

SFPP, L.P.

Operating Partnership

February 14, 2019

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

Re: Effluent Monitoring Report October through December 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 Fourth 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 <u>14<sup>th</sup></u> day of <u>February</u> 2019. at <u>2:26 p.m.</u>

Hyphen

(signature)

Stephen T. Defibaugh (printed name)

Remediation Project Manager (title)



2600 Michelson Drive, Suite 500 Irvine, California 92612 United States T +1.949.224.7500 F +1.949.224.7501 www.jacobs.com

Mr. Stephen Defibaugh Kinder Morgan, Inc. 1100 Town and Country Road, Suite 700 Orange, California 92868

February 15, 2019

#### Subject: Effluent Monitoring Report, October 1 to December 31, 2018 (Fourth 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., now part 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 October 1 to December 31, 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.

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/GWE 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/GWE wells
  - 3 SVE wells (collocated with TFE wells)
  - 1 horizontal biosparge well (not yet operable)

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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 volatile organic compounds (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 transported to an offsite location. Water from the OWS is then gravity drained into a 300-gallon transfer tank. From the transfer tank, the water is then 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 length of the screen 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>).

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 length of the screen 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>).

Biosparging involves introducing air into the groundwater in situ to enhance biodegradation of VOCs present in product and groundwater. A 100-horsepower (hp) biosparge compressor was installed on November 2015 to deliver ambient air to the biosparge well at a maximum design rate of approximately

<sup>&</sup>lt;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.

<sup>&</sup>lt;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.



500 standard cubic feet per minute (scfm). The 500-scfm sparge compressor was turned off temporarily and a new air sparge compressor (175-hp) that has a design flow rate of 883 scfm was installed in the fourth quarter 2018 to deliver ambient air to both the south-central and southeastern sparge wells. The 500-scfm and 883-scfm compressors are appropriately sized to deliver ambient air to both the south-central and southeastern sparge wells, and to allow for future system expansion. 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.

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 544,102 gallons of groundwater was extracted from the south-central and southeastern areas, treated, and discharged to Coyote Creek during the fourth quarter 2018. Wells that were in operation included MW-SF-3, MW-SF-15, GMW-9, GMW-O-11, GMW-O-20, and GMW-O-23 in the south-central area; and GMW-O-15, GMW-36, and GMW-SF-9 in the southeastern area. No groundwater was extracted from the West Side Barrier 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 shut down on October 3, 2018, due to the carbon change-out and carbon vessel repair. The GWTS was restarted on October 8, 2018.
- The GWTS was shut down on October 26, 2018, to facilitate gauging and sampling activities for the second semiannual groundwater monitoring event. The bioreactors and discharge pumps were turned on to discharge 826 gallons of treated water on November 2, 2018 and then the GWTS was restarted fully on November 9, 2018.
- The GWTS shut down on December 9, 2018, due to a false high level in the 300-gallon transfer tank. The wiring of the high level switch was repaired and the false alarm has not occurred since December 9, 2018. The system was restarted on December 11, 2018.
- The GWTS shut down on December 21, 2018, due to the 2007 and 2008 air compressor shutting down. Air compressors provide air to the pneumatic pumps in the wells. The GWTS was turned on briefly on December 24 and 28, 2018, to test the system. The GWTS remained off through December 31, 2018.

No free product accumulated in the product holding tank of the GWTS during the fourth 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 fourth 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, quarterly, and annual analyses Samples were also collected at RSW-001 (50 feet upstream of the discharge into Coyote Creek) and RSW-002 (50 feet downstream of the discharge into Coyote Creek) for the annual analysis. A semiannual chronic toxicity analysis was also conducted on samples collected from EFF-001 and RSW-002.



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 also sent samples to the following laboratories:

- BC Laboratories, Inc. in Bakersfield, California for total petroleum hydrocarbons (TPH), biochemical oxygen demand, cyanide, sulfides, methylene blue activated substances, and ammonia as nitrogen analysis
- LA Testing in South Pasadena, California for asbestos analysis
- TestAmerica in Irvine, California for acrolein and acrylonitrile analysis
- Pace Analytical Services, Inc. in Minneapolis, Minnesota for 2,3,7,8-tetrachlorodibenzodioxin and equivalents analysis

The samples were analyzed in accordance with current U.S. Environmental Protection Agency (EPA) methods 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, Quarterly, and Annual 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. Analytical results for the October, November, and December 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 (in 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, located at the bottom of the creek in Table 3. Based on these data, the October and November 2018 sampling events, with maximum daily flows less than 27 cfs, all occurred during dry weather conditions. Therefore, the analytical results for October and November 2018 are compared to dry weather discharge limits. Los Angeles County Department of Public Works December 2018 flow data were not available at the time of this report. However, both the wet and dry weather discharge limits were not exceeded in December 2018.

Analytical results for remaining priority pollutants at the effluent are summarized in Table 4. Results for priority pollutants at sample point RSW-001 are summarized in Table 5. The tetrachlorodibenzo-pdioxins (TCDD) equivalents for the effluent and the receiving water samples (RSW-001) are summarized in Table 6.

#### **Toxicity Sampling**

Effluent samples from station EFF-001 and RSW-002 were collected for chronic toxicity testing on November 12, 14, and 16, 2018. The initial salinity measured at EFF-001 on November 12, 2018, was 0.9 parts per thousand. Therefore, these samples were used for the chronic toxicity tests using Fathead Minnows as the test species (a freshwater species). All tests were performed according to

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EPA (1995, 2002) methods in the receiving water and 100 percent effluent samples. Results were evaluated with EPA's (2010) Test of Significant Toxicity (TST) to determine a "Pass" or "Fail" and percent effect.

The Fathead Minnows were not affected by the effluent water (that is, the results were "Pass") and demonstrated effluent compliance for toxicity (Table 7). The result of the TST analysis for the receiving water RSW-002 sample was "Fail" for the pH adjusted and unadjusted tests. With the "Pass" test of the sample collected at the effluent, the "Fail" test of the receiving water is not attributed to the GWTS effluent. Each of the toxicity tests met the acceptability criteria, and reference toxicity results were within the acceptable range of expected variability. The laboratory report and chain-of-custody documents for the effluent samples collected during the fourth guarter 2018 are included in Attachment A.

### Waste Handling

On October 3, 2018, approximately 4,000 pounds of nonhazardous spent carbon was removed from the site and disposed of by Prominent Systems Inc., of 13095 E. Temple Avenue, City of Industry, California 91746.

On December 13, 2018, approximately 175 pounds of non-Resource Conservation and Recovery Act (RCRA) hazardous waste (GWTS bag filters) was 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.

On December 13, 2018, approximately 175 pounds of nonhazardous non-Department of Transportation (DOT) regulated debris waste (rubber hoses) was 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 E Denni Street, Wilmington, California 90744.

Copies of the waste manifests are included in Attachment C.

## Harbor Toxics Total Maximum Daily Load Monitoring

Wet chemistry monitoring and sampling for Toxic Pollutants in the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters total maximum daily load (TMDL) [herein referred to as the Harbor Toxics TMDL] were conducted on July 11, 2018 (dry weather event), November 30, 2018 (wet weather event), and on January 11, 2019 (second wet weather event). As stated in the email response dated December 24, 2018, from the Water Board (Chin Yin To, Water Resources Control Engineer), the monitoring year started in May 2018, and was extended to April 2019. Jacobs is currently performing data validation on the laboratory analytical data from the second wet weather sampling event conducted on January 11, 2019; therefore, a separate Harbor Toxics TMDL letter report for 2018 will be prepared and submitted in the first quarter 2019.

## Annual Review of Stormwater Pollution Prevention Plan, Best Management Practices Plan, and Spill Contingency Plan

As required in Section X.D.1 of the Monitoring and Reporting Program, the project Stormwater Pollution Prevention Plan (SWPPP), Best Management Practices Plan (BMPP), and Spill Contingency Plan (SCP) are reviewed annually and updated as needed to verify all actual and potential sources of pollutants in wastewater and stormwater discharged from the facility are addressed in the plans.

The existing SWPPP/BMPP and SCP documents have been reviewed and revised to incorporate the following changes:

- Revised site maps, process flow diagram, and equipment layout
- Updated project team information

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• Provided details about the DAF overflow incident that occurred on August 20, 2018, related to the high level switch failures at the 300-gallon equalization tank and DAF containment pad. The report also included a discussion of the corrective measures that were implemented to avoid a future occurrence.

The above changes are now reflected in the SWPPP/BMPP and SCP documents, which will be submitted to the Water Board during the first quarter 2019. A copy of these documents will be maintained onsite for reference.

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

Regards,

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Vladimir Carino Project Engineer

Attachments:

- Table 1 Effluent Flow Rate Measurements, Fourth Quarter 2018
- Table 2 NPDES Effluent Monitoring, Fourth Quarter 2018
- Table 3 Maximum Daily Flow in Coyote Creek, Fourth Quarter 2018
- Table 4 NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2018
- Table 5 NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2018
- Table 6 NPDES TCDD Equivalent Calculation, Fourth Quarter 2018
- Table 7 NPDES Effluent and Receiving Water Chronic Toxicity Monitoring, Fourth 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, Fourth Quarter 2018

	Daily Flow Rate (gpd)
Date	(Maximum Daily Discharge Limit = 150,000 gpd <sup>a</sup> )
10/01/18	12,460
10/02/18	8,756
10/03/18	5,420
10/04/18	0
10/05/18	0
10/06/18	0
10/07/18	0
10/08/18	6,194
10/09/18	9,714
10/10/18	8,012
10/11/18	13,180
10/12/18	12,450
10/13/18	11,866
10/14/18	11,928
10/15/18	
10/15/18	10,996 13,072
10/16/18	
	14,728
10/18/18	15,264
10/19/18	15,576
10/20/18	14,240
10/21/18	12,972
10/22/18	11,164
10/23/18	10,162
10/24/18	11,456
10/25/18	11,454
10/26/18	7,488
10/27/18	0
10/28/18	0
10/29/18	0
10/30/18	0
10/31/18	0
11/01/18	0
11/02/18	826
11/03/18	0
11/04/18	0
11/05/18	0
11/06/18	0
11/07/18	0
11/08/18	0
11/09/18	3,326
11/10/18	9,692
11/11/18	9,148
11/12/18	9,280
11/13/18	8,676
11/14/18	9,040
11/15/18	9,456
11/16/18	10,424
11/17/18	12,180
11/18/18	11,788
11/19/18	9,200
11/20/18	8,668
	0,000

