass” (= non-toxic)

If you have any questions regarding these test results or the report, please call my colleague Stephen Clark or myself at (707) 207-7760.

Sincerely,

Kristin Robertson  
Sr. Aquatic Ecotoxicologist

Cc: Benny Pataray, CH2M  
Vladimir Carino, CH2M  
Jefferey Johnson, CH2M



Pacific EcoRisk is accredited in accordance with NELAP (ORELAP ID 4043). Pacific EcoRisk certifies that the test results reported herein conform to the most current NELAP requirements for parameters for which accreditation is required and available. Any exceptions to NELAP requirements are noted, where applicable, in the body of the report. This report shall not be reproduced, except in full, without the written consent of Pacific EcoRisk. This testing was performed under Lab Order 28940.

# **NPDES Compliance Chronic Toxicity Testing of the SFPP Norwalk Pump Station Effluent**

Samples collected June 4, 6, and 8, 2018, 2018

Prepared For

CH2M  
1000 Wilshire Boulevard, Suite 2100  
Los Angeles, CA 90017

Prepared By

Pacific EcoRisk, Inc.  
2250 Cordelia Rd.  
Fairfield, CA 94534

**June 2018**



# NPDES Compliance Chronic Toxicity Testing of the SFPP Norwalk Pump Station Effluent

Samples collected June 4, 6, and 8, 2018, 2018

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- Appendix A Chain-of-Custody Records for the Collection and Delivery of the SFPP Norwalk Pump Station Effluent Samples
- Appendix B Test Data and Summary of Statistical Analyses for the Evaluation of the Chronic Toxicity of SFPP Norwalk Effluent to *Menidia beryllina*
- Appendix C Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the *Menidia beryllina*



## 1. INTRODUCTION

CH2M has contracted Pacific EcoRisk (PER) to evaluate the chronic toxicity of the SFPP Norwalk Pump Station (SFPP Norwalk) effluent. The current round of testing was intended to assess the sensitivity of the following species:

- 7-day survival and growth test with inland silversides, *Menidia beryllina*.

This test was performed using effluent samples collected June 4, 6, and 8, 2018, 2018. In order to assess the sensitivity of the test organisms to toxicant stress, a monthly reference toxicant test was also performed. This report describes the performance and results of this testing.

## 2. CHRONIC TOXICITY TEST PROCEDURES

The methods used in this testing followed established guidelines in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition (EPA-821-R-02-014).

### 2.1 Receipt and Handling of the Effluent Samples

On June 4, 6, and 8, 2018, samples of SFPP Norwalk effluent samples were collected into appropriately-cleaned containers; these samples were shipped via overnight delivery, on ice and under chain-of-custody, to the PER testing facility in Fairfield, CA. Upon receipt at the testing laboratory, aliquots of each sample were collected for determination of initial water quality characteristics (Table 1), after which the remainder of each sample was stored at 0-6°C, except when being used to prepare the test solutions. The chain-of-custody records for the collection and delivery of these samples are presented in Appendix A.

Sample Receipt Date	Sample ID	Temp (°C)	pH	D.O. (mg/L)	Salinity (ppt)	Alkalinity (mg/L)	Hardness (mg/L)	Chlorine (mg/L)	Conductivity (µS/cm)	Total Ammonia (mg/L N)
6/5/18	EFF-060418	1.0	7.40	6.4	1.0	352	554	0.03	1959	<1.0
6/7/18	EFF-06062018	0.2	7.30	6.4	1.1	371	540	0.00	1983	<1.0
6/9/18	EFF-06082018	0.0	7.17	6.7	1.0	313	570	0.00	2004	<1.0



## 2.2 Survival and Growth Toxicity Testing with *Menidia beryllina*

The chronic toxicity test with *M. beryllina* consists of exposing the 7-11 day old fish to the effluent for seven days, after which effects on survival and growth are evaluated. The specific procedures used in this test are described below.

The *M. beryllina* used in this test were obtained from a commercial supplier (Aquatic Indicators Inc., St. Augustine, FL). Upon receipt at the lab, the fish were placed in aerated tanks containing saltwater at 25 ppt, and were fed brine shrimp nauplii *ad libitum* during this pre-test holding period.

The Lab Water Control medium for this test consisted of Type 1 lab water (reverse-osmosis, de-ionized water) adjusted to a salinity of 25 ppt using a commercial artificial sea salt (Crystal Sea<sup>®</sup>-bioassay grade). Each day, an aliquot of an effluent sample was similarly adjusted to a salinity of 25 ppt using the same artificial sea salt. The effluent was tested at the “instream waste concentration” of 100% effluent (the only effluent concentration tested). “New” water quality characteristics (pH, D.O., and salinity) were measured on these test solutions prior to use in the test.

There were four replicates at each test treatment, each replicate consisting of 400 mL of test solution in a 600-mL glass beaker. The test was initiated by randomly allocating ten 10-day old fish into each replicate beaker. The beakers were randomly positioned in a temperature-controlled room at 25°C (with temperature being monitored daily) under a 16L:8D photoperiod. The fish were fed freshly-hatched brine shrimp nauplii twice daily.

Each day of the test, fresh test solutions were prepared and characterized as before. Each replicate was examined, with any dead animals, uneaten food, wastes, and other detritus being removed. The number of live fish in each replicate was determined, after which approximately 80% of the test media in each beaker was carefully poured out and replaced with fresh test solution. “Old” water quality characteristics (pH, D.O., and salinity) were measured on the old test water that had been discarded from one randomly-selected replicate at each treatment.

After seven days exposure, the test was terminated and the number of live fish in each replicate beaker was recorded. The fish from each replicate were then carefully euthanized in methanol, rinsed in de-ionized water, and transferred to a pre-dried and pre-tared weighing pan. These fish were then dried at 100°C for >24 hrs and re-weighed to determine the total weight of fish in each replicate; the total weight was then divided by the initial number of fish per replicate (n=10) to determine the “biomass value”. The resulting survival and growth data were analyzed to evaluate any impairment caused by the effluent; all statistical analyses were made using CETIS<sup>®</sup> statistical software.



**2.2.1 Reference Toxicant Testing of the *Menidia beryllina***

In order to assess the sensitivity of the test organisms to toxic stress, a monthly reference toxicant test was performed. This reference toxicant test was performed similarly to the effluent toxicity test, except that test solutions consisted of Lab Water Control medium spiked with KCl at concentrations of 0.5, 1, 1.25, 1.5, and 2 g/L. The resulting test response data were analyzed to determine key dose-response point estimates (e.g., EC50); all statistical analyses were made using the CETIS® software. These response endpoints were then compared to the “typical response” ranges established by the mean  $\pm$  2 SD of the point estimates generated by the most recent previous reference toxicant tests performed by this lab.



### 3. RESULTS

#### 3.1 Effects of SFPP Norwalk Effluent on *Menidia beryllina*

The results of this test are summarized below in Table 2. The effluent “passed” the TST analysis for both survival and growth, indicating that the effluent was not toxic *M. beryllina*. The test data and summary of statistical analyses for this test are presented in Appendix B.

Table 2. Effects of SFPP Norwalk effluent on <i>Menidia beryllina</i> survival and growth.		
Effluent Treatment	Mean % Survival	Mean Biomass Value (mg)
Lab Water Control	100	1.85
100% Effluent	100	1.64
Summary of Key Statistics		
Percent (%) Effect =	0% reduction	11.2% reduction
TST Analysis =	“Pass” (= non-toxic)	“Pass” (= non-toxic)

##### 3.1.1 Reference Toxicant Toxicity to *Menidia beryllina*

The results of this test are summarized below in Table 3. The survival EC<sub>50</sub> and growth IC<sub>50</sub> for this test were consistent with the “typical response” range established by the reference toxicant test database for this species, indicating that the survival response of these organisms was responding to toxic stress in a typical fashion. The test data and summary of statistical analyses for this test are presented in Appendix C.

Table 3. Reference toxicant testing: effects of KCl on <i>Menidia beryllina</i> survival and growth.		
KCl Treatment (g/L)	Mean % Survival	Mean Biomass Value (mg)
Lab Water Control	97.2	1.48
0.5	100	1.46
1	92.5	1.34
1.25	<b>42.5*</b>	0.64
1.5	<b>35*</b>	0.57
2	<b>0*</b>	-
Summary of Key Statistics		
Survival EC <sub>50</sub> or Growth IC <sub>50</sub> =	1.29 g/L KCl	1.21g/L KCl

\* The response at this test treatment was significantly less than the Lab Control treatment response ( $p < 0.05$ ).



#### 4. SUMMARY AND CONCLUSIONS

This round of testing was intended to provide an assessment of the sensitivity of the 7-day survival and growth test with inland silversides, *Menidia beryllina*, to any toxicity that might be present in the SFPP Norwalk effluent. The results of these tests are summarized below, and indicated that there was no significant compliance-related toxicity to any of the species tested:

Test Species	Test Endpoint	Percent (%) Effect	TST Analysis
<i>Menidia beryllina</i>	Survival	0% reduction	“Pass” (= non-toxic)
	Growth	11.2% reduction	“Pass” (= non-toxic)

##### 4.1 QA/QC Summary

**Test Conditions** – All test conditions (pH, D.O., temperature, etc.) were within acceptable limits for these tests. All test analyses were performed according to laboratory Standard Operating Procedures.

**Negative Control** – The biological responses for the test organisms at the Lab Control treatments were within acceptable limits.

**Positive Control** – All reference toxicant test results were consistent with the reference toxicant test database, indicating that these test organisms were responding to toxic stress in a typical fashion.

**Concentration Response Relationships** – The concentration-response relationships for these tests were evaluated as per EPA guidelines (EPA-821-B-00-004), and were determined to be acceptable.