## Table 1. Effluent Flow Rate Measurements, Fourth Quarter 2018

SFPP Norwalk Pump Station, Norwalk, California

	Daily Flow Rate (gpd)
Date	(Maximum Daily Discharge Limit = 150,000 gpd <sup>a</sup> )
11/21/18	10,580
11/22/18	10,016
11/23/18	6,764
11/24/18	6,848
11/25/18	6,836
11/26/18	6,890
11/27/18	7,774
11/28/18	6,548
11/29/18	7,220
11/30/18	6,444
12/01/18	6,736
12/02/18	6,420
12/03/18	6,600
12/04/18	6,536
12/05/18	5,726
12/06/18	8,610
12/07/18	5,414
12/08/18	5,830
12/09/18	1,104
12/10/18	0
12/11/18	3,406
12/12/18	9,754
12/13/18	3,144
12/14/18	2,912
12/15/18	7,668
12/16/18	1,486
12/17/18	5,130
12/18/18	9,096
12/19/18	7,210
12/20/18	4,682
12/21/18	354
12/22/18	0
12/23/18	0
12/24/18	80
12/25/18	0
12/26/18	0
12/27/18	0
12/28/18	28
12/29/18	0
12/30/18	0
12/31/18	0

Notes:

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

gpd = gallons per day

#### Table 2. NPDES Effluent Monitoring, Fourth Quarter 2018

													Disch	arge Limits <sup>b</sup>
	Sampling	Analytical											Monthly	Daily
Analyte	Frequency	Method	Units	MDL <sup>c</sup>	RL°	ML <sup>a</sup>	10/16/2018						Average	Maximum
Flow	Daily		gpd				13,072	9,280	9,040	9,456	10,424	2,912		150,000
TPH as Gasoline (C4-C12)	Monthly	EPA 8015B	µg/L	22	50	NE	<22			<22		<22		
TPH as Diesel (C13-C22)	Monthly	EPA 8015B	µg/L	6.8	40	NE	<6.8			<6.8		<6.8		
TPH as Oil (C23+)	Monthly	EPA 8015B	µg/L	13	100	NE	<13			<13		<13		
Total TPH	Monthly	EPA 8015B	µg/L	22	100	NE	<16			<22		<22		100
Total TPH	Monthly	Calculated	lb/day				0.000872			0.000867		0.000267		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		<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	0.34	1.0	1	<0.33			<0.53		<0.34		
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 J			<0.26 J		<0.26 J	9.7	32
Copper (total recoverable) (dry weather)	Monthly	Calculated	lb/day				0.000014			0.00001		0.000003	0.012	0.04
Copper (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.26	0.5	0.5						<0.26 J	8.3	27
Copper (total recoverable) (wet weather)	Monthly	Calculated	lb/day									0.000003	0.010	0.034
Lead (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.13	0.5	0.5	<0.13			<0.13		<0.13	33	106
Lead (total recoverable) (dry weather)	Monthly	Calculated	lb/day				0.000007			0.000005		0.000002	0.041	0.13
Mercury (total recoverable)	Monthly	EPA 245.1	µg/L	0.018	0.1	0.2	<0.018			<0.018		<0.018	0.051	0.10
Mercury (total recoverable)	Monthly	Calculated	lb/day				0.000001			0.000001		0	0.000064	0.00013
Zinc (total recoverable) (dry weather)	Monthly	EPA 200.8	µg/L	0.27	1.0	1.0	<0.27			2.1		4.8	64	220
Zinc (total recoverable) (dry weather)	Monthly	Calculated	lb/day				0.000015			0.000166		0.000117	0.080	0.28
Zinc (total recoverable) (wet weather)	Monthly	EPA 200.8	µg/L	0.27	1.0	1.0						4.8	46	158
Zinc (total recoverable) (wet weather)	Monthly	Calculated	lb/day									0.000117	0.058	0.2
Biochemical Oxygen Demand	Quarterly	SM 5210B	mg/L	1.5	1.5	NE				1.6			20	30
Biochemical Oxygen Demand	Quarterly	Calculated	lb/day							0.126181			25	38
Total Suspended Solids	Quarterly	SM 2540D	mg/L	10	10.00	NE				<10			50	75
Total Suspended Solids	Quarterly	Calculated	lb/day							0.394315			63	94
pH	Quarterly		s.u.			NE		6.93	6.67	6.57	6.63			6.5/8.5
Oil and Grease	Quarterly	EPA 1664A	mg/L	0.82	5.10	NE				1.3			10	15
Oil and Grease	Quarterly	Calculated	lb/day							0.102522			13	19
Ammonia Nitrogen (as N)	Quarterly	EPA 350.1	mg/L	0.05	0.20	NE				0.11				
Settleable Solids	Quarterly	SM 2540F	mL/L/hr	0.092	0.09	NE				< 0.092			0.1	0.3
Temperature	Quarterly	Temperature	°F			NE		68	63	73	64			86
Turbidity	Quarterly	SM 2130B	NTU	0.1	0.10	NE				0.38			50	75
Salinity	2x/year	SM 2520B				NE		0.9	1.2	1.2	1.2			
Chronic Toxicity (see Table 7)	2x/year					NE				Pass			Pass	Pass and % Effect <50
Di-isopropyl Ether	Annually	EPA 8260B	µg/L	0.079	1.00	NE				<0.079				
Methyl Ethyl Ketone	Annually	EPA 8260B	µg/L	4.9	10.00	NE				<4.9				
Methylene Blue Active Substances	Annually	SM 5540C	mg/L	0.03	0.20	NE				<0.03				
Nitrate + Nitrite as N	Annually	EPA 300.0	mg/L	0.005	0.10	NE				< 0.005				
Sulfides	Annually	SM 4500 SD	mg/L	0.000	0.10	NE				<0.05				

#### Table 2. NPDES Effluent Monitoring, Fourth Quarter 2018

SFPP Norwalk Pump Station, Norwalk, California

													Disch	arge Limits <sup>b</sup>
	Sampling	Analytical											Monthly	Daily
Analyte	Frequency	Method	Units	MDL <sup>c</sup>	RL <sup>c</sup>	ML <sup>a</sup>	10/16/2018	11/12/2018	11/14/2018	11/15/2018	11/16/2018	12/14/2018	Average	Maximum
Tert Amyl Methyl Ether	Annually	EPA 8260B	µg/L	0.26	1.00	NE				<0.26				
TCDD Equivalents	Annually	EPA 8290	pg/L			NE				5.0				
Other Priority Pollutants (Table 4)	Annually													

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

DNQ = detected, but not quantified; result is greater than or equal to the laboratory MDL but less than the ML (or RL if no ML is listed)

EPA = U.S. Environmental Protection Agency

gpd = gallons per day

J = detected at a concentration below the RL and above the MDL; reported value is estimated

lb/day = pounds per day

MDL = laboratory method detection limit

mg/L = milligrams per liter

ML = minimum level (see note a)

mL/L/hr = milliliters per liter per hour

NE = not established

NPDES = National Pollutant Discharge Elimination System

NTU = nephelometric turbidity unit(s)

pg/L = picograms per liter

ppt = parts per trillion

s.u. = standard unit(s)

TCDD = tetrachlorodibenzodioxin

TPH = total petroleum hydrocarbons

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

	Maximum Daily Flow Rate	
Date	(cfs) <sup>a</sup>	Comments
10/01/18	37.0	Commonito
10/02/18	5.2	
10/03/18	1,630.0	
10/04/18	1,430.0	
10/05/18	5.2	
10/06/18	5.2	
10/07/18	3.9	
10/08/18	3.3	
10/09/18	14.1	
10/10/18	6.6	
10/11/18	7.1	
10/12/18	247.0	
10/13/18	1,630.0	
10/14/18	41.9	
10/15/18	17.8	
10/16/18	7.1	October 2018 sampling conducted
10/17/18	7.7	
10/18/18	9.0	
10/19/18	3.9	
10/20/18	3.6	
10/21/18	3.3	
10/22/18	4.8	
10/23/18	7.1	
10/24/18	4.5	
10/25/18	4.5	
10/26/18	5.2	
10/27/18	5.5	
10/28/18	4.2	
10/29/18	8.4	
10/30/18	7.7	
10/31/18	10.4	
11/01/18	11.2	
11/02/18	11.2	
11/03/18	16.5	
11/04/18	17.8	
11/05/18	25.2	
11/06/18	23.6	
11/07/18	27.9	
11/08/18	48.0	
11/09/18	27.9	
11/10/18	35.4	
11/11/18	26.5	
11/12/18	29.3	
11/13/18	27.9	
11/14/18	51.2	
11/15/18	38.7	November 2018 sampling conducted
11/16/18	25.2	
11/17/18	0.4	
11/18/18	1.8	
11/19/18	0.1	
11/20/18	17.8	

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

	Maximum Daily Flow Rate	
Date	(cfs) <sup>a</sup>	Comments
11/21/18	9.0	
11/22/18	1.8	
11/23/18	0.1	
11/24/18	14.1	
11/25/18	40.4	
11/26/18	9.7	
11/27/18		
11/28/18		
11/29/18		
11/30/18		
12/01/18		
12/02/18		
12/03/18		
12/04/18		
12/05/18		
12/06/18		
12/07/18		
12/08/18		
12/09/18		
12/10/18		
12/11/18		
12/12/18		
12/13/18		
12/14/18		December 2018 sampling conducted
12/15/18		
12/16/18		
12/17/18		
12/18/18		
12/19/18		
12/20/18		
12/21/18		
12/22/18		
12/23/18		
12/24/18		
12/25/18		
12/26/18		
12/27/18		
12/28/18		
12/29/18		
12/30/18		
12/31/18 Notes:		

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 Monitoring, Remaining Priority Pollutants, Fourth Quarter 2018

Analyte	Analytical Method	Units	MDL	RL	11/15/2018	ML <sup>a</sup>
Antimony	EPA 200.8	µg/L	0.16	0.5	0.29	0.50
Arsenic	EPA 200.8	µg/L	0.081	0.1	6.9	2
Beryllium	EPA 200.8	µg/L	0.042	0.5	0.36	0.50
Cadmium	EPA 200.8	µg/L	0.053	0.25	<0.053	0.25
Chromium (III) (Total Cr - Cr VI)	CALCCR3	µg/L	0.13	0.5	<0.13	NA
Chromium VI	EPA 7199	µg/L	0.033	0.2	<0.033	0.5
Selenium	EPA 200.8	µg/L	0.36	0.5	<0.36	2.0
Thallium	EPA 200.8	µg/L	0.19	0.5	<0.19	1.0
Nickel	EPA 200.8	µg/L	0.26	1	4.3	1
Silver	EPA 200.8	µg/L	0.23	0.25	<0.23	0.25
Aroclor-1016	EPA 8082	µg/L	0.013	0.04	<0.013	0.5
Aroclor-1221	EPA 8082	µg/L	0.019	0.04	<0.019	0.5
Aroclor-1232	EPA 8082	µg/L	0.013	0.04	<0.013	0.5
Aroclor-1242	EPA 8082	µg/L	0.014	0.04	<0.014	0.5
Aroclor-1248	EPA 8082	µg/L	0.024	0.04	<0.024	0.5
Aroclor-1254	EPA 8082	µg/L	0.012	0.04	<0.012	0.5
Aroclor-1260	EPA 8082	µg/L	0.0068	0.04	<0.0068	0.5
4,4'-DDD	EPA 8081A	µg/L	0.00049	0.001	<0.00049	0.05
4,4'-DDE	EPA 8081A	µg/L	0.00048	0.001	<0.00048	0.05
4,4'-DDT	EPA 8081A	µg/L	0.00034	0.001	<0.00034	0.01
Aldrin	EPA 8081A	µg/L	0.00037	0.001	<0.00037	0.005
Alpha Endosulfan	EPA 8081A	µg/L	0.00048	0.001	<0.00048	0.02
Alpha-BHC	EPA 8081A	µg/L	0.00046	0.001	<0.00046	0.01
Beta Endosulfan	EPA 8081A	µg/L	0.00059	0.001	<0.00059	0.01
Beta-BHC	EPA 8081A	µg/L	0.00049	0.001	<0.00049	0.005
Chlordane	EPA 8081A	µg/L	0.03	0.1	< 0.03	0.1
Delta-BHC	EPA 8081A	µg/L	0.00048	0.001	<0.00048	0.005
Dieldrin	EPA 8081A	µg/L	0.00046	0.001	<0.00046	0.01
Endosulfan Sulfate	EPA 8081A	µg/L	0.00085	0.001	<0.00085	0.05
Endrin	EPA 8081A	µg/L	0.00072	0.001	<0.00072	0.01
Endrin Aldehyde	EPA 8081A	µg/L	0.00077	0.002	<0.00077	0.01
Gamma-BHC	EPA 8081A	µg/L	0.00048	0.001	<0.00048	0.02
Heptachlor	EPA 8081A	µg/L	0.00039	0.001	< 0.00039	0.01
Heptachlor Epoxide	EPA 8081A	µg/L	0.00084	0.001	< 0.00084	0.01
Toxaphene	EPA 8081A	µg/L	0.04	0.4	<0.04	0.5
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.38	1	<0.38	2
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.34	1	<0.34	1
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.29	1	<0.29	2
1,1-Dichloroethene	EPA 8260B	µg/L	0.34	1	<0.34	2
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.21	1	<0.21	5
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.29	1	<0.29	2
1,2-Dichloropropane	EPA 8260B	µg/L	0.24	1	<0.24	1
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.28	1	<0.28	1
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.32	1	<0.32	1
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	0.29	0.5	<0.29	1
Acrolein	EPA 8260B	µg/L	2.5	5	<2.5 J	5
Acrylonitrile	EPA 8260B	µg/L	1	2	<1 J	2
Bromodichloromethane	EPA 8260B	µg/L	0.38	1	<0.38	2
Bromoform	EPA 8260B	µg/L	0.39	1	<0.39	2
Bromomethane	EPA 8260B	µg/L	0.79	1	<0.79	2
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.28	1	<0.28	2
Carbon Tetrachloride	EPA 8260B	μg/L	0.4	0.5	<0.4	2
Chlorobenzene	EPA 8260B	μg/L	0.3	1	<0.3	2
Chloroethane	EPA 8260B	μg/L	0.97	1	<0.97	2

## Table 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2018

Analyte	Analytical Method	Units	MDL	RL	11/15/2018	ML <sup>a</sup>
Chloroform	EPA 8260B	µg/L	0.27	1	<0.27	2
Chloromethane	EPA 8260B	µg/L	0.36	1	<0.36	2
Dibromochloromethane	EPA 8260B	µg/L	0.41	1	<0.41	2
Hexachlorobutadiene	EPA 8260B	µg/L	0.3	1	<0.3	1
Methylene Chloride	EPA 8260B	µg/L	1.9	2	<1.9	2
Naphthalene	EPA 8260B	µg/L	0.42	1	<0.42	1
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.4	1	<0.4	1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.25	1	<0.25	2
Tetrachloroethene	EPA 8260B	µg/L	0.3	1	<0.3	2
Trichloroethene	EPA 8260B	µg/L	0.37	1	<0.37	2
Vinyl Chloride	EPA 8260B	µg/L	0.29	0.5	<0.29	2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	0.44	1	<0.44	1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	0.34	5	<0.34	10
2,4-Dichlorophenol	EPA 8270C	µg/L	0.26	1	<0.26	5
2,4-Dimethylphenol	EPA 8270C	µg/L	0.3	1	<0.3	2
2,4-Dinitrophenol	EPA 8270C	µg/L	0.37	5	<0.37	5
2,4-Dinitrotoluene	EPA 8270C	µg/L	0.87	2	<0.87	5
2,6-Dinitrotoluene	EPA 8270C	µg/L	0.46	2	<0.46	5
2-Chloronaphthalene	EPA 8270C	µg/L	0.23	2	<0.23	10
2-Chlorophenol	EPA 8270C	µg/L	0.85	2	<0.85	5
2-Nitrophenol	EPA 8270C	µg/L	0.39	2	<0.39	10
3,3'-Dichlorobenzidine	EPA 8270C	μg/L	0.41	5	<0.41	5
4,6-Dinitro-2-Methylphenol	EPA 8270C	μg/L	0.43	5	<0.43	5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	0.2	2	<0.2	5
4-Chloro-3-Methylphenol	EPA 8270C	μg/L	0.42	1	<0.42	1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	μg/L	0.2	2	<0.2	5
4-Nitrophenol	EPA 8270C	µg/L	0.66	2	<0.66	10
Acenaphthene	EPA 8270C	μg/L	0.22	1	<0.22	1
Acenaphthylene	EPA 8270C	μg/L	0.2	2	<0.2	10
Anthracene	EPA 8270C	μg/L	0.2	2	<0.2	10
Benzidine	EPA 8270C	μg/L	3	5	<3	5
Benzo (a) Anthracene	EPA 8270C	μg/L	0.3	2	<0.3	5
Benzo (a) Pyrene	EPA 8270C	μg/L	0.21	2	<0.21	10
Benzo (b) Fluoranthene	EPA 8270C	μg/L	0.42	2	<0.42	10
Benzo (g,h,i) Perylene	EPA 8270C	μg/L	0.48	2	<0.48	5
Benzo (k) Fluoranthene	EPA 8270C	μg/L	0.29	2	<0.29	10
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	0.27	2	<0.27	5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	0.86	1	<0.86	1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	1.7	2	<1.7	2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	0.2	3	<0.2	5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	0.26	2	<0.26	10
Chrysene	EPA 8270C	μg/L	0.26	2	<0.26	10
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	0.59	3	<0.59	10
Diethyl Phthalate	EPA 8270C	µg/L	0.2	2	<0.2	2
Dimethyl Phthalate	EPA 8270C	μg/L	0.25	2	<0.25	2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	0.2	2	<0.2	10
Di-n-Octyl Phthalate	EPA 8270C	μg/L	0.31	2	< 0.31	10
Fluoranthene	EPA 8270C	μg/L	0.41	1	<0.41	1
Fluorene	EPA 8270C	μg/L	0.2	2	<0.2	10
Hexachlorobenzene	EPA 8270C	μg/L	0.23	1	<0.23	1
Hexachlorocyclopentadiene	EPA 8270C	µg/∟ µg/L	0.35	1	<0.35	5
Hexachloroethane	EPA 8270C	μg/L	0.9	1	<0.9	1
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/∟ µg/L	0.71	2	<0.71	10

## Table 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2018

SFPP Norwalk Pump Station,	Norwalk,	California
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Analyte	Analytical Method	Units	MDL	RL	11/15/2018	ML <sup>a</sup>
Nitrobenzene	EPA 8270C	µg/L	0.39	1	<0.39	1
N-Nitrosodimethylamine	EPA 8270C	µg/L	0.56	2	<0.56	5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	0.56	2	<0.56	5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	0.27	1	<0.27	1
Pentachlorophenol	EPA 8270C	µg/L	0.43	1	<0.43	5
Phenanthrene	EPA 8270C	µg/L	0.2	2	<0.2	5
Pyrene	EPA 8270C	µg/L	0.31	2	<0.31	10
2,3,7,8-TCDD	EPA 8290	pg/L	2.6	11	<2.6	NE
Asbestos	EPA 600 94 134, 100.2	MFL	0.2	0.2	<0.2	NE
Cyanide (Total)	EPA 335.4	mg/L	0.0017	0.005	0.0071	NE

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.

< = not detected above the MDL

µg/L = micrograms per liter

J = detected at a concentration below the RL and above the MDL; reported value is estimated

MDL = laboratory method detection limit

MFL = million fibers per liter

mg/L = milligrams per liter

ML = minimum level (see note a)