## **Appendix A**

### **Chain-of-Custody Records for the Collection and Delivery of the SFPP Norwalk Wastewater Treatment Facility Effluent Samples**

Pacific EcoRisk  
 2250 Cordelia Rd.  
 Fairfield, CA 94534  
 Tel: 707-207-7760 Fax: 707-207-7916  
 Kristin Robertson (krobertson@pacificecorisk.com)

CHAIN OF CUSTODY RECORD

DATE: 6-4-18  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFE# 81195		Sampler Name: Nils Orliczky	
Address: 1100 Town & Country Road Orange, CA 92868		Copy To: Steve Defibaugh		Company Name: Kinder Morgan Energy Partners		Sampler Signature: <i>[Signature]</i>	
Email To: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a>		Purchase Order No.:		Address: 1100 Town & Country Road Orange, CA 92868		Sample Date: <u>6-4-18</u>	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: SFPP Norwalk		ATL Project Manager: Kristin Worrell			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C-COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	P	Comments													
					DATE	TIME				CONTAINER TYPE	# OF CONTAINERS	PRESERVATIVE	VOLUME (ml.)										
1	EFF <u>060418</u>	EFFLUENT	WW	C	<u>6/4/18</u>	<u>1130</u>	1	Inland Silverside (Meridia Beryllina) Survival and Growth Test Method 1006 <del>Round Minnow (Survival and Growth Test Method 1006)</del> <u>NO 6-4-18</u>	X														
2										<u>6-4-18</u> <i>[Signature]</i>													
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Relinquished by (Signature and Printed Name): <i>[Signature]</i> Nils Orliczky	Date / Time: <u>6/4/18</u> <u>1410</u>	Relinquished by (Signature and Printed Name): <i>[Signature]</i> David Morales	Date / Time: <u>6/5/18</u> <u>1044</u>	<b>Turn Around Time (TAT):</b> <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> F = 10 Workdays <b>TAT Starts at 8 AM the following day if samples received after 3:00 PM.</b>	Special Instruction:
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:		

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

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 Kristin Robertson (krobertson@pacificecorisk.com)

CHAIN OF CUSTODY RECORD

DATE: 6-6-18  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFE# 81195		Sampler Name: Nils Orliczky	
Address: 1100 Town & Country Road Oranite, CA 92868		Copy To: Steve Defibaugh		Company Name: Kinder Morgan Energy Partners		Sampler Signature: <i>Nils Orliczky</i>	
Email To: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a> <a href="mailto:eric_davis@kjm.com">eric_davis@kjm.com</a>		Purchase Order No.:		Address: 1100 Town & Country Road Oranite, CA 92868		Sample Date: 6-6-18	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: SFPP Norwalk		ATL Project Manager: Kristin Worrell			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	P	VOLUME (mL)	Comments
					DATE	TIME					
1	EFF-06062018	EFFLUENT	WW	C	6/6/18	1020	1	Inland Stiverside (Mandis Beryllium) (Survival and Growth Test Method 1006)	X	10000	
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Relinquished by (Signature and Printed Name): <i>Nils Orliczky</i> Date / Time: 6-6-18/1445	Received by (Signature and Printed Name): <i>C. Derheem</i> Date / Time: 6/6/18 1020	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> F = 10 Workdays  TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

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

Pacific EcoRisk  
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 Tel: 707-207-7760 Fax: 707-207-7916  
 Kristin Robertson (krobertson@pacificcorisk.com)

CHAIN OF CUSTODY RECORD

DATE: 6-8-18  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	<b>Section D</b> Sampler Information:
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh	Report To: Eric Davis	Attention: Steve Defibaugh - Ref. AFE# 81195	Sampler Name: Nils Orliczky
Address: 1100 Town & Country Road Orange, CA 92868	Copy To: Steve Defibaugh	Company Name: Kinder Morgan Energy Partners	Sampler Signature: <i>[Signature]</i>
Email To: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a> <a href="http://www.kem.com">http://www.kem.com</a>	Purchase Order No.:	Address: 1100 Town & Country Road Orange, CA 92868	Sample Date: <u>6-8-18</u>
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: SFPP Norwalk	ATL Project Manager: Kristin Worrell	

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	CONTAINER TYPE			ANALYSIS TEST	P	COMMENTS
					# OF CONTAINERS	PRESERVATIVE	VOLUME (mL)			
1	EFF-0608218	EFFLUENT	WW	C	6-8-18	1145	1	Analysis Test Inland Silveride (Meridia Berylline) (Survival and Growth Test Method 1006) Fat head Minnow (Survival and Growth Test Method 1006) <b>NO 6-8-18</b>	X	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>6-8-18 / 1400</u>	Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>6/9/18 1130</u>	<b>Turn Around Time (TAT):</b> <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> = 10 Workdays  <b>TAT Starts at 8 AM the following day if samples received after 3:00 PM.</b>	<b>Special Instruction:</b> 
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

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

## **Appendix B**

### **Test Data and Summary of Statistical Analyses for the Evaluation of the Chronic Toxicity of SFPP Norwalk Effluent to *Menidia beryllina***

**CETIS Summary Report**

Report Date: 26 Jun-18 08:39 (p 1 of 1)  
 Test Code: 78604 | 10-6198-3497

**Chronic Larval Fish Survival and Growth Test** **Pacific EcoRisk**

<b>Batch ID:</b> 03-1333-9119	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b> Bella Volpatti
<b>Start Date:</b> 05 Jun-18 15:30	<b>Protocol:</b> EPA/821/R/02/014 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 12 Jun-18 09:20	<b>Species:</b> Menidia beryllina	<b>Brine:</b> Crystal Sea
<b>Duration:</b> 6d 18h	<b>Source:</b> Aquatic Indicators, FL	<b>Age:</b> 10

<b>Sample ID:</b> 10-3193-5144	<b>Code:</b> Eff	<b>Client:</b> CH2M Hill
<b>Sample Date:</b> 04 Jun-18 11:30	<b>Material:</b> Effluent	<b>Project:</b> 28940
<b>Receipt Date:</b> 05 Jun-18 10:44	<b>Source:</b> SFPP Norwalk Station	
<b>Sample Age:</b> 28h (1 °C)	<b>Station:</b> EFF-060418	

Single Comparison Summary				
Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
20-0445-0084	7d Survival Rate	TST-Welch's t Test	<0.25	100% passed 7d survival rate
17-8928-1066	Mean Dry Biomass-mg	TST-Welch's t Test	3.6E-04	100% passed mean dry biomass-mg

7d Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	0.00%
100		4	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	0.00%

Mean Dry Biomass-mg Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	1.85	1.75	1.95	1.78	1.92	0.0314	0.0627	3.39%	0.00%
100		4	1.64	1.6	1.69	1.61	1.67	0.0136	0.0272	1.66%	11.21%

7d Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LW	1.000	1.000	1.000	1.000
100		1.000	1.000	1.000	1.000

Mean Dry Biomass-mg Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LW	1.92	1.88	1.78	1.82
100		1.67	1.64	1.65	1.61

7d Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LW	10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

**Chronic Larval Fish Survival and Growth Test** **Pacific EcoRisk**

Analysis ID: 20-0445-0084      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 21 Jun-18 9:00      Analysis: Parametric Bioequivalence-Two Sample      Official Results: Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed 7d survival rate

**TST-Welch's t Test**

Control	vs	Control II	Test Stat	Critical	P-Type	P-Value	Decision(α:25%)
Lab Water Contr		100*	0.353	n/a		<0.25	Non-Significant Effect

**ANOVA Table**

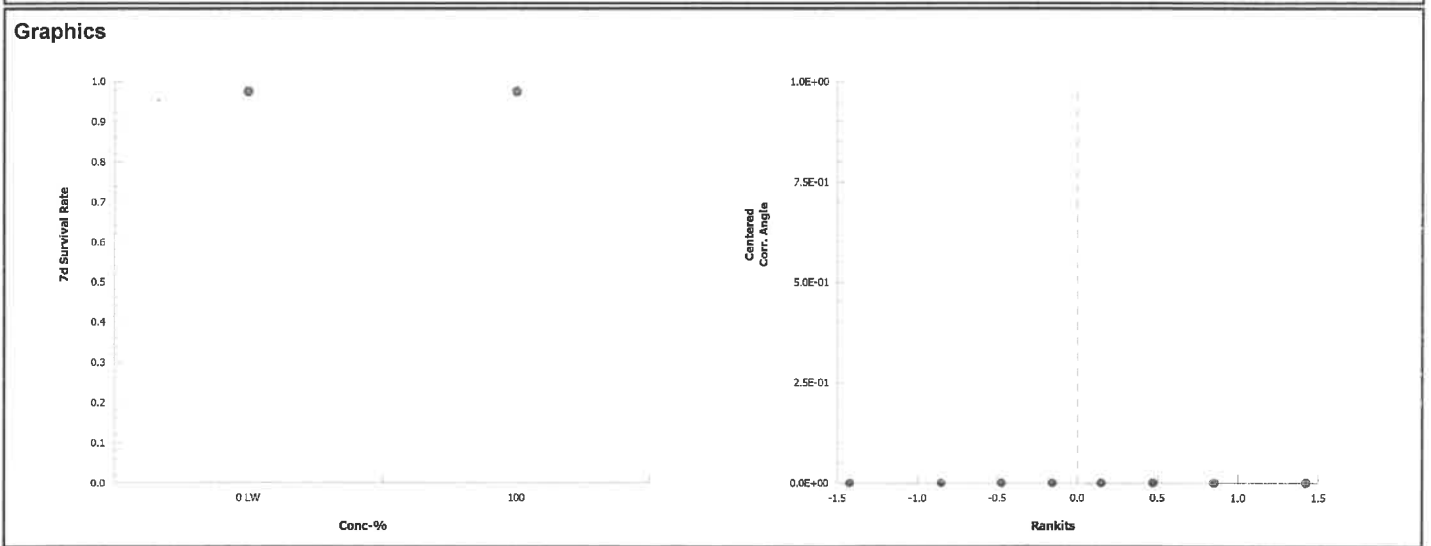
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65500	<1.0E-37	Significant Effect
Error	0	0	6			
Total	0		7			

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.00%	0.00%
100		4	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.00%	0.00%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.41	1.41	1.41	1.41	1.41	1.41	0	0.00%	0.00%
100		4	1.41	1.41	1.41	1.41	1.41	1.41	0	0.00%	0.00%



# CETIS Analytical Report

Report Date: 26 Jun-18 08:39 (p 2 of 2)  
 Test Code: 78604 | 10-6198-3497

**Chronic Larval Fish Survival and Growth Test** **Pacific EcoRisk**

Analysis ID: 17-8928-1066      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.2  
 Analyzed: 26 Jun-18 8:38      Analysis: Parametric Bioequivalence-Two Sample      Official Results: Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed mean dry biomass-mg

**TST-Welch's t Test**

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Lab Water Contr		100*	9.4	0.741	4	CDF	3.6E-04	Non-Significant Effect

**ANOVA Table**

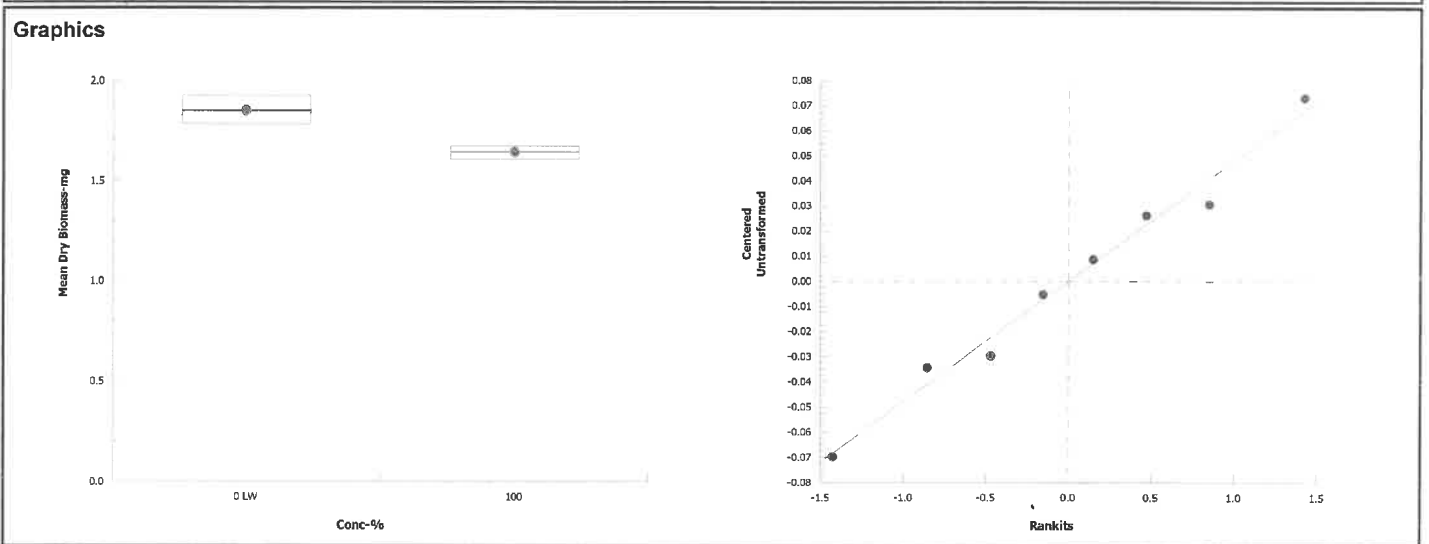
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0861116	0.0861116	1	36.8	9.1E-04	Significant Effect
Error	0.0140277	0.002338	6			
Total	0.100139		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	5.31	47.5	0.2037	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.987	0.645	0.9896	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.85	1.75	1.95	1.85	1.78	1.92	0.0314	3.39%	0.00%
100		4	1.64	1.6	1.69	1.65	1.61	1.67	0.0136	1.66%	11.21%





### 7 Day Chronic Inland Silverside (*M. beryllina*) Toxicity Test Data

Client: CH2M SFPP Norwalk Station Organism Log#: 10998 (B) Age: 10 days  
 Test Material: Effluent Organism Supplier: A.I  
 Test ID#: 78604 Project #: 28940 Control: DI + Crystal Sea @ 25 ppt  
 Test Date: 6/5/18 Randomization: 2.4.3 Control Water Batch: 1290

Test Treatment	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)	# Live Organisms				SIGN-OFF
		new	old	new	old		A	B	C	D	
Lab Water Control	25.0	8.16		7.6		24.5	10	10	10	10	Date: 6/5/18 Test Solution Prep: Pe
100%	25.2	7.35		7.5		25.3	10	10	10	10	Sample ID: 50016 Initiation Time: 1530
Meter ID	110A	PH24		RD13		EC13	New WQ: KM				Initiation Signoff: JAF
Lab Water Control	26.5	8.10	7.62	7.7	5.3	24.3	10	10	10	10	Date: 6/6/18 Test Solution Prep: LZ
100%	26.4	7.52	7.40	7.6	5.0	24.7	10	10	10	10	Sample ID: 50016 Renewal Time: 1031
Meter ID	113A	PH15	PH15	RD10	RD10	EC10	New WQ: KM		Old WQ: KM		Renewal Signoff: RB
Lab Water Control	25.3	8.13	7.60	7.5	5.4	25.3	10	10	10	10	Date: 6/7/18 Test Solution Prep: NL
100%	25.5	7.37	7.45	7.0	5.6	24.9	10	10	10	10	Sample ID: 50039 Renewal Time: 1215
Meter ID	PH21	PH21	RD11	RD11	EC11	New WQ: KM		Old WQ: KM		Renewal Signoff: RB	
Lab Water Control	25.4	8.15	8.16	7.7	7.7	25.0	10	10	10	10	Date: 6/8/18 Test Solution Prep: LZ
100%	25.4	7.43	8.15	7.0	6.3	24.8	10	10	10	10	Sample ID: 50039 Renewal Time: 1140
Meter ID	81A	PH19	PH24	RD10	RD13	EC13	New WQ: KL		Old WQ: LZ		Renewal Signoff: JAF
Lab Water Control	25.9	8.04	7.70	7.7	6.5	25.4	10	10	10	10	Date: 6/9/18 Test Solution Prep: TK
100%	25.8	7.30	8.08	7.4	6.5	24.6	10	10	10	10	Sample ID: 50055 Renewal Time: 1442
Meter ID	103A	PH21	PH21	RD13	RD13	EC13	New WQ: FT		Old WQ: SMC		Renewal Signoff: MB
Lab Water Control	25.9	8.17	7.63	7.7	5.8	25.4	10	10	10	10	Date: 6/10/18 Test Solution Prep: TK
100%	25.9	7.57	7.93	7.6	5.7	24.7	10	10	10	10	Sample ID: 50055 Renewal Time: 1045
Meter ID	110A	PH24	PH19	RD13	RD11	EC11	New WQ: KM		Old WQ: KM		Renewal Signoff: KL
Lab Water Control	25.3	8.01	7.87	7.6	7.4	24.6	10	10	10	10	Date: 6/11/18 Test Solution Prep: 50055 6/11/18
100%	25.4	7.65	8.16	7.7	6.6	24.7	10	10	10	10	Sample ID: 50055 Renewal Time: 1109
Meter ID	81A	PH14	PH14	RD10	RD10	EC10	New WQ: KM		Old WQ: KM		Renewal Signoff: BV
Lab Water Control	25.5		7.95		7.0	26.1	10	10	10	10	Date: 6/12/18 Termination Time: 0920
100%	25.6		8.32		7.0	25.8	10	10	10	10	Termination Signoff: KL
Meter ID	110A		PH15		RD10	EC10			Old WQ: LZ		

### Chronic Inland Silverside (*M. beryllina*) Dry Weight and Biomass Data

Client: CH2M SFPP Norwalk Station Test ID #: 78604 Project #: 28940  
 Test Material: Effluent Tare Weight Date: 6/10/18 Sign-off: MYL  
 Test Date: 6/5/18 Final Weight Date: 6/14/18 Sign-off: RAR

Pan ID	Treatment	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Lab Water	A	406.82	426.07	10	1.925
2	Control	B	415.05	433.93	10	1.878
3		C	413.23	431.05	10	1.782
4		D	412.78	431.00	10	1.822
5	100%	A	421.26	438.01	10	1.675
6		B	418.90	435.29	10	1.639
7		C	418.56	435.09	10	1.653
8		D	410.37	426.47	10	1.610
QA 1			402.13	402.12		
Balance ID:			BAL04	Bal04		

## **Appendix C**

### **Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the *Menidia beryllina***

**CETIS Summary Report**

Report Date: 26 Jun-18 09:15 (p 1 of 2)  
 Test Code: 78640 | 17-4391-5302

**Chronic Larval Fish Survival and Growth Test** **Pacific EcoRisk**

<b>Batch ID:</b> 01-1351-0076	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b> Bella Volpatti
<b>Start Date:</b> 12 Jun-18 12:00	<b>Protocol:</b> EPA/821/R/02/014 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Jun-18 09:43	<b>Species:</b> Menidia beryllina	<b>Brine:</b> Crystal Sea
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Indicators, FL	<b>Age:</b> 11

<b>Sample ID:</b> 17-9815-3430	<b>Code:</b> KCI	<b>Client:</b> Reference Toxicant
<b>Sample Date:</b> 12 Jun-18 12:00	<b>Material:</b> Potassium chloride	<b>Project:</b> 28965
<b>Receipt Date:</b> 12 Jun-18 12:00	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a (25.6 °C)	<b>Station:</b> In House	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
04-6135-2581	7d Survival Rate	Dunnett Multiple Comparison Test	1	1.25	1.118		13.7%	
20-4598-1865	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	1	> 1	n/a		14.5%	

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	Level	g/L	95% LCL	95% UCL	TU	✓
01-8639-0246	7d Survival Rate	Spearman-Kärber	EC50	1.29	1.21	1.37		
02-9867-8668	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	0.743	n/a	1.19		
			IC10	1	0.109	1.07		
			IC15	1.03	0.695	1.1		
			IC20	1.06	0.985	1.12		
			IC25	1.08	1.01	1.15		
			IC40	1.16	1.1	1.23		
			IC50	1.21	1.15	1.39		