NE = not established

NPDES = National Pollutant Discharge Elimination System

pg/L = picograms per liter

RL = laboratory reporting limit

TCDD = tetrachlorodibenzodioxin

Analyte	Analytical Method	Units	MDL	RL	11/12/2018	11/14/2018	11/15/2018	11/16/2018	ML <sup>a</sup>
рН	SM 4500 HB	s.u.			8.9	9.0	9.2	8.7	NE
Temperature	Temperature	°F			65.6	61.9	69.3	58.7	NE
Hardness (as CaCO3)	SM 2340B	mg/L	1	1			310		NE
2,3,7,8-TCDD	EPA 8290	pg/L	1.9	11			<1.9		NE
Arsenic	EPA 200.8	µg/L	0.081	0.10			2.2		2
Lead	EPA 200.8	µg/L	0.13	0.5			0.28		0.5
Aroclor-1016	EPA 8082	µg/L	0.013	0.04			<0.013		0.5
Aroclor-1221	EPA 8082	µg/L	0.019	0.0			<0.019		0.5
Aroclor-1232	EPA 8082	µg/L	0.013	0.04			<0.013		0.5
Aroclor-1242	EPA 8082	µg/L	0.014	0.04			<0.014		0.5
Aroclor-1248	EPA 8082	µg/L	0.024	0.04			<0.024		0.5
Aroclor-1254	EPA 8082	µg/L	0.012	0.04			<0.012		0.5
Aroclor-1260	EPA 8082	µg/L	0.0068	0.04			<0.0068		0.5
Cadmium	EPA 200.8	µg/L	0.053	0.25			< 0.053		0.25
Mercury	EPA 245.1	µg/L	0.018	0.05			<0.018		0.2
Antimony	EPA 200.8	µg/L	0.16	0.50			0.73		0.50
Beryllium	EPA 200.8	µg/L	0.042	0.50			<0.042		0.50
Total Chromium	EPA 200.8	µg/L	0.13	0.50			0.72		0.50
Chromium (III) (Total Cr - Cr VI)	CALCCR3	µg/L	0.13	0.50			0.21		NA
Copper	EPA 200.8	µg/L	0.26	0.5			1.4		0.5
Nickel	EPA 200.8	µg/L	0.26	1.0			0.72		1
Selenium	EPA 200.8	µg/L	0.36	0.5			2.2		2.0
Silver	EPA 200.8	µg/L	0.230	0.25			<0.23		0.25
Thallium	EPA 200.8	µg/L	0.19	0.5			<0.19		1.0
Zinc	EPA 200.8	µg/L	0.27	1			9.3		1.0
Chromium (VI)	EPA 7199	µg/L	0.033	0.2			0.51		0.5
4,4'-DDD	EPA 8081A	µg/L	0.00049	0.001			< 0.00049		0.05
4,4'-DDE	EPA 8081A	µg/L	0.00048	0.001			<0.00048		0.05
4,4'-DDT	EPA 8081A	µg/L	0.00034	0.001			< 0.00034		0.01
Aldrin	EPA 8081A	µg/L	0.00037	0.001			< 0.00037		0.005
Alpha Endosulfan	EPA 8081A	µg/L	0.0005	0.001			<0.00048		0.02
Alpha-BHC	EPA 8081A	µg/L	0.00046	0.001			<0.00046		0.01
Beta Endosulfan	EPA 8081A	µg/L	0.00059	0.001			<0.00059		0.01
Beta-BHC	EPA 8081A	µg/L	0.00049	0.001			<0.00049		0.005
Chlordane	EPA 8081A	µg/L	0.03	0.10			< 0.03		0.1
Delta-BHC	EPA 8081A	µg/L	0.00048	0.001			<0.00048		0.005
Dieldrin	EPA 8081A	µg/L	0.00046	0.001			<0.00046		0.01
Endosulfan Sulfate	EPA 8081A	µg/L	0.00085	0.001			<0.00085		0.05
Endrin	EPA 8081A	µg/L	0.00072	0.001			< 0.00072		0.01

Analyte	Analytical Method	Units	MDL	RL	11/12/2018	11/14/2018	11/15/2018	11/16/2018	ML <sup>a</sup>
Endrin Aldehyde	EPA 8081A	µg/L	0.00077	0.002			<0.00077		0.01
Gamma-BHC	EPA 8081A	µg/L	0.00048	0.001			<0.00048		0.02
Heptachlor	EPA 8081A	µg/L	0.00039	0.001			< 0.00039		0.01
Heptachlor Epoxide	EPA 8081A	µg/L	0.00084	0.001			<0.00084		0.01
Toxaphene	EPA 8081A	µg/L	0.04	0.4			<0.04		0.5
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.380	1.0			<0.38		2
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.34	1.0			< 0.34		1
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.29	1.0			<0.29		2
1,1-Dichloroethane	EPA 8260B	µg/L	0.45	0.50			<0.45		1.0
1,1-Dichloroethene	EPA 8260B	µg/L	0.34	1.00			<0.34		2
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.210	1.0			<0.21		5
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.29	1.0			<0.29		2
1,2-Dichloroethane	EPA 8260B	µg/L	0.29	0.50			<0.29		2.0
1,2-Dichloropropane	EPA 8260B	µg/L	0.24	1.0			<0.24		1
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.280	1.0			<0.28		1
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.32	1.0			< 0.32		1
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	0.29	0.5			<0.29		1
Acrolein	EPA 8260B	µg/L	2.5	5			<2.5 J		5
Acrylonitrile	EPA 8260B	µg/L	1.00	2			<1 J		2
Benzene	EPA 8260B	µg/L	0.34	1.0			<0.34		2.0
Bromodichloromethane	EPA 8260B	µg/L	0.38	1.0			<0.38		2
Bromoform	EPA 8260B	µg/L	0.39	1.0			<0.39		2
Bromomethane	EPA 8260B	µg/L	0.79	1			<0.79		2
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.28	1.0			<0.28		2
Carbon Tetrachloride	EPA 8260B	µg/L	0.40	0.5			<0.4		2
Chlorobenzene	EPA 8260B	µg/L	0.3	1.0			<0.3		2
Chloroethane	EPA 8260B	µg/L	0.97	1.0			<0.97		2
Chloroform	EPA 8260B	µg/L	0.27	1.0			<0.27		2
Chloromethane	EPA 8260B	µg/L	0.36	1.0			<0.36		2
Dibromochloromethane	EPA 8260B	µg/L	0.41	1.0			<0.41		2
Ethylbenzene	EPA 8260B	µg/L	0.3	1			<0.31		2.0
Hexachlorobutadiene	EPA 8260B	µg/L	0.3	1			<0.3		1
Hexachlorobenzene	EPA 8270C	µg/L	0.2	1			<0.23		1
Hexachloroethane	EPA 8270C	µg/L	0.9	1			<0.9		1
Methylene Chloride	EPA 8260B	µg/L	1.90	2.0			<1.9		2
Naphthalene	EPA 8260B	µg/L	0.42	1			<0.42		1
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.400	1.0			<0.4		1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.25	1.0			<0.25		2
Tetrachloroethene	EPA 8260B	µg/L	0.30	1.0			<0.3		2

Analyte	Analytical Method	Units	MDL	RL	11/12/2018	11/14/2018	11/15/2018	11/16/2018	ML <sup>a</sup>
Toluene	EPA 8260B	µg/L	0.46	2.0			<0.46		2.0
Trichloroethene	EPA 8260B	µg/L	0.370	1.0			<0.37		2
Vinyl Chloride	EPA 8260B	µg/L	0.29	0.5			<0.29		2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	0.44	1			<0.44		1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	0.34	5			<0.34		10
2,4-Dichlorophenol	EPA 8270C	µg/L	0.26	1			<0.26		5
2,4-Dimethylphenol	EPA 8270C	µg/L	0.3	1			<0.3		2
2,4-Dinitrophenol	EPA 8270C	µg/L	0.37	5			<0.37		5
2,4-Dinitrotoluene	EPA 8270C	µg/L	0.9	2			<0.87		5
2,6-Dinitrotoluene	EPA 8270C	µg/L	0.5	2			<0.46		5
2-Chloronaphthalene	EPA 8270C	µg/L	0.2	2			<0.23		10
2-Chlorophenol	EPA 8270C	µg/L	0.9	2			<0.85		5
2-Nitrophenol	EPA 8270C	µg/L	0.39	2			<0.39		10
3,3'-Dichlorobenzidine	EPA 8270C	µg/L	0.41	5			<0.41		5
4,6-Dinitro-2-Methylphenol	EPA 8270C	µg/L	0.43	5			<0.43		5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	0.2	2			<0.2		5
4-Chloro-3-Methylphenol	EPA 8270C	µg/L	0.42	1			<0.42		1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	µg/L	0.2	2			<0.2		5
4-Nitrophenol	EPA 8270C	µg/L	0.66	2			<0.66		10
Acenaphthene	EPA 8270C	µg/L	0.22	1			<0.22		1
Acenaphthylene	EPA 8270C	µg/L	0.2	2			<0.2		10
Anthracene	EPA 8270C	µg/L	0.2	2			<0.2		10
Benzidine	EPA 8270C	µg/L	3	5			<3		5
Benzo (a) Anthracene	EPA 8270C	µg/L	0.3	2			<0.3		5
Benzo (a) Pyrene	EPA 8270C	µg/L	0.21	2			<0.21		10
Benzo (b) Fluoranthene	EPA 8270C	µg/L	0.42	2			<0.42		10
Benzo (g,h,i) Perylene	EPA 8270C	µg/L	0.48	2			<0.48		5
Benzo (k) Fluoranthene	EPA 8270C	µg/L	0.29	2			<0.29		10
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	0.27	2			<0.27		5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	0.9	1			<0.86		1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	1.7	2			<1.7		2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	0.2	3			<0.2		5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	0.3	2			<0.26		10
Chrysene	EPA 8270C	µg/L	0.26	2			<0.26		10
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	0.59	3			<0.59		10
Diethyl Phthalate	EPA 8270C	µg/L	0.2	2			<0.2		2
Dimethyl Phthalate	EPA 8270C	µg/L	0.25	2			<0.25		2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	0.2	2			<0.2		10
Di-n-Octyl Phthalate	EPA 8270C	µg/L	0.3	2			<0.31		10

SFPP Norwalk Pump Station, Norwalk, California

Analyte	Analytical Method	Units	MDL	RL	11/12/2018	11/14/2018	11/15/2018	11/16/2018	ML <sup>a</sup>
Fluoranthene	EPA 8270C	µg/L	0.41	1			<0.41		1
Fluorene	EPA 8270C	µg/L	0.2	2			<0.2		10
Hexachlorocyclopentadiene	EPA 8270C	µg/L	0.35	1			<0.35		5
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/L	0.71	2			<0.71		10
Isophorone	EPA 8270C	µg/L	0.41	1			<0.41		1
Nitrobenzene	EPA 8270C	µg/L	0.39	1			<0.39		1
N-Nitrosodimethylamine	EPA 8270C	µg/L	0.56	2			<0.56		5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	0.56	2			<0.56		5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	0.3	1			<0.27		1
Pentachlorophenol	EPA 8270C	µg/L	0.4	1			<0.43		5
Phenanthrene	EPA 8270C	µg/L	0.2	2			<0.2		5
Phenol	EPA 8270C	µg/L	0.84	1			<0.84		1
Pyrene	EPA 8270C	µg/L	0.31	2			<0.31		10
Cyanide (Total)	EPA 335.4	mg/L	0.0017	0.005			0.0017		NE
Asbestos	EPA 600 94 134, 100.2	MFL	0.2	0.2			<0.2		NE
Salinity	SM 2520B	ppt			0.4	0.6	0.5	0.8	NE

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.

< = not detected above the MDL

µg/L = micrograms per liter

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

MDL = laboratory method detection limit

MFL = million fibers per liter

mg/L = milligrams per liter

ML = minimum level. See note 1.