**7d Survival Rate Summary**

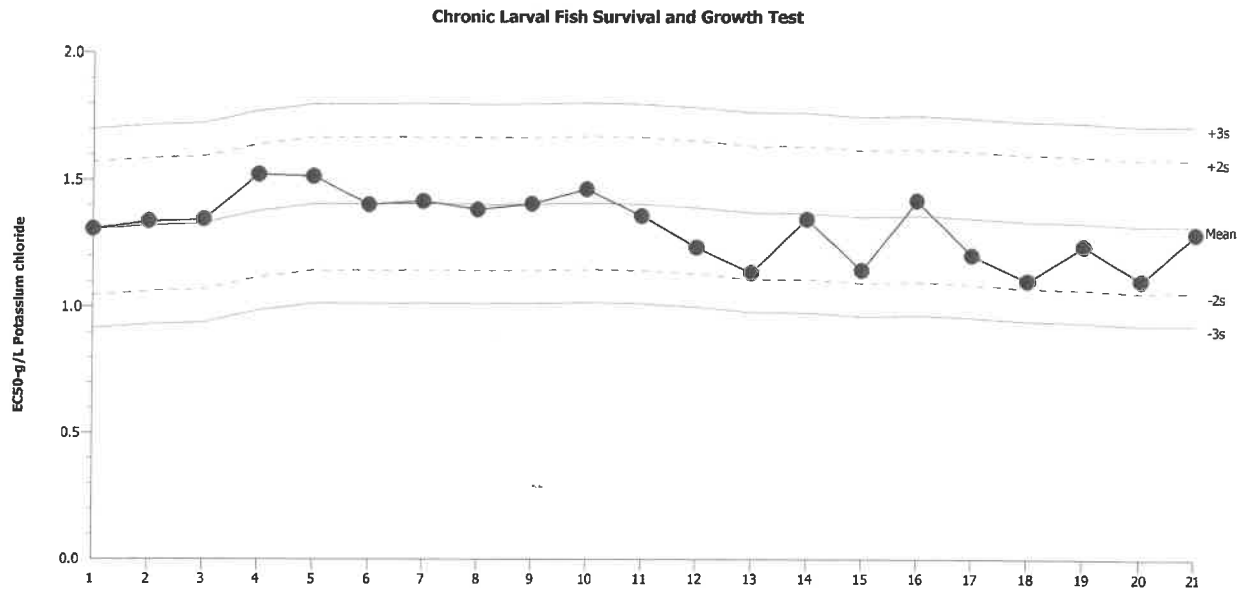
Conc-g/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	0.972	0.884	1.000	0.889	1.000	0.028	0.056	5.71%	0.00%
0.5		4	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	-2.86%
1		4	0.925	0.773	1.000	0.800	1.000	0.048	0.096	10.35%	4.86%
1.25		4	0.425	0.225	0.625	0.300	0.600	0.063	0.126	29.61%	56.29%
1.5		4	0.350	0.074	0.626	0.200	0.600	0.087	0.173	49.49%	64.00%
2		4	0.000	0.000	0.000	0.000	0.000	0.000	0.000		100.00%

**Mean Dry Biomass-mg Summary**

Conc-g/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	1.48	1.19	1.76	1.32	1.71	0.0896	0.179	12.13%	0.00%
0.5		4	1.46	1.28	1.64	1.31	1.57	0.0564	0.113	7.71%	1.00%
1		4	1.34	1.16	1.52	1.19	1.44	0.057	0.114	8.49%	9.23%
1.25		4	0.637	0.37	0.904	0.477	0.873	0.0838	0.168	26.30%	56.91%
1.5		4	0.567	0.187	0.946	0.346	0.905	0.119	0.238	42.07%	61.68%
2		4	0	0	0	0	0	0	0		100.00%

Chronic Larval Fish Survival and Growth Test						Pacific EcoRisk
<b>7d Survival Rate Detail</b>						
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	1.000	1.000	0.889	1.000	
0.5		1.000	1.000	1.000	1.000	
1		1.000	0.800	0.900	1.000	
1.25		0.400	0.300	0.600	0.400	
1.5		0.200	0.300	0.300	0.600	
2		0.000	0.000	0.000	0.000	
<b>Mean Dry Biomass-mg Detail</b>						
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	1.71	1.35	1.32	1.53	
0.5		1.31	1.46	1.52	1.57	
1		1.42	1.19	1.31	1.44	
1.25		0.6	0.477	0.873	0.598	
1.5		0.346	0.519	0.496	0.905	
2		0	0	0	0	
<b>7d Survival Rate Binomials</b>						
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	10/10	10/10	8/9	10/10	
0.5		10/10	10/10	10/10	10/10	
1		10/10	8/10	9/10	10/10	
1.25		4/10	3/10	6/10	4/10	
1.5		2/10	3/10	3/10	6/10	
2		0/10	0/10	0/10	0/10	

<b>Chronic Larval Fish Survival and Growth Test</b>			<b>Pacific EcoRisk</b>
<b>Test Type:</b> Growth-Survival (7d)	<b>Organism:</b> Menidia beryllina (Inland Silverside)	<b>Material:</b> Potassium chloride	
<b>Protocol:</b> EPA/821/R/02/014 (2002)	<b>Endpoint:</b> 7d Survival Rate	<b>Source:</b> Reference Toxicant-REF	



**Mean:** 1.319      **Count:** 20      **-2s Warning Limit:** 1.057      **-3s Action Limit:** 0.9266  
**Sigma:** 0.1308      **CV:** 9.92%      **+2s Warning Limit:** 1.581      **+3s Action Limit:** 1.711

**Quality Control Data**

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2016	Oct	20	14:15	1.308	-0.01124	-0.08591			15-1275-8596	02-1621-8501
2		Nov	9	13:55	1.338	0.01909	0.146			05-9589-4435	11-3608-2942
3			11	14:50	1.345	0.02638	0.2017			16-4947-4914	05-3176-6608
4			15	15:51	1.522	0.2025	1.548			18-8138-0840	07-2242-1159
5	2017	Mar	7	13:10	1.513	0.1936	1.48			19-7207-0550	17-7555-0314
6			24	14:20	1.402	0.08307	0.6351			17-7243-9145	18-5577-7629
7		May	2	12:45	1.416	0.09656	0.7382			14-0438-7078	16-0746-2201
8			19	13:10	1.383	0.0639	0.4886			21-1581-5922	17-5501-5509
9			23	10:40	1.406	0.08708	0.6657			09-4030-1551	04-9394-1219
10		Jun	13	13:15	1.463	0.1437	1.099			16-8527-5805	04-5231-1664
11			20	13:04	1.359	0.03959	0.3027			02-1261-5541	03-3113-5359
12		Jul	11	10:18	1.235	-0.08415	-0.6434			20-4939-4691	11-0676-3637
13		Aug	17	15:44	1.135	-0.1843	-1.409			20-3561-1179	08-6234-3573
14			22	15:05	1.345	0.02618	0.2002			06-8198-8843	16-7413-1190
15		Nov	2	10:45	1.144	-0.1748	-1.336			03-4560-3600	19-4668-3217
16			7	10:05	1.419	0.09962	0.7617			18-9243-4706	09-6023-7614
17			28	15:45	1.203	-0.1158	-0.8857			19-8909-1955	20-5675-2459
18	2018	Feb	6	13:06	1.103	-0.2165	-1.655			18-7401-8903	04-0019-6775
19			13	11:34	1.24	-0.07943	-0.6072			06-7698-8637	06-7361-0648
20		May	15	14:11	1.104	-0.2149	-1.643			15-2858-7347	08-7508-1898
21		Jun	12	12:00	1.288	-0.03071	-0.2348			17-4391-5302	01-8639-0246

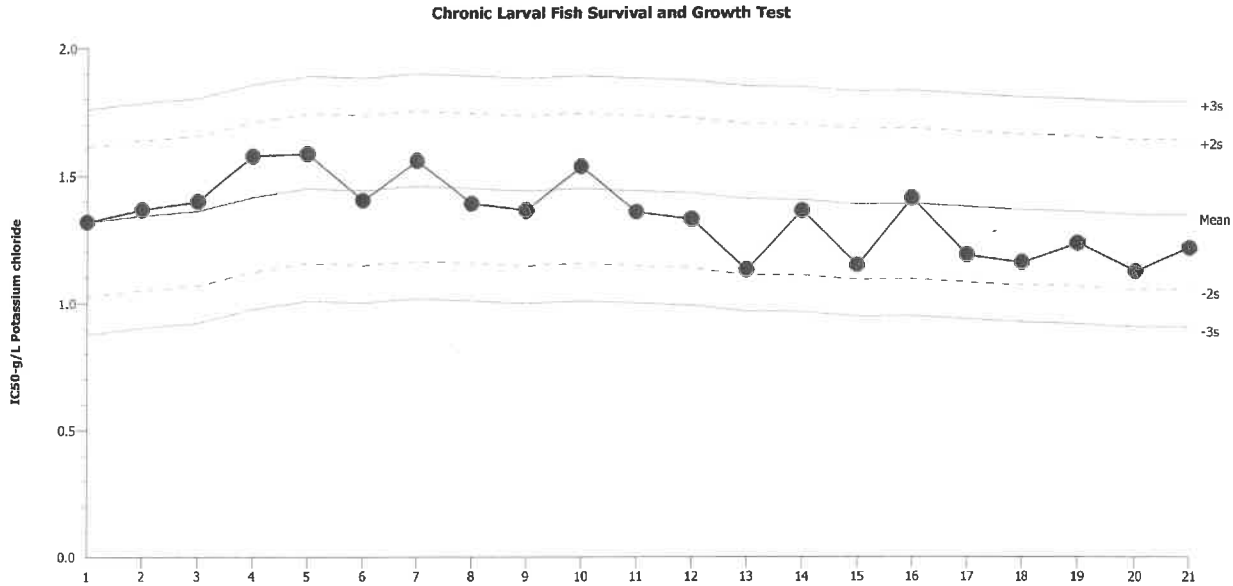
Chronic Larval Fish Survival and Growth Test

Pacific EcoRisk

Test Type: Growth-Survival (7d)  
 Protocol: EPA/821/R/02/014 (2002)

Organism: Menidia beryllina (Inland Silverside)  
 Endpoint: Mean Dry Biomass-mg

Material: Potassium chloride  
 Source: Reference Toxicant-REF



Mean: 1.346      Count: 20      -2s Warning Limit: 1.052      -3s Action Limit: 0.9046  
 Sigma: 0.1472      CV: 10.90%      +2s Warning Limit: 1.641      +3s Action Limit: 1.788

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2016	Oct	20	14:15	1.319	-0.02739	-0.1861			15-1275-8596	19-6097-2551
2		Nov	9	13:55	1.367	0.02119	0.1439			05-9589-4435	10-9991-8437
3			11	14:50	1.398	0.05157	0.3503			16-4947-4914	07-4049-8496
4			15	15:51	1.575	0.2293	1.558			18-8138-0840	05-5810-6920
5	2017	Mar	7	13:10	1.584	0.2379	1.616			19-7207-0550	04-4128-1602
6			24	14:20	1.402	0.05565	0.378			17-7243-9145	19-9836-7382
7		May	2	12:45	1.556	0.2101	1.427			14-0438-7078	05-2314-8444
8			19	13:10	1.389	0.0428	0.2908			21-1581-5922	15-6959-3465
9			23	10:40	1.363	0.01711	0.1162			09-4030-1551	10-1409-2736
10		Jun	13	13:15	1.534	0.1882	1.279			16-8527-5805	05-9270-2793
11			20	13:04	1.357	0.01094	0.07435			02-1261-5541	10-3181-4973
12		Jul	11	10:18	1.328	-0.01755	-0.1192			20-4939-4691	01-7228-9213
13		Aug	17	15:44	1.131	-0.215	-1.461			20-3561-1179	06-4422-7422
14			22	15:05	1.362	0.01625	0.1104			06-8198-8843	03-3856-9823
15		Nov	2	10:45	1.148	-0.1979	-1.344			03-4560-3600	07-8905-6624
16			7	10:05	1.41	0.0643	0.4369			18-9243-4706	08-2372-8791
17			28	15:45	1.188	-0.158	-1.073			19-8909-1955	10-8720-7222
18	2018	Feb	6	13:06	1.158	-0.1878	-1.276			18-7401-8903	18-3935-1850
19			13	11:34	1.233	-0.113	-0.7677			06-7698-8637	19-5984-7437
20		May	15	14:11	1.121	-0.2247	-1.526			15-2858-7347	00-1166-1061
21		Jun	12	12:00	1.214	-0.1322	-0.8983			17-4391-5302	02-9867-8668

7 Day Chronic Inland Silverside (*M. beryllina*) Toxicity Test Data

Client: Reference Toxicant  
 Test Material: Potassium Chloride  
 Test ID#: 78640 Project #: 28965  
 Test Date: 6/12/18 Randomization: 6.4.3

Organism Log#: 11016 Age: 11d  
 Organism Supplier: AE  
 Control/Diluent: DI + Crystal Sea @ 25 ppt  
 Control Water Batch: 1293

Treatment (g KCl/L)	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)	# Live Organisms				SIGN-OFF
		new	old	new	old		A	B	C	D	
Control	24.9	8.10		7.6		24.8	10	10	10	10	Date: 6/12/18
0.5	24.8	8.09		7.8		25.3	10	10	10	10	RT Stock Batch #: 63
1	25.2	8.09		7.9		25.8	10	10	10	10	Test Solution Prep: ER
1.25	24.9	8.10		7.9		26.0	10	10	10	10	New WQ: LZ
1.5	25.3	8.10		8.0		26.3	10	10	10	10	Initiation Time: 1200
2	25.3	8.08		8.0		26.8	10	10	10	10	Initiation Signoff: KL
Meter ID	110A	PH15		RD10		EU0					
Control	26.5	8.10	7.66	7.6	5.5	24.9	10	10	9	10	Date: 6/13/18
0.5	26.7	8.10	7.61	7.7	5.8	25.5	10	10	10	10	RT Stock Batch #: 63
1	26.6	8.09	7.67	7.7	5.8	26.1	10	9	10	10	Test Solution Prep: JL
1.25	26.8	8.09	7.64	7.7	5.8	26.4	10	10	10	8	New WQ: SMC <sup>5/21/18</sup> JL
1.5	26.8	8.09	7.63	7.7	5.9	26.6	8	9	9	10	Renewal Time: 1333
2	26.6	8.09	7.61	7.7	6.0	27.1	2	0	1	0	Renewal Signoff: JL
Meter ID	113A	PH24	PH19	RD11	RD12	EU2					Old WQ: JL
Control	26.2	8.00	7.78	7.6	5.7	24.7	10	10	9	10	Date: 6/14/18
0.5	26.1	8.05	7.78	7.6	5.8	25.4	10	10	10	10	RT Stock Batch #: 63
1	25.8	8.08	7.79	7.7	6.0	SF 6/14/18 26.2 25.6	10	9	10	10	Test Solution Prep: WC
1.25	25.8	8.08	7.80	7.7	5.8	26.2	10	8	10	6	New WQ: SF
1.5	25.8	8.08	7.78	7.8	6.0	26.4	4	9	9	9	Renewal Time: 1344
2	26.0	8.09	7.81	7.9	6.1	27.0	0	-	1	-	Renewal Signoff: RB
Meter ID	107A	PH21	PH21	RD10	RD10	EU2					Old WQ: JL
Control	25.6	8.24	7.83	7.7	6.6	24.5	10	10	9	10	Date: 6/15/18
0.5	25.6	8.22	7.82	7.7	6.6	25.3	10	10	10	10	RT Stock Batch #: 63
1	25.3	8.20	7.85	7.8	6.5	25.8	10	9	10	10	Test Solution Prep: SMC
1.25	25.4	8.19	7.80	7.9	6.7	26.11	9	5	9	5	New WQ: JL
1.5	25.4	8.19	7.89	7.9	6.8	26.3	4	4	8	8	Renewal Time: 1139
2	25.6	8.16	7.93	8.0	6.8	26.9	-	-	1	-	Renewal Signoff: WC
Meter ID	40A	PH19	PH24	RD10	RD11	EU11					Old WQ: 8VV



### 7 Day Chronic Inland Silverside (*M. beryllina*) Toxicity Test Data

Client: Reference Toxicant Organism Log#: 11016 Age: 11d  
 Test Material: Potassium Chloride Organism Supplier: AI  
 Test ID#: 78640 Project #: 28965 Control/Diluent: DI + Crystal Sea @ 25 ppt  
 Test Date: 6/12/18 Randomization: 6.4.3 Control Water Batch: 1293

Treatment (g KCl/L)	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)	# Live Organisms				SIGN-OFF
		new	old	new	old		A	B	C	D	
Control	25.6	8.18	7.87	7.6	6.8	24.3	10	10	8	10	Date: 6/16/18
0.5	25.5	8.17	7.86	7.7	6.8	24.8	10	10	10	10	RT Stock Batch #: 63
1	25.5	8.17	7.83	7.7	6.7	25.4	10	8	9	10	Test Solution Prep: TK
1.25	25.4	8.17	7.85	7.8	6.6	25.5	6	3	6	5	New WQ: JR
1.5	25.6	8.17	7.86	7.9	6.6	25.8	2	4	5	6	Renewal Time: 0949
2	25.6	-	7.86	-	6.6	-	-	-	0	-	Renewal Signoff: R6
Meter ID	810	pH24	pH19	RD12	RD10	EC10					Old WQ: JR
Control	25.5	8.14	7.57	7.8	5.7	24.6	10	10	8	10	Date: 6/17/18
0.5	25.4	8.13	7.49	7.8	4.6	25.3	10	10	10	10	RT Stock Batch #: 63
1	25.4	8.13	7.58	7.8	4.8	25.8	10	8	9	10	Test Solution Prep: EP
1.25	25.3	8.13	7.61	7.9	5.0	26.0	6	3	6	5	New WQ: JR
1.5	25.5	8.12	7.62	8.0	5.1	26.3	2	4	4	6	Renewal Time: 1108
2	-	-	-	-	-	-	-	-	-	-	Renewal Signoff: TK
Meter ID	81A	pH19	pH15	RD11	RD10	EC11					Old WQ: KM
Control	25.3	8.19	7.60	7.5	5.9	24.7	10	10	8	10	Date: 6/18/18
0.5	25.8	8.18	7.69	7.6	6.1	25.6 <sup>SV</sup> 25.4	10	10	10	10	RT Stock Batch #: 63
1	25.5	8.18	7.72	7.8	6.1	25.9	10	8	9	10	Test Solution Prep: EP
1.25	25.7	8.17	7.76	7.8	6.3	26.1	6	3	6	5	New WQ: SV
1.5	25.7	8.17	7.83	8.0	6.5	26.4	2	4	4	6	Renewal Time: 1047
2	-	-	-	-	-	-	-	-	-	-	Renewal Signoff: EP
Meter ID	81A	pH24	pH19	RD12	RD13	EC12					Old WQ: R6
Control	25.9		7.77		6.6	25.2	10	10	8	10	Date: 6/19/18
0.5	26.1		7.77		6.1	25.6	10	10	10	10	Termination Time: 0943
1	26.1		7.83		6.3	26.1	10	8	9	10	Termination Signoff: R6
1.25	26.1		7.85		6.3	26.4	4	3	6	4	Old WQ: ER
1.5	26.1		7.92		6.4	26.6	2	3	3	6	
2	-		-		-	-	-	-	-	-	
Meter ID	81A		pH19		RD11	EC11					

\* one organism died to the side of test chamber - reduce # loaded to 9 for stats.

Chronic Inland Silverside (*M. beryllina*) Dry Weight and Biomass Data

Client: Reference Toxicant Test ID #: 78640 Project #: 28965  
 Sample: Potassium Chloride Tare Weight Date: 6/16/18 Sign-off: TF  
 Test Date: 6/12/18 Final Weight Date: 6/20/18 Sign-off: LT

Pan ID	Concentration	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Control	A	408.20	425.27 / 412.93 <sup>LB</sup> / 6/20	10	1.71
2		B	416.32	429.84	10	1.35
3		C	413.60	425.48	9	1.32
4		D	408.72	424.06	10	1.53
5	0.5	A	412.12	425.21	10	1.31
6		B	413.21	427.79	10	1.46
7		C	411.60	426.76	10	1.52
8		D	407.09	422.80	10	1.57
9	1	A	410.21	424.40	10	1.42
10		B	412.83	424.75	10	1.19
11		C	411.81	424.96	10	1.31
12		D	404.05	418.46	10	1.44
13	1.25	A	417.70	423.70	10	0.600
14		B	408.29	413.06	10	0.477
15		C	406.75	415.48	10	0.873
16		D	406.36	412.34	10	0.598
17	1.5	A	406.58	410.04	10	0.346
18		B	412.64	417.83	10	0.519
19		C	404.78	409.74	10	0.496
20		D	411.55	420.60	10	0.905
21	2	A	404.48	-	10	-
22		B	405.81	-	10	-
23		C	406.16	-	10	-
24		D	414.67	-	10	-
QA1			412.95	412.93		
QA2			412.69	412.68		
QA3			422.54	422.54		
Balance ID			Bal 04	BAL04		

June 12, 2018

Eric Davis  
CH2MHill  
1000 Wilshire Blvd.  
Los Angeles, CA 90017

TEL:

FAX:

Workorder No.: N030642

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on June 05, 2018 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,



Quennie Manimtim  
Laboratory Director

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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N030642

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

All sample containers were received intact with proper chain of custody documentation.