NE = not established

NPDES = National Pollutant Discharge Elimination System

pg/L = picograms per liter

ppt = parts per trillion

RL = laboratory reporting limit

TCDD = tetrachlorodibenzodioxin

#### Table 6. NPDES TCDD Equivalent Calculation, Fourth Quarter 2018

SFPP Norwalk Pump Station, Norwalk, California

Dioxin or Furan Congener <sup>a</sup>	Analysis Method	Units	Effluent Concentration (11/15/18) <sup>b</sup>	Receiving Water (RSW-001) Concentration (11/15/18) <sup>b</sup>	TEF	Effluent Concentration x TEF <sup>c</sup>	Receiving Water (RSW-001) Concentration x TEF <sup>c</sup>
1,2,3,4,6,7,8-Hepta CDD	EPA 8290	pg/L	<5.2	4.2	0.01	2.60E-02	4.20E-02
1,2,3,4,6,7,8-Hepta CDF	EPA 8290	pg/L	<3.5	<2.2	0.01	1.75E-02	1.10E-02
1,2,3,4,7,8,9-Hepta CDF	EPA 8290	pg/L	<4.3	<3	0.01	2.15E-02	1.50E-02
1,2,3,4,7,8-Hexa CDD	EPA 8290	pg/L	<4	<2	0.1	2.00E-01	1.00E-01
1,2,3,4,7,8-Hexa CDF	EPA 8290	pg/L	<3.5	<1.6	0.1	1.75E-01	8.00E-02
1,2,3,6,7,8-Hexa CDD	EPA 8290	pg/L	<3.1	<2.1	0.1	1.55E-01	1.05E-01
1,2,3,6,7,8-Hexa CDF	EPA 8290	pg/L	<3.1	<1.7	0.1	1.55E-01	8.50E-02
1,2,3,7,8,9-Hexa CDD	EPA 8290	pg/L	<3.7	<2.1	0.1	1.85E-01	1.05E-01
1,2,3,7,8,9-Hexa CDF	EPA 8290	pg/L	<3.6	<1.6	0.1	1.80E-01	8.00E-02
1,2,3,7,8-Penta CDD	EPA 8290	pg/L	<3.9	<1.7	1	1.95E+00	8.50E-01
1,2,3,7,8-Penta CDF	EPA 8290	pg/L	<3.2	<2	0.05	8.00E-02	5.00E-02
2,3,4,6,7,8-Hexa CDF	EPA 8290	pg/L	<2.8	<1.5	0.1	1.40E-01	7.50E-02
2,3,4,7,8-Penta CDF	EPA 8290	pg/L	<1.3	<1.1	0.5	3.25E-01	2.75E-01
2,3,7,8-Tetra CDD	EPA 8290	pg/L	<2.6	<1.9	1	1.30E+00	9.50E-01
2,3,7,8-Tetra CDF	EPA 8290	pg/L	<2.1	<1.5	0.1	1.05E-01	7.50E-02
Octa CDD	EPA 8290	pg/L	<13	27	0.0001	6.50E-04	2.70E-03
Octa CDF	EPA 8290	pg/L	<12	<6.4	0.0001	6.00E-04	3.20E-04
TCDD-Equivalent						5.0	2.9

Notes:

<sup>a</sup> Congeners per California Regional Water Quality Control Board Waste Discharge Requirements

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

<sup>c</sup> If the result is not detected, half the method detection limit for the respective congener is used to calculate TCDD-Equivalent

CDD = chlorodibenzodioxin

CDF = chlordibenzofuran

NPDES = National Pollutant Discharge Elimination System

pg/L = picograms per liter

TCDD = tetrachlorodibenzodioxin

TEF = toxicity equivalency factor

#### Table 7. NPDES Effluent Chronic Toxicity Monitoring, Fourth Quarter 2018

	11/12/2018, 11/14/2018, 11/16/2018									
	Sampling Dates Test Dates									
		EFF- (Efflu		RSW-002 (Downstream)		RSW-002 (Downstream)				
Test Organism	Toxicity Endpoint	% Effect	TST Result	% Effect	TST Result	% Effect	TST Result			
Larva Fathead Minnows	Survival	No Effect	Pass	40 <sup>a</sup>	Fail	52 <sup>b</sup>	Fail			
(Pimephales promelas)	Growth	No Effect	Pass	29 <sup>a</sup>	Fail	47 <sup>b</sup>	Fail			

SFPP Norwalk Pump Station, Norwalk, California

Notes:

<sup>a</sup> Laboratory adjustment of test solutions to pH 7 (in response to the observation of pH >9.0, which could potentially interfere with the receiving water test; the test solution and an accompanying laboratory water control medium were adjusted to pH 7 via manual dropwise addition of ACS reagent-grade hydrochloric acid [HCI] and sodium hydroxide [NaOH]).

<sup>b</sup> Unadjusted.

The Maximum Daily Effluent Limitation 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 Toxicity Identification Evaluation will be conducted on any effluent sample that

causes a chronic result of "Fail" with an effect >50%.

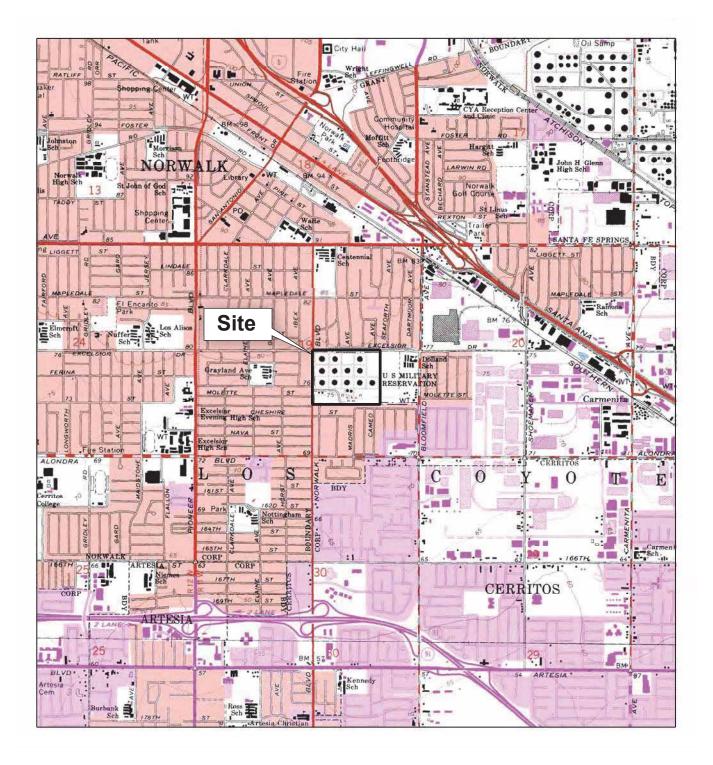
Accelerated testing will be implemented if the MMEL result is a "Fail" or if a single

effluent toxicity test results in a "Fail" with % effect >50%.

NPDES = National Pollutant Discharge Elimination System

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

**Figures** 



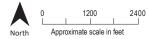
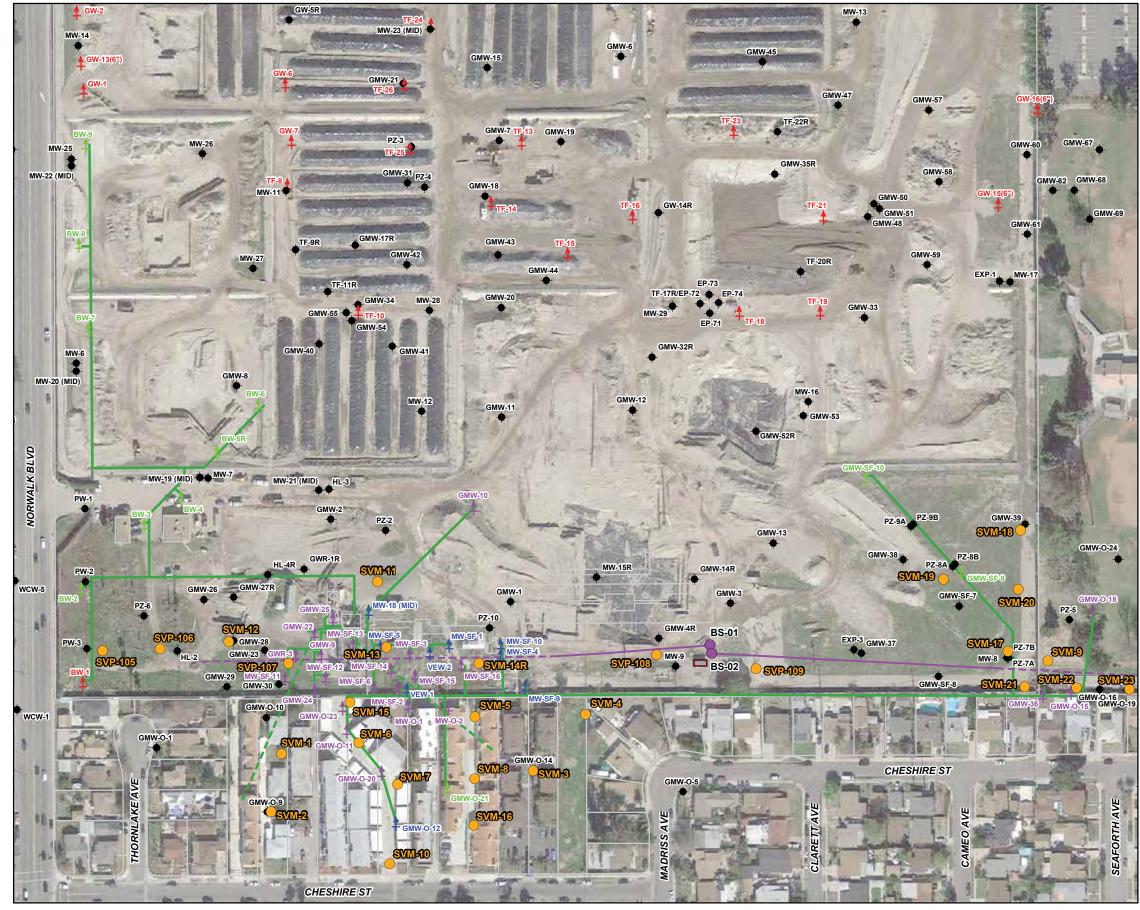


Figure 1. Site Location Map SFPP Norwalk Pump Station Norwalk, California

**JACOBS** 

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.

EN1014151027SCO Figure1.pdf 10/15



R:\ENBG\00\_PROJ\K\KINDERMORGANINORWALK\MAPFILES\2018\FIGURE\_2\_REMEDIATION\_SYSTEM\_LAYOUT.MXD\_AESPEJO 2/15/2018

#### LEGEND

$\bigcirc$	Soil Vapor Probe/Soil Vapor Monitoring Probe
	Horizontal Biosparge Well Entry Point
	Existing Groundwater Monitoring Well
4	Existing Remediation Well
<b></b>	Kinder Morgan Combined Soil Vapor and Total Fluids Extraction Wells
4	Kinder Morgan Soil Vapor Extraction Wells
4	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.

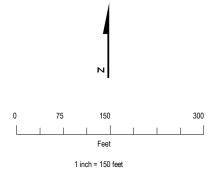


Figure 2. Remediation System Layout SFPP Norwalk Pump Station Norwalk, California



Attachment A Laboratory Analytical Reports, Chain-of-Custody Documents, and Field Measurements October 24, 2018

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

Workorder No.: N032525

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 16, 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,

men -und"

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.



"Serving Clients with Passion and Professionalism"

 CALIFORNIA
 P:562.219.7435
 F:562.219.7436

 11110
 Artesia
 Blvd.,
 Ste B,
 Cerritos,
 CA 90703

 ELAP
 Cert
 2921
 EPA ID
 CA01638

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

#### ASSET Laboratories

CLIENT:	CH2MHill
Project:	SFPP Norwalk
Lab Order:	N032525

## 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.

Subcontracted Analyses:

EPA 8015B for DRO, ORO and GRO was subcontracted to BC Laboratories, Bakersfield, CA. Total TPH was calculated and reported in the lab based on Subcon Lab's result.

Analytical Comment for EPA 200.8:

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

Analytical Comments for EPA 8260B:

Laboratory Control Sample (LCS) recovery biased high for tert-Butanol. Sample results were non-detect (ND) for this analyte therefore reanalysis of the samples was not necessary.

RPD for Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) is outside criteriafor tert-Butanol. Sample results were non-detect (ND) for this analyte therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 8270C\_SIM\_Phenol:

CLIENT:	CH2MHill
Project:	SFPP Norwalk
Lab Order:	N032525

## **CASE NARRATIVE**

Laboratory Control Sample Duplicate (LCSD) recovery biased high for surrogate 4-Terphenyl-d14. Sample results were non-detect (ND) for these analytes therefore reanalysis of the samples was not necessary.

Surrogate 4-Terphenyl-d14 recovery for Method Blank is biased high; however the results were nondetect (ND) for analytes of interest and reanalysis of the sample was not necessary.

Surrogate 4-Terphenyl-d14 recovery biased high in N032525-001 possibly due to matrix interferences. Sample results were non-detect (ND) for analytes of interest therefore reanalysis of the sample was not necessary.



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## **ASSET Laboratories**

CLIENT:CH2MHillProject:SFPP NorwalkLab Order:N032525

## **Contract No:**

## Work Order Sample Summary

Lab Sample ID Client Sample ID	Matrix	<b>Collection Date</b>	Date Received	Date Reported
N032525-001A EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	10/16/2018	10/24/2018
N032525-001B EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	10/16/2018	10/24/2018
N032525-001C EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	10/16/2018	10/24/2018
N032525-001D EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	10/16/2018	10/24/2018
N032525-001E EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	10/16/2018	10/24/2018

#### **ASSET Laboratories**

## **ANALYTICAL RESULTS**

Print Date: 24-Oct-18

CLIENT:	CH2MHill	Client Sample ID: EFF-10-16								
Lab Order:	N032525		Collection Date: 10/16/2018 1:30:00 PM							
Project:	SFPP Norwalk	Matrix: WASTEWATER								
Lab ID:	N032525-001									
Analyses		Result	MDL	PQL	Qual	Units	DF	Date Analyzed		
SEMIVOLATILE	E ORGANIC COMP		MS	504	00700					
RunID: NV0092	22-MS3_181023A	EPA 3510C QC Batch: 710	04	EPA	A 8270C	)oto:	10/18/2018	Applyate DDC		
	22-MI35_101023A				PrepD			Analyst: RRS		
Phenol	blaashaanna dd	ND	0.33	1.0		µg/L	1	10/23/2018 03:41 PM		
	hlorobenzene-d4	60.0	0	24-101		%REC	1	10/23/2018 03:41 PM		
Surr: 2-Fluor		71.0	0	29-102	<u> </u>	%REC	1 1	10/23/2018 03:41 PM		
Surr: 4-Terpl Surr: Phenol	-	132 39.0	0 0	27-108 25-108	S	%REC %REC	1	10/23/2018 03:41 PM 10/23/2018 03:41 PM		
	-05 GANIC COMPOUN		0	23-108		MREC	I	10/23/2010 03.41 FM		
VOLATILE OK				EPA	A 8260B					
RunID: CA0163	38-MS10_181016A	QC Batch: CA	18VW033		PrepE	Date:		Analyst: GAC		
1,1-Dichloroeth	ane	ND	0.45	0.50		ug/L	1	10/16/2018 03:52 PM		
1,2-Dichloroeth	ane	ND	0.29	0.50		ug/L	1	10/16/2018 03:52 PM		
Benzene		ND	0.34	1.0		ug/L	1	10/16/2018 03:52 PM		
Ethylbenzene		ND	0.31	1.0		ug/L	1	10/16/2018 03:52 PM		
m,p-Xylene		ND	0.23	1.0		ug/L	1	10/16/2018 03:52 PM		
MTBE		ND	0.34	1.0		ug/L	1	10/16/2018 03:52 PM		
o-Xylene		ND	0.31	1.0		ug/L	1	10/16/2018 03:52 PM		
Tert-Butanol		ND	2.4	5.0		ug/L	1	10/16/2018 03:52 PM		
Toluene		ND	0.46	2.0		ug/L	1	10/16/2018 03:52 PM		
Xylenes, Total		ND	1.5	2.0		ug/L	1	10/16/2018 03:52 PM		
	hloroethane-d4	94.9	0	72-119		%REC	1	10/16/2018 03:52 PM		
	ofluorobenzene	91.2	0	76-119		%REC	1	10/16/2018 03:52 PM		
	ofluoromethane	101	0	85-115		%REC	1	10/16/2018 03:52 PM		
	e-d8 COLD VAPOR TE(	96.6	0	81-120		%REC	1	10/16/2018 03:52 PM		
MERCORT BI	COLD VAPOR TEX			EP	A 245.1					
RunID: NV0092	2-AA1_181017A	QC Batch: 710	067		PrepE	Date:	10/17/2018	Analyst: MG		
Mercury		ND	0.018	0.050		µg/L	1	10/17/2018 11:34 AM		
TOTAL METAL	S BY ICPMS									
				EP/	A 200.8					
	22-ICP7_181017B	QC Batch: 710		0.55	PrepD		10/17/2018	Analyst: CEI		
Copper		ND	0.26	0.50		µg/L	1	10/17/2018 02:44 PM		
Lead		ND	0.13	0.50		µg/L	1	10/17/2018 02:44 PM		
Zinc		ND	0.27	1.0		µg/L	1	10/17/2018 02:44 PM		
Qualifiers: B	Analyte detected in the	e associated Method F	Blank	E	Value abov	ve quantita	tion range			
н	•	or preparation or analysis exceeded J Analyte detected below quantitation limits					iits			
ND	Not Detected at the Re	-		S Spike/Surrogate outside of limits due to matrix interference						
	Results are wet unless			~	Surrogate	-				



ASSET LABORATORIES

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ASSET I	Laboratories			ANALY IICAL KESULIS Print Date: 24-Oct-18					
CLIENT:	CH2MHill		C	lient Sample ID: EFF	7-10-16				
Lab Order	: N032525		Collection Date: 10/16/2018 1:30:00 PM						
Project:	SFPP Norwalk			Matrix: WA	STEWATE	ER			
Lab ID:	N032525-001								
Analyses		Result MDL	PQL	Qual Units	DF	Date Analyzed			
TOTAL TP	ΡH								
			EP.	A 8015B					
RunID: S	UBCONTRACT_181024A	QC Batch: R129493		PrepDate:		Analyst: admin			
Total TPH	1	ND 16	100	ug/L	1	10/24/2018			

#### Qualifiers:

В

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

ASSET LABORATORIES

- 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

#### **ASSET** Laboratories

**CLIENT:** CH2MHill Work Order: N032525

#### SFPP Norwalk **Project:**

## ANALYTICAL QC SUMMARY REPORT

#### TestCode: 200.8\_W\_SFPP

Sample ID: MB-71071	SampType: MBLK	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 10/17/2018	RunNo: 129329
Client ID: PBW	Batch ID: 71071	TestNo: EPA 200.8	Analysis Date: 10/17/2018	SeqNo: 3176526
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: LCS-71071	SampType: LCS	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 10/17/2018	RunNo: 129329
Client ID: LCSW	Batch ID: 71071	TestNo: EPA 200.8	Analysis Date: 10/17/2018	SeqNo: 3176527
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Copper	10.028	0.50 10.00 0	100 85 115	
Lead	9.712	0.50 10.00 0	97.1 85 115	
Zinc	197.575	1.0 200.0 0	98.8 85 115	
Sample ID: N032525-001C-DUF	SampType: DUP	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 10/17/2018	RunNo: 129329
	Batch ID: 71071	TestNo: EPA 200.8	Analysis Date: 10/17/2018	SeqNo: 3176529
Client ID: ZZZZZZ		TestNo: EPA 200.8 PQL SPK value SPK Ref Val	Analysis Date: <b>10/17/2018</b> %REC LowLimit HighLimit RPD Ref Val	SeqNo: <b>3176529</b> %RPD RPDLimit Qual
Client ID: ZZZZZZ Analyte Copper	Batch ID: 71071		·	
Client ID: ZZZZZZ Analyte Copper	Batch ID: 71071 Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Client ID: ZZZZZZ Analyte Copper Lead	Batch ID: 71071 Result ND	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Client ID: ZZZZZZ Analyte Copper Lead Zinc	Batch ID: 71071 Result ND ND	PQL SPK value SPK Ref Val 0.50 0.50	%REC LowLimit HighLimit RPD Ref Val 0 0	%RPD RPDLimit Qual 0 20 0 20
Client ID: ZZZZZZ Analyte Copper Lead Zinc Sample ID: N032525-001C-MS	Batch ID: 71071 Result ND ND ND	PQL SPK value SPK Ref Val 0.50 0.50 1.0	%REC LowLimit HighLimit RPD Ref Val 0 0 0 0	%RPD         RPDLimit         Qual           0         20         0           0         20         0           0         20         0           0         20         0
Client ID: ZZZZZZ Analyte Copper Lead Zinc Sample ID: N032525-001C-MS Client ID: ZZZZZZ	Batch ID: 71071 Result ND ND SampType: MS	PQL         SPK value         SPK Ref Val           0.50	%REC LowLimit HighLimit RPD Ref Val 0 0 0 0 Prep Date: 10/17/2018	%RPD         RPDLimit         Qual           0         20         20           0         20         20           0         20         20
Client ID: ZZZZZZ	Batch ID: 71071 Result ND ND ND SampType: MS Batch ID: 71071	PQL         SPK value         SPK Ref Val           0.50	%REC LowLimit HighLimit RPD Ref Val 0 0 0 Prep Date: 10/17/2018 Analysis Date: 10/17/2018	% RPD         RPDLimit         Qual           0         20         20           0         20         20           0         20         20
Client ID: ZZZZZZ Analyte Copper Lead Zinc Sample ID: N032525-001C-MS Client ID: ZZZZZZ Analyte	Batch ID: 71071 Result ND ND ND SampType: MS Batch ID: 71071 Result	PQL       SPK value       SPK Ref Val         0.50       0.50       1.0         TestCode: 200.8_W_SFP Units: µg/L         TestNo: EPA 200.8         PQL       SPK value       SPK Ref Val	%REC       LowLimit       HighLimit       RPD Ref Val         0       0       0       0      <	%RPD         RPDLimit         Qual           0         20         20           0         20         20           0         20         20           RunNo:         129329         30           SeqNo:         3176531         40

#### Qualifiers:

J

- В Analyte detected in the associated Method Blank
  - Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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#### CLIENT: CH2MHill

Work Order:N032525Project:SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_SFPP

Sample ID: N032525-0	01C-MSD SampType: MSD	TestC	ode: 200.8_W_	SFP Units: µg/L		Prep Dat	te: 10/17/2	018	RunNo: 129	9329	
Client ID: ZZZZZZ	Batch ID: 71071	Tes	tNo: EPA 200.8	3		Analysis Da	te: 10/17/2	018	SeqNo: 317	76532	
Analyte	Resul	t PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.30	6 0.50	10.00	0	73.1	75	125	7.183	1.71	20	S
Lead	9.600	0.50	10.00	0	96.0	75	125	9.631	0.317	20	
Zinc	169.920	) 1.0	200.0	0	85.0	75	125	169.2	0.401	20	

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

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EPA ID CA01638

ND Not Detected at the Reporting Limit

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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#### CLIENT: CH2MHill

Work Order:N032525Project:SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1\_W\_LL

Sample ID: MB-71067	SampType: <b>MBLK</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 10/17/2018	RunNo: <b>129316</b>
Client ID: PBW	Batch ID: 71067	TestNo: EPA 245.1	Analysis Date: 10/17/2018	SeqNo: 3176264
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	0.030	0.050		J
Sample ID: LCS-71067	SampType: LCS	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 10/17/2018	RunNo: 129316
Client ID: LCSW	Batch ID: 71067	TestNo: EPA 245.1	Analysis Date: 10/17/2018	SeqNo: 3176265
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.642	0.050 2.500 0	106 85 115	
Sample ID: N032525-001C-MS	SampType: <b>MS</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 10/17/2018	RunNo: 129316
Client ID: ZZZZZZ	Batch ID: 71067	TestNo: EPA 245.1	Analysis Date: 10/17/2018	SeqNo: 3176266
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.487	0.050 2.500 0	99.5 75 125	
Sample ID: N032525-001C-MSD	SampType: <b>MSD</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 10/17/2018	RunNo: 129316
Client ID: ZZZZZZ	Batch ID: 71067	TestNo: <b>EPA 245.1</b>	Analysis Date: 10/17/2018	SeqNo: <b>3176267</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.527	0.050 2.500 0	101 75 125 2.487	1.57 20
Sample ID: N032525-001C-DUP	SampType: <b>DUP</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 10/17/2018	RunNo: 129316
Client ID: ZZZZZZ	Batch ID: 71067	TestNo: EPA 245.1	Analysis Date: 10/17/2018	SeqNo: 3176269
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:

J

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Calculations are based on raw values

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- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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#### CLIENT: CH2MHill Work Order: N032525

**Project:** SFPP Norwalk

#### ANALYTICAL QC SUMMARY REPORT

TestCode: 8015\_W\_SFPPTOT

Sample ID: MB-R129493 Client ID: PBW	SampType: <b>MBLK</b> Batch ID: <b>R129493</b>	TestCode: 8015_W_SFP Units: ug/L TestNo: EPA 8015B				Prep Da Analysis Da	te: te: <b>10/24/2</b>	RunNo: 129 SeqNo: 318			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	100									

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

 Calculations are based on raw values

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- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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#### **CLIENT:** CH2MHill

Work Order: N032525 **Project:** SFPP Norwalk

#### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: CA181016-LCS	SampType: LCS	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Dat	te:		RunNo: 129	9302	
Client ID: LCSW	Batch ID: CA18VW033	Test	No: EPA 8260	В		Analysis Da	te: 10/16/2	018	SeqNo: 317	75311	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	21.890	0.50	20.00	0	109	69	133				
1,2-Dichloroethane	17.600	0.50	20.00	0	88.0	69	132				
Benzene	19.310	1.0	20.00	0	96.6	81	122				
Ethylbenzene	19.670	1.0	20.00	0	98.4	73	127				
m,p-Xylene	40.050	1.0	40.00	0	100	76	128				
МТВЕ	22.240	1.0	20.00	0	111	65	123				
o-Xylene	19.900	1.0	20.00	0	99.5	80	121				
Tert-Butanol	105.260	5.0	100.0	0	105	70	130				
Toluene	18.410	2.0	20.00	0	92.0	77	122				
Xylenes, Total	59.950	2.0	60.00	0	99.9	75	125				
Surr: 1,2-Dichloroethane-d4	24.550		25.00		98.2	72	119				
Surr: 4-Bromofluorobenzene	25.440		25.00		102	76	119				
Surr: Dibromofluoromethane	25.900		25.00		104	85	115				
Surr: Toluene-d8	25.420		25.00		102	81	120				
										3302	
Sample ID: CA181016-LCSD	SampType: LCSD	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Dat	te:		RunNo: 129	502	
Sample ID: CA181016-LCSD Client ID: LCSS02	SampType: LCSD Batch ID: CA18VW033		de: 8260_WP <sub>-</sub> No: EPA 8260			Prep Dat Analysis Dat		018	RunNo: 129 SeqNo: 317		
Client ID: LCSS02			No: EPA 8260		%REC	Analysis Da	te: 10/16/2	RPD Ref Val			Qual
Client ID: LCSS02 Analyte	Batch ID: CA18VW033	Test	No: EPA 8260	B		Analysis Da	te: 10/16/2		SeqNo: 317	75312	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane	Batch ID: CA18VW033 Result	Testl PQL	No: EPA 8260	B SPK Ref Val	%REC	Analysis Da LowLimit	te: <b>10/16/2</b> HighLimit	RPD Ref Val	SeqNo: 317 %RPD	75312 RPDLimit	Qual
·	Batch ID: CA18VW033 Result 21.370	Testi PQL 0.50	No: EPA 8260 SPK value 20.00	B SPK Ref Val	%REC 107	Analysis Da LowLimit 69	te: <b>10/16/2</b> HighLimit 133	RPD Ref Val 21.89	SeqNo: 317 %RPD 2.40	7 <b>5312</b> RPDLimit 20	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane	Batch ID: CA18VW033 Result 21.370 18.400	Test PQL 0.50 0.50	No: EPA 8260 SPK value 20.00 20.00	B SPK Ref Val 0 0	%REC 107 92.0	Analysis Da LowLimit 69 69	te: <b>10/16/2</b> HighLimit 133 132	RPD Ref Val 21.89 17.60	SeqNo: 317 %RPD 2.40 4.44	<b>75312</b> RPDLimit 20 20	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane Benzene Ethylbenzene	Batch ID: CA18VW033 Result 21.370 18.400 20.210	Test PQL 0.50 0.50 1.0	No: EPA 8260 SPK value 20.00 20.00 20.00	B SPK Ref Val 0 0 0	%REC 107 92.0 101	Analysis Dat LowLimit 69 69 81	te: <b>10/16/2</b> HighLimit 133 132 122	RPD Ref Val 21.89 17.60 19.31	SeqNo: 317 %RPD 2.40 4.44 4.55	75312 RPDLimit 20 20 20	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane Benzene Ethylbenzene m,p-Xylene	Batch ID: CA18VW033 Result 21.370 18.400 20.210 19.990	Test PQL 0.50 0.50 1.0 1.0	No: EPA 8260 SPK value 20.00 20.00 20.00 20.00	B SPK Ref Val 0 0 0 0	%REC 107 92.0 101 100	Analysis Dar LowLimit 69 69 81 73	te: 10/16/2 HighLimit 133 132 122 127	RPD Ref Val 21.89 17.60 19.31 19.67	SeqNo: 317 %RPD 2.40 4.44 4.55 1.61	75312 RPDLimit 20 20 20 20	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane Benzene	Batch ID: CA18VW033 Result 21.370 18.400 20.210 19.990 41.800	Test PQL 0.50 0.50 1.0 1.0 1.0	No: EPA 8260 SPK value 20.00 20.00 20.00 20.00 40.00	B SPK Ref Val 0 0 0 0 0	%REC 107 92.0 101 100 104	Analysis Dar LowLimit 69 69 81 73 76	te: 10/16/2 HighLimit 133 132 122 127 128	RPD Ref Val 21.89 17.60 19.31 19.67 40.05	SeqNo: 317 %RPD 2.40 4.44 4.55 1.61 4.28	75312 RPDLimit 20 20 20 20 20 20	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane Benzene Ethylbenzene m,p-Xylene MTBE o-Xylene	Batch ID: CA18VW033 Result 21.370 18.400 20.210 19.990 41.800 23.270	Test PQL 0.50 1.0 1.0 1.0 1.0 1.0	No: EPA 8260 SPK value 20.00 20.00 20.00 20.00 40.00 20.00	B SPK Ref Val 0 0 0 0 0 0 0	%REC 107 92.0 101 100 104 116	Analysis Dar LowLimit 69 69 81 73 76 65	te: 10/16/2 HighLimit 133 132 122 127 128 123	RPD Ref Val 21.89 17.60 19.31 19.67 40.05 22.24	SeqNo: 317 %RPD 2.40 4.44 4.55 1.61 4.28 4.53	<b>RPDLimit</b> 20 20 20 20 20 20 20 20 20 20 20 20 20	Qual
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane Benzene Ethylbenzene m,p-Xylene MTBE	Batch ID: CA18VW033 Result 21.370 18.400 20.210 19.990 41.800 23.270 20.660	Test PQL 0.50 0.50 1.0 1.0 1.0 1.0 1.0 1.0	No: EPA 8260 SPK value 20.00 20.00 20.00 20.00 40.00 20.00 20.00	B SPK Ref Val 0 0 0 0 0 0 0 0 0	%REC 107 92.0 101 100 104 116 103	Analysis Dar LowLimit 69 69 81 73 76 65 80	te: 10/16/2 HighLimit 133 132 122 127 128 123 121	RPD Ref Val 21.89 17.60 19.31 19.67 40.05 22.24 19.90	SeqNo: 317 %RPD 2.40 4.44 4.55 1.61 4.28 4.53 3.75	<b>RPDLimit</b> 20 20 20 20 20 20 20 20 20 20 20 20 20	
Client ID: LCSS02 Analyte 1,1-Dichloroethane 1,2-Dichloroethane Benzene Ethylbenzene m,p-Xylene MTBE o-Xylene Tert-Butanol	Batch ID: CA18VW033 Result 21.370 18.400 20.210 19.990 41.800 23.270 20.660 130.720	Test PQL 0.50 0.50 1.0 1.0 1.0 1.0 1.0 5.0	No: EPA 8260 SPK value 20.00 20.00 20.00 40.00 20.00 20.00 20.00 20.00 100.0	B SPK Ref Val 0 0 0 0 0 0 0 0 0 0 0 0 0 0	%REC 107 92.0 101 100 104 116 103 131	Analysis Dar LowLimit 69 69 81 73 76 65 80 70	te: 10/16/2 HighLimit 133 132 122 127 128 123 121 130	RPD Ref Val 21.89 17.60 19.31 19.67 40.05 22.24 19.90 105.3	SeqNo: 317 %RPD 2.40 4.44 4.55 1.61 4.28 4.53 3.75 21.6	<b>RPDLimit</b> 20 20 20 20 20 20 20 20 20 20 20 20 20	

#### Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits

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- Е Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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#### CLIENT: CH2MHill

# Work Order:N032525Project:SFPP Norwalk

#### ANALYTICAL QC SUMMARY REPORT

#### TestCode: 8260\_WP\_SFPP

Sample ID: CA181016-LCSD	SampType: LCSD	TestCode: 8260	_WP_SF Units: ug/L		Prep Da	ate:		RunNo: 129	302	
Client ID: LCSS02	Batch ID: CA18VW033	TestNo: EPA	8260B		Analysis Da	ate: 10/16/2	2018	SeqNo: 317	5312	
Analyte	Result	PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	25.710	2	5.00	103	76	119		0		
Surr: Dibromofluoromethane	27.070	2	5.00	108	85	115		0		
Surr: Toluene-d8	25.520	2	5.00	102	81	120		0		
Sample ID: CA181016-MB3	SampType: MBLK	TestCode: 8260	_WP_SF Units: ug/L		Prep Da	ate:		RunNo: 129	302	
Client ID: PBW	Batch ID: CA18VW033	TestNo: EPA	8260B		Analysis Da	ate: 10/16/2	2018	SeqNo: 317	5315	
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								
МТВЕ	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	24.110	2	5.00	96.4	72	119				
Surr: 4-Bromofluorobenzene	23.750	2	5.00	95.0	76	119				
Surr: Dibromofluoromethane	25.540	2	5.00	102	85	115				
Surr: Toluene-d8	24.570	2	25.00	98.3	81	120				
Sample ID: N032525-001A-MS	SampType: <b>MS</b>	TestCode: 8260	_WP_SF Units: ug/L		Prep Da	ate:		RunNo: 129	302	
Client ID: ZZZZZZ	Batch ID: CA18VW033	TestNo: EPA	8260B		Analysis Da	ate: 10/16/2	2018	SeqNo: 317	5322	
Analyte	Result	PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.220	0.50 2	0.00 0	96.1	69	133				
1,2-Dichloroethane	18.460	0.50 2	0.00 0	92.3	69	132				
						122				

#### Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits

ASSET LABORATORIES

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- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

- s spike/surrogate outside of limits due to matrix interference
  - CALIFORNIA P:562.219.7435 F:562.219.7436 1110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

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#### **CLIENT:** CH2MHill

Work Order: N032525 **Project:** SFPP Norwalk

#### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: N032525-001A-MS	SampType: <b>MS</b>	TestCode: 8260_WP_SF Units: ug/L				Prep Da	te:		RunNo: 129302		
Client ID: ZZZZZZ	Batch ID: CA18VW033	Test	No: EPA 8260	В		Analysis Da	te: 10/16/2	018	SeqNo: 317	75322	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	17.780	1.0	20.00	0	88.9	73	127				
m,p-Xylene	38.610	1.0	40.00	0	96.5	76	128				
МТВЕ	22.250	1.0	20.00	0	111	65	123				
o-Xylene	18.950	1.0	20.00	0	94.8	80	121				
Tert-Butanol	118.570	5.0	100.0	0	119	70	130				
Toluene	18.460	2.0	20.00	0	92.3	77	122				
Xylenes, Total	57.560	2.0	60.00	0	95.9	75	125				
Surr: 1,2-Dichloroethane-d4	24.020		25.00		96.1	72	119				
Surr: 4-Bromofluorobenzene	24.620		25.00		98.5	76	119				
Surr: Dibromofluoromethane	25.580		25.00		102	85	115				
Surr: Toluene-d8	25.960		25.00		104	81	120				
Sample ID: N032525-001A-MSD	SampType: <b>MSD</b>	TestCo	de: 8260_WP	_SF Units: ug/L		Prep Da	te:		RunNo: 129	9302	
Client ID: ZZZZZZ	Batch ID: CA18VW033	Test	No: EPA 8260	В		Analysis Da	te: 10/16/2	018	SeqNo: 317	75323	
Analyta	Pocult	POI		SPK Pof Val		المبير المعاذ	التعامل تعمنه	PPD Pof Val	0/ 000		0

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.030	0.50	20.00	0	95.2	69	133	19.22	0.993	20	
1,2-Dichloroethane	17.970	0.50	20.00	0	89.8	69	132	18.46	2.69	20	
Benzene	19.140	1.0	20.00	0	95.7	81	122	18.91	1.21	20	
Ethylbenzene	18.480	1.0	20.00	0	92.4	73	127	17.78	3.86	20	
m,p-Xylene	39.730	1.0	40.00	0	99.3	76	128	38.61	2.86	20	
MTBE	21.870	1.0	20.00	0	109	65	123	22.25	1.72	20	
o-Xylene	19.080	1.0	20.00	0	95.4	80	121	18.95	0.684	20	
Tert-Butanol	117.180	5.0	100.0	0	117	70	130	118.6	1.18	20	
Toluene	18.310	2.0	20.00	0	91.6	77	122	18.46	0.816	20	
Xylenes, Total	58.810	2.0	60.00	0	98.0	75	125	57.56	2.15	20	
Surr: 1,2-Dichloroethane-d4	24.500		25.00		98.0	72	119		0		
Surr: 4-Bromofluorobenzene	25.120		25.00		100	76	119		0		
Surr: Dibromofluoromethane	24.880		25.00		99.5	85	115		0		
Surr: Toluene-d8	25.310		25.00		101	81	120		0		

#### Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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#### CLIENT: CH2MHill

Work Order:N032525Project:SFPP Norwalk

#### ANALYTICAL QC SUMMARY REPORT

#### TestCode: 8270WATER\_SIMEXT

Sample ID: LCS-71094	SampType: LCS	TestCode: 8270WA	TER_ Units: µg/L		Prep Dat	te: 10/18/20	018	RunNo: 129	466	
Client ID: LCSW	Batch ID: 71094	TestNo: EPA 827	0C EPA 3510C		Analysis Dat	te: 10/23/20	018	SeqNo: 318	2329	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	3.200	1.0 6.000	0	53.3	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.430	1.000		43.0	24	101				
Surr: 2-Fluorobiphenyl	0.710	1.000		71.0	29	102				
Surr: 4-Terphenyl-d14	0.830	1.000		83.0	27	108				
Surr: Phenol-d5	0.400	1.000		40.0	25	108				
Sample ID: LCSD-71094	SampType: LCSD	TestCode: 8270WA	TER_ Units: µg/L		Prep Dat	te: 10/18/20	)18	RunNo: 129	466	
Client ID: LCSS02	Batch ID: 71094	TestNo: EPA 827	0C EPA 3510C		Analysis Dat	te: 10/23/20	018	SeqNo: 318	2392	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	3.510	1.0 6.000	0	58.5	24	120	3.200	9.24	20	
Surr: 1,2-Dichlorobenzene-d4	0.430	1.000		43.0	24	101		0		
Surr: 2-Fluorobiphenyl	0.680	1.000		68.0	29	102		0		
Surr: 4-Terphenyl-d14	1.410	1.000		141	27	108		0		S
Surr: Phenol-d5	0.390	1.000		39.0	25	108		0		
Sample ID: MB-71094	SampType: MBLK	TestCode: 8270WA	TER_ Units: µg/L		Prep Dat	te: 10/18/20	)18	RunNo: 129	466	
Client ID: PBW	Batch ID: 71094	TestNo: EPA 827	0C EPA 3510C		Analysis Dat	te: 10/23/20	018	SeqNo: 318	2442	
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	0.550	1.000		55.0	24	101				
Surr: 2-Fluorobiphenyl	0.740	1.000		74.0	29	102				
Surr: 4-Terphenyl-d14	1.300	1.000		130	27	108				S

#### Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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EPA ID CA01638

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

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

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ASSET LABORATORIES

## N132525

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

12

CHAIN OF CUSTODY RECORD 10/16/18 DATE: PAGE: of 1

Sectio	1A		Section B					5e	ction (	с										5	iection D	
	Client Information:		Required Project in	formatio	on:			Inv	uice Info	ormatio	n;										ampier inf	
Compa	Attention: Steve Defi	beugh		Eric Dav				Att	ention	:	Steve	Defiba	iugh - Re	ef. AFE#	81195						ampler lame:	James Dye
Addres	Orange, CA 92868			Steve De	efibaug	şh		Na	mpany me:		Kinde	r Morg	an Ener	gy Part	tners					s	ampler Ignature:	Not the second s
Email T	eric davis@ch2m.cr		Purchase Order N						dress:		11001 Orang		4 Count 92868	