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

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

Sample was 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 Comment for EPA 8260B:**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for 1,1-Dichloroethane possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N030642  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N030642-001A	EFF-06-05	Wastewater	6/5/2018 10:30:00 AM	6/5/2018	6/12/2018
N030642-001B	EFF-06-05	Wastewater	6/5/2018 10:30:00 AM	6/5/2018	6/12/2018
N030642-001C	EFF-06-05	Wastewater	6/5/2018 10:30:00 AM	6/5/2018	6/12/2018
N030642-001D	EFF-06-05	Wastewater	6/5/2018 10:30:00 AM	6/5/2018	6/12/2018



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 12-Jun-18

**CLIENT:** CH2MHill  
**Lab Order:** N030642  
**Project:** SFPP Norwalk  
**Lab ID:** N030642-001

**Client Sample ID:** EFF-06-05  
**Collection Date:** 6/5/2018 10:30:00 AM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 3510C**

**EPA 8270C**

RunID:	NV00922-MS3_180611A	QC Batch:	68379	PrepDate:	6/8/2018	Analyst:	JJS
Phenol	ND	0.33	1.0	µg/L	1	6/11/2018 02:24 PM	
Surr: 1,2-Dichlorobenzene-d4	67.0	0	16-120	%REC	1	6/11/2018 02:24 PM	
Surr: 2-Fluorobiphenyl	78.0	0	25-120	%REC	1	6/11/2018 02:24 PM	
Surr: 4-Terphenyl-d14	84.0	0	46-132	%REC	1	6/11/2018 02:24 PM	
Surr: Phenol-d5	32.0	0	15-120	%REC	1	6/11/2018 02:24 PM	

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 8260B**

RunID:	MS8_180606A	QC Batch:	R18VW033	PrepDate:		Analyst:	QBM
1,1-Dichloroethane	ND	0.45	0.50	µg/L	1	6/6/2018 10:47 PM	
1,2-Dichloroethane	ND	0.29	0.50	µg/L	1	6/6/2018 10:47 PM	
Benzene	ND	0.34	1.0	µg/L	1	6/6/2018 10:47 PM	
Ethylbenzene	ND	0.31	1.0	µg/L	1	6/6/2018 10:47 PM	
m,p-Xylene	ND	0.23	1.0	µg/L	1	6/6/2018 10:47 PM	
MTBE	ND	0.34	1.0	µg/L	1	6/6/2018 10:47 PM	
o-Xylene	ND	0.31	1.0	µg/L	1	6/6/2018 10:47 PM	
Tert-Butanol	ND	2.4	5.0	µg/L	1	6/6/2018 10:47 PM	
Toluene	ND	0.46	2.0	µg/L	1	6/6/2018 10:47 PM	
Xylenes, Total	ND	1.5	2.0	µg/L	1	6/6/2018 10:47 PM	
Surr: 1,2-Dichloroethane-d4	106	0	72-119	%REC	1	6/6/2018 10:47 PM	
Surr: 4-Bromofluorobenzene	98.7	0	76-119	%REC	1	6/6/2018 10:47 PM	
Surr: Dibromofluoromethane	104	0	85-115	%REC	1	6/6/2018 10:47 PM	
Surr: Toluene-d8	104	0	81-120	%REC	1	6/6/2018 10:47 PM	

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID:	NV00922-GC3_180606A	QC Batch:	68336	PrepDate:	6/6/2018	Analyst:	JJS
TPH-Diesel (C13-C22)	ND	15	25	µg/L	1	6/6/2018 02:44 PM	
TPH-Oil (C23-C36)	16	14	25	J µg/L	1	6/6/2018 02:44 PM	
Surr: Octacosane	89.9	0	26-152	%REC	1	6/6/2018 02:44 PM	
Surr: p-Terphenyl	101	0	57-132	%REC	1	6/6/2018 02:44 PM	

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID:	NV00922-GC4_180606A	QC Batch:	E18VW043	PrepDate:		Analyst:	QBM
TPH-Gasoline (C4-C12)	32	16	50	J µg/L	1	6/6/2018 12:12 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



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**ANALYTICAL RESULTS**

Print Date: 12-Jun-18

<b>CLIENT:</b> CH2MHill	<b>Client Sample ID:</b> EFF-06-05
<b>Lab Order:</b> N030642	<b>Collection Date:</b> 6/5/2018 10:30:00 AM
<b>Project:</b> SFPP Norwalk	<b>Matrix:</b> WASTEWATER
<b>Lab ID:</b> N030642-001	

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>NV00922-GC4_180606A</b>	QC Batch: <b>E18VW043</b>	PrepDate:	Analyst: <b>QBM</b>
Surr: Chlorobenzene - d5	112 0	74-138	%REC
			1 6/6/2018 12:12 PM

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID: <b>NV00922-AA1_180606A</b>	QC Batch: <b>68339</b>	PrepDate: <b>6/6/2018</b>	Analyst: <b>MG</b>
Mercury	0.044 0.018	0.050	J µg/L
			1 6/6/2018 11:47 AM

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_180606A</b>	QC Batch: <b>68326</b>	PrepDate: <b>6/6/2018</b>	Analyst: <b>CEI</b>
Copper	ND 0.26	0.50	µg/L
Lead	ND 0.13	0.50	µg/L
Zinc	ND 0.27	1.0	µg/L
			1 6/6/2018 12:20 PM

**TOTAL TPH**

**EPA 8015B**

RunID: <b>NV00922-GC3_180606A</b>	QC Batch: <b>R124429</b>	PrepDate:	Analyst: <b>JJS</b>
Total TPH	48 16	50	J ug/L
			1 6/6/2018

<b>Qualifiers:</b>	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



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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-68326</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124497</b>							
Client ID: <b>PBW</b>	Batch ID: <b>68326</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3046162</b>							
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									
Zinc	ND	1.0									

Sample ID: <b>LCS-68326</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124497</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>68326</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3046163</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	9.746	0.50	10.00	0	97.5	85	115				
Lead	9.629	0.50	10.00	0	96.3	85	115				
Zinc	88.557	1.0	100.0	0	88.6	85	115				

Sample ID: <b>N030642-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124497</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>68326</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3046167</b>							
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	
Zinc	0.677	1.0						0	0	20	J

Sample ID: <b>N030642-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124497</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>68326</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3046169</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	8.507	0.50	10.00	0	85.1	75	125				
Lead	9.989	0.50	10.00	0	99.9	75	125				
Zinc	95.760	1.0	100.0	0	95.8	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
- Calculations are based on raw values



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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N030642-001C-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>6/6/2018</b>		RunNo: <b>124497</b>		
Client ID: <b>ZZZZZZ</b>		Batch ID: <b>68326</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>6/6/2018</b>		SeqNo: <b>3046170</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.584	0.50	10.00	0	85.8	75	125	8.507	0.895	20	
Lead	10.877	0.50	10.00	0	109	75	125	9.989	8.51	20	
Zinc	95.781	1.0	100.0	0	95.8	75	125	95.76	0.0228	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 | Calculations are based on raw values   |  |



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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_LL**

Sample ID: <b>MB-68339</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124464</b>						
Client ID: <b>PBW</b>	Batch ID: <b>68339</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045074</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.029	0.050									J

Sample ID: <b>LCS-68339</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124464</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>68339</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045075</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.501	0.050	2.500	0	100	85	115				

Sample ID: <b>N030642-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124464</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>68339</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045076</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.511	0.050	2.500	0.04394	98.7	75	125				

Sample ID: <b>N030642-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124464</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>68339</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045077</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.636	0.050	2.500	0.04394	104	75	125	2.511	4.86	20	

Sample ID: <b>N030642-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124464</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>68339</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045079</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.038	0.050						0.04394	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 | Calculations are based on raw values   |  |



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"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_FP\_SFPP**

Sample ID: <b>MB-68336</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>6/6/2018</b>	RunNo: <b>124429</b>						
Client ID: <b>PBW</b>	Batch ID: <b>68336</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045218</b>						
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)	16.741	25									J
Surr: Octacosane	67.835		80.00		84.8	26	152				
Surr: p-Terphenyl	77.294		80.00		96.6	57	132				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPPTOT**

Sample ID: <b>MB-R124429</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>124429</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R124429</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3046560</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	47.741	50									J

**Qualifiers:**

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|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFP**

Sample ID: <b>E180606LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>124469</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>E18VW043</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045198</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	806.000	50	1000	0	80.6	67	136				
Surr: Chlorobenzene - d5	50238.000		50000		100	74	138				

Sample ID: <b>E180606MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>124469</b>							
Client ID: <b>PBW</b>	Batch ID: <b>E18VW043</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045199</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	31.000	50									J
Surr: Chlorobenzene - d5	44441.000		50000		88.9	74	138				

Sample ID: <b>N030573-002FMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>124469</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E18VW043</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045202</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	829.000	50	1000	48.00	78.1	67	136				
Surr: Chlorobenzene - d5	56941.000		50000		114	74	138				

Sample ID: <b>N030573-002FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>124469</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E18VW043</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045203</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	833.000	50	1000	48.00	78.5	67	136	829.0	0.481	30	
Surr: Chlorobenzene - d5	56818.000		50000		114	74	138		0	0	

**Qualifiers:**

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|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>R180606LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>124489</b>			
Client ID: <b>LCSW</b>		Batch ID: <b>R18VW033</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>6/6/2018</b>		SeqNo: <b>3045851</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	18.150	0.50	20.00	0	90.8	69	133				
1,2-Dichloroethane	18.590	0.50	20.00	0	93.0	69	132				
Benzene	19.240	1.0	20.00	0	96.2	81	122				
Ethylbenzene	19.390	1.0	20.00	0	97.0	73	127				
m,p-Xylene	40.040	1.0	40.00	0	100	76	128				
MTBE	19.850	1.0	20.00	0	99.2	65	123				
o-Xylene	20.190	1.0	20.00	0	101	80	121				
Tert-Butanol	96.630	5.0	100.0	0	96.6	70	130				
Toluene	19.130	2.0	20.00	0	95.7	77	122				
Xylenes, Total	60.230	2.0	60.00	0	100	75	125				
Surr: 1,2-Dichloroethane-d4	24.640		25.00		98.6	72	119				
Surr: 4-Bromofluorobenzene	25.650		25.00		103	76	119				
Surr: Dibromofluoromethane	25.120		25.00		100	85	115				
Surr: Toluene-d8	25.690		25.00		103	81	120				

Sample ID: <b>N030642-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>124489</b>			
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R18VW033</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>6/6/2018</b>		SeqNo: <b>3045852</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	29.410	0.50	20.00	0	147	69	133				S
1,2-Dichloroethane	18.580	0.50	20.00	0	92.9	69	132				
Benzene	19.670	1.0	20.00	0	98.4	81	122				
Ethylbenzene	20.050	1.0	20.00	0	100	73	127				
m,p-Xylene	40.120	1.0	40.00	0	100	76	128				
MTBE	17.460	1.0	20.00	0	87.3	65	123				
o-Xylene	20.410	1.0	20.00	0	102	80	121				
Tert-Butanol	87.350	5.0	100.0	0	87.4	70	130				
Toluene	20.000	2.0	20.00	0	100	77	122				
Xylenes, Total	60.530	2.0	60.00	0	101	75	125				
Surr: 1,2-Dichloroethane-d4	25.660		25.00		103	72	119				

**Qualifiers:**

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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N030642-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>124489</b>			
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R18VW033</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>6/6/2018</b>		SeqNo: <b>3045852</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	26.150		25.00		105	76	119				
Surr: Dibromofluoromethane	25.270		25.00		101	85	115				
Surr: Toluene-d8	25.910		25.00		104	81	120				

Sample ID: <b>N030642-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>124489</b>			
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R18VW033</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>6/6/2018</b>		SeqNo: <b>3045853</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	31.320	0.50	20.00	0	157	69	133	29.41	6.29	20	S
1,2-Dichloroethane	19.240	0.50	20.00	0	96.2	69	132	18.58	3.49	20	
Benzene	19.980	1.0	20.00	0	99.9	81	122	19.67	1.56	20	
Ethylbenzene	19.720	1.0	20.00	0	98.6	73	127	20.05	1.66	20	
m,p-Xylene	39.420	1.0	40.00	0	98.6	76	128	40.12	1.76	20	
MTBE	16.690	1.0	20.00	0	83.4	65	123	17.46	4.51	20	
o-Xylene	20.330	1.0	20.00	0	102	80	121	20.41	0.393	20	
Tert-Butanol	85.100	5.0	100.0	0	85.1	70	130	87.35	2.61	20	
Toluene	19.900	2.0	20.00	0	99.5	77	122	20.00	0.501	20	
Xylenes, Total	59.750	2.0	60.00	0	99.6	75	125	60.53	1.30	20	
Surr: 1,2-Dichloroethane-d4	24.760		25.00		99.0	72	119		0		
Surr: 4-Bromofluorobenzene	25.470		25.00		102	76	119		0		
Surr: Dibromofluoromethane	24.740		25.00		99.0	85	115		0		
Surr: Toluene-d8	25.560		25.00		102	81	120		0		

Sample ID: <b>R180606MB3</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>124489</b>			
Client ID: <b>PBW</b>		Batch ID: <b>R18VW033</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>6/6/2018</b>		SeqNo: <b>3045856</b>			
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									

**Qualifiers:**

- |  |  |  |
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**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>R180606MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>124489</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R18VW033</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>6/6/2018</b>	SeqNo: <b>3045856</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	27.450		25.00		110	72	119				
Surr: 4-Bromofluorobenzene	24.930		25.00		99.7	76	119				
Surr: Dibromofluoromethane	27.920		25.00		112	85	115				
Surr: Toluene-d8	26.220		25.00		105	81	120				

**Qualifiers:**

- |  |  |  |
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**CLIENT:** CH2MHill  
**Work Order:** N030642  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270WATER\_SIMEXT**

Sample ID: <b>LCS-68379</b>		SampType: <b>LCS</b>		TestCode: <b>8270WATER_</b> Units: <b>µg/L</b>			Prep Date: <b>6/8/2018</b>		RunNo: <b>124575</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>68379</b>		TestNo: <b>EPA 8270C EPA 3510C</b>			Analysis Date: <b>6/11/2018</b>		SeqNo: <b>3050525</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.640	1.0	6.000	0	44.0	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.500		1.000		50.0	16	120				
Surr: 2-Fluorobiphenyl	0.710		1.000		71.0	25	120				
Surr: 4-Terphenyl-d14	0.490		1.000		49.0	46	132				
Surr: Phenol-d5	0.260		1.000		26.0	15	120				

Sample ID: <b>LCS-D-68379</b>		SampType: <b>LCS-D</b>		TestCode: <b>8270WATER_</b> Units: <b>µg/L</b>			Prep Date: <b>6/8/2018</b>		RunNo: <b>124575</b>		
Client ID: <b>LCS02</b>		Batch ID: <b>68379</b>		TestNo: <b>EPA 8270C EPA 3510C</b>			Analysis Date: <b>6/11/2018</b>		SeqNo: <b>3050525</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.520	1.0	6.000	0	42.0	24	120	2.640	4.65	20	
Surr: 1,2-Dichlorobenzene-d4	0.470		1.000		47.0	16	120		0		
Surr: 2-Fluorobiphenyl	0.620		1.000		62.0	25	120		0		
Surr: 4-Terphenyl-d14	0.540		1.000		54.0	46	132		0		
Surr: Phenol-d5	0.270		1.000		27.0	15	120		0		

Sample ID: <b>MB-68379</b>		SampType: <b>MBLK</b>		TestCode: <b>8270WATER_</b> Units: <b>µg/L</b>			Prep Date: <b>6/8/2018</b>		RunNo: <b>124575</b>		
Client ID: <b>PBW</b>		Batch ID: <b>68379</b>		TestNo: <b>EPA 8270C EPA 3510C</b>			Analysis Date: <b>6/11/2018</b>		SeqNo: <b>3050527</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	1.0									
Surr: 1,2-Dichlorobenzene-d4	0.660		1.000		66.0	16	120				
Surr: 2-Fluorobiphenyl	0.720		1.000		72.0	25	120				
Surr: 4-Terphenyl-d14	0.840		1.000		84.0	46	132				
Surr: Phenol-d5	0.320		1.000		32.0	15	120				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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| J Analyte detected below quantitation limits                   | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits               |
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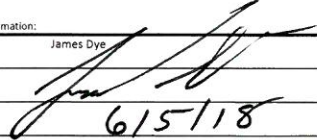
**NEVADA** | P: 702.307.2659 | F: 702.307.2691  
3151 W. Post Rd., Las Vegas, NV 89118  
ELAP Cert 2676 | NV Cert NV00922  
ORELAP/NELAP Cert 4046

"Serving Clients with Passion and Professionalism"

N030642

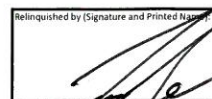
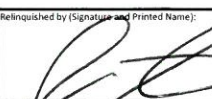
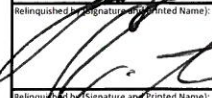

**Asset Laboratories**  
 3151 W. Post Road  
 Las Vegas, NV 89118  
 Tel: 702-307-2659 Fax: 702-307-2691  
 Marlon Cartin (marlon@assetlaboratories.com)

CHAIN OF CUSTODY RECORD  
 DATE: 6/5/18  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	<b>Section D</b> Sampler Information:
Company: <b>Kinder Morgan Energy Partners</b> Attention: <b>Steve Defibaugh</b>	Report To: <b>Eric Davis</b>	Attention: <b>Steve Defibaugh - Ref. AFE# 81195</b>	Sampler Name: <b>James Dye</b>
Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b>	Copy To: <b>Steve Defibaugh</b>	Company Name: <b>Kinder Morgan Energy Partners</b>	Sampler Signature: 
Email To: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a> <a href="mailto:eric_davis@ch2m.com">eric_davis@ch2m.com</a>	Purchase Order No.:	Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b>	Sample Date: <b>6/5/18</b>
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: <b>SPPP Norwalk</b>	ATL Project Manager:	

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	V	V	A	P	A	Comments
					DATE	TIME			3	3	2	1	2	
1	EFF-06-05	EFFLUENT	WW	G	6/5/18	1030	11	X X X X X	X	X	X	X	X	N030642-01 Report metals, TPH and VOC preliminary data on 24-hr TAT Report total Xylenes
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

4.6% JN#2.

Relinquished by (Signature and Printed Name):  Date / Time: <b>6/5/18 1030</b>	Relinquished by (Signature and Printed Name):  Date / Time: <b>6/5/18 5:00</b>	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):  Date / Time: <b>6/5/18 6:00</b>	Relinquished by (Signature and Printed Name): <b>Yvonne Rodriguez</b> Date / Time: <b>6/4/18</b>		
Relinquished by (Signature and Printed Name):  Date / Time: <b>6/5/18 8:20 am</b>			

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

650 #: 6745

# 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: 6/5/2018 Workorder: N030642  
 Rep sample Temp (Deg C): 4.6 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 6745 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 <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| 2. Custody seals intact, signed, dated on shipping container/cooler?                    | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 5. Sampler's name present in COC?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 6. Chain of custody signed when relinquished and received?                              | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 7. Chain of custody agrees with sample labels?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 8. Samples in proper container/bottle?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 9. Sample containers intact?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 10. Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 11. All samples received within holding time?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 12. Temperature of rep sample or Temp Blank within acceptable limit?                    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 13. Water - VOA vials have zero headspace?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 14. Water - pH acceptable upon receipt?<br>Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 15. Did the bottle labels indicate correct preservatives used?                          | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 16. Were there Non-Conformance issues at login?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |
| Was Client notified?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |

Comments:

Checklist Completed By: YR  6/6/2018

Reviewed By:  LR 180607

# ASSET Laboratories

## WORK ORDER Summary

06-Jun-18

**WorkOrder:** N030642

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 6/5/2018

**Comments:** Report metals, TPH and VOC preliminary data on 24Hr TAT.

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N030642-001A	EFF-06-05	6/5/2018 10:30:00 AM	6/6/2018	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			6/6/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N030642-001B			6/6/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			6/6/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			6/6/2018		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N030642-001C			6/6/2018			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			6/6/2018		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			6/6/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			6/6/2018			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N030642-001D			6/12/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			6/12/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N030642-002A	FOLDER	6/6/2018	6/6/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			6/6/2018		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



a GLS company  
**GLS**

800-322-5555  
www.gso.com

**Ship From**

ASSET LABORATORIES  
MOLKY BRAR  
11110 ARTESIA BLVD. SUITE B  
CERRITOS, CA 90703

Tracking #: 540846745

**CPS**



**Ship To**

ASSET LABORATORIES  
MARLON CARTIN  
3151 W. POST RD.,  
LAS VEGAS, NV 89118

**LVS**  
**LAS VEGAS**

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

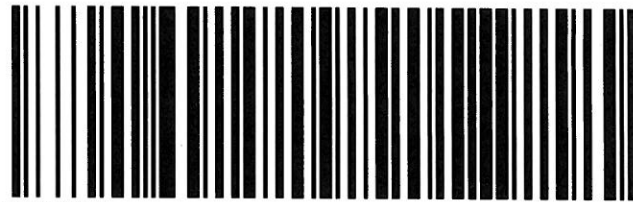
**Reference:**

**C89102A**

**Delivery Instructions:**

HOLD FOR PICKUP

**Signature Type:** NOT REQUIRED



85280978

Print Date: 6/5/2018 5:45 PM

Package 1 of 3

**LABEL INSTRUCTIONS:**

**Do not copy or reprint this label for additional shipments - each package must have a unique barcode.**

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

**TERMS AND CONDITIONS:**

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at [www.gso.com](http://www.gso.com).

4.6°C  
sn#2

Attachment B  
Data Quality Assurance/Quality Control

## Data Quality Assurance/Quality Control

Data quality was evaluated by examining the holding times, laboratory method blanks, surrogate percent recoveries, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) percent recoveries, and relative percent differences (RPDs). Data quality review results for each analysis are outlined in the following subsections.

### Analytical Data

The data quality evaluation report covers four normal effluent samples. Samples were collected between April 5 and June 5, 2018. Analyses were performed by Asset Laboratories in Cerritos, California, and BC Laboratories in Bakersfield, California. The sample results were reported as four sample delivery groups:

Sample Delivery Groups
N029685
N029686
N030137
N030642

Eleven methods were used to analyze the environmental samples. Samples were collected and submitted directly to the Asset Laboratories for analysis. Asset Laboratories was responsible for shipment of samples to BC Laboratories. Samples were analyzed for the following analytes/methods:

Parameter	Method
Turbidity	SM2130B
Total suspended solids	SM2540D
Settleable solids	SW2540F
Biochemical oxygen demand	SM5210B
Oil and grease	E1664
Metals	E200.8/E245.1
Ammonia	E350.1
Total petroleum hydrocarbons (TPH) – gasoline, diesel, and motor oil ranges	SW8015B
Volatile organic compounds	SW8260B
Phenol	SW8270C

Data validation flags were assigned using guidance from the EPA Contract Laboratory National Functional Guidelines for Organic Superfund Methods Data Review (EPA, 2017) and EPA Contract Laboratory National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA, 2017). Multiple flags are routinely applied to specific sample method/ matrix/ analyte combinations, but there will be only one final flag. A final flag is applied to the data and is the most conservative of the applied data validation flags. The final flag also includes blank sample impacts.

The data validation flags are as follows:

- J = Analyte was present, but the reported value may not be accurate or precise (estimated). The result was estimated because it was less than the referenced reporting limit, but greater than the method detection limit, or because a quality control exceedance occurred.
- R = Data were unusable because of deficiencies in the ability to analyze the sample and meet quality control criteria.
- U = Analyte was not detected at the specified detection limit.
- UJ = Analyte was not detected, and the specified detection limit may not be accurate or precise (estimated).

## Findings

The overall summaries of the data validation findings are contained in the following subsections.

### Holding Times

All holding time criteria were met.

### Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination that would affect the sample results with the following exceptions:

- TPH-motor oil, TPH-gasoline, and total TPH were detected at concentrations less than the reporting limit (RL) in the method blanks for Method SW8015B. Eight associated results were detected at concentrations less than five times the blank concentrations and were qualified as not detected and flagged "U" in samples EFF-04-05, EFF-05-01, and EFF-06-05.
- Mercury was detected at a concentration less than the RL in a method blank for Method E245.1. One associated result was detected at a concentration less than five times the blank concentration; this result was qualified as not detected and flagged "U" in sample EFF-06-05.

### Surrogates

All surrogate recovery criteria were met.

### Internal Standards

All internal standard criteria were met.

### Laboratory Control Samples

LCS/LCSDs were analyzed as required. All accuracy and precision criteria were met.

### Matrix Spikes/Matrix Spike Duplicates

The results of MS/MSD analyses provide information about the possible influence of the matrix on either accuracy or precision of the measurements. There were no MS/MSD recovery or RPD exceedances that would affect the sample results with one exception.

- The recovery of 1,1-dichloroethane was less than the lower control limit in the MS and MSD of sample EFF-05-01 for Method SW8260B, indicating the associated parent sample result is possibly biased low. The associated nondetected result was qualified as estimated and flagged "UJ."



### **Chain-of-Custody**

Each sample was documented in a completed chain-of-custody form and received at the laboratory in good condition.

### **Overall Assessment**

An overall evaluation of the data indicates that the sample handling, shipment, and analytical procedures have been adequately completed, and that the analytical results are considered usable taking into consideration possible biases as described above.

Attachment C  
Waste Manifests

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <b>CAT080033962</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>011904038 FLE</b>
---	---	--------------------------	--	---

5. Generator's Name and Mailing Address <b>Spp, L.P. Norwalk Station 1100 Town And Country Road Oranze, CA 92868</b>	Generator's Site Address (if different than mailing address) <b>15306 Norwalk Boulevard Norwalk, CA 90651</b>
Generator's Phone: <b>(714) 560-4887 ATTN: Karina Hankins</b>	

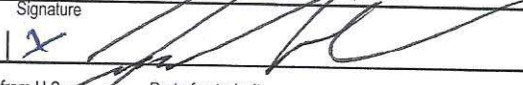
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>	U.S. EPA ID Number <b>MAD039322250</b>
7. Transporter 2 Company Name	U.S. EPA ID Number

8. Designated Facility Name and Site Address <b>Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744</b>	U.S. EPA ID Number <b>CAD044429835</b>
Facility's Phone: <b>(310) 835-9998</b>	

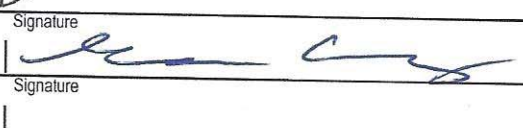
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes			
		No.	Type						
	<b>1. NON-RCRA HAZARDOUS WASTE, SOLID, (FILTERS)</b>	<b>1</b>	<b>DM</b>	<b>150</b>	<b>P</b>	<b>181</b>			
	2.								
	3.								
	4.								

14. Special Handling Instructions and Additional Information <b>1. CR1424321 1X55</b>	<b>1. Groundwater Treatment System Filters (LGAC)</b>
--	---

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/Officer's Printed/Typed Name <b>JAMES DYK</b>	Signature 	Month Day Year <b>16   19   18</b>
--	---	---------------------------------------

16. International Shipments <input type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit: Date leaving U.S.:
--	---	---

17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name <b>George Hernandez</b>	Signature 	Month Day Year <b>16   19   18</b>
Transporter 2 Printed/Typed Name	Signature	Month Day Year

18. Discrepancy					
18a. Discrepancy Indication Space	<input type="checkbox"/> Quantity	<input type="checkbox"/> Type	<input type="checkbox"/> Residue	<input type="checkbox"/> Partial Rejection	<input type="checkbox"/> Full Rejection
Manifest Reference Number:					

18b. Alternate Facility (or Generator) Facility's Phone:	U.S. EPA ID Number
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. <b>H141</b>	2.	3.	4.

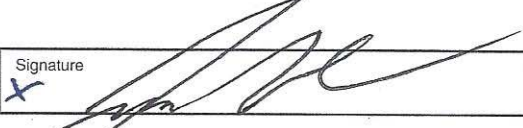

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a			
Printed/Typed Name	Signature	Month Day Year	



# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

**DW 1803027400**

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>CAT080033962</b>		Manifest Document No. <b>NH1803027400</b>	2. Page 1 of <b>1</b>
3. Generator's Name and Mailing Address <b>Sfpp, L.P. Norwalk Station 1100 Town And Country Road Orange CA 92868</b>		4. Generator's Phone ( <b>(714)560-4887</b> ) <b>ATTN:Karina Hankins</b>		Site Address : <b>15306 Norwalk Boulevard Norwalk, CA 90651</b>	
5. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>		6. US EPA ID Number <b>MAD039322250</b>		A. State Transporter's ID B. Transporter 1 Phone <b>(761)792-5000</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID D. Transporter 2 Phone	
9. Designated Facility Name and Site Address <b>Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744</b>		10. US EPA ID Number <b>CAD044429835</b>		E. State Facility's ID F. Facility's Phone <b>(310) 835-9998</b>	
11. WASTE DESCRIPTION			Containers		13. Total Quantity
			No.	Type	14. Unit Wt./Vol.
a. <b>NON D.O.T. REGULATED, (FILTERS)</b>			<b>1</b>	<b>DM</b>	<b>125 P</b>
b.					
c.					
d.					
G. Additional Descriptions for Materials Listed Above <b>11a.CH1424321-NH 1x55</b>			H. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information <b>11a. Groundwater Treatment System Filters (BIO)</b>  <b>#5517</b>			EMERGENCY PHONE #: <b>(800) 483-3718</b> GENERATOR: <b>Sfpp, L.P. Norwalk Station</b>		
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.					
Printed/Typed Name <b>X JAMES DYK</b>		Signature 		Date Month Day Year <b>6   19   18</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name <b>George Hernandez</b>		Signature 	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Date Month Day Year	
19. Discrepancy Indication Space		Signature		Date Month Day Year	
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.		Printed/Typed Name		Date Month Day Year	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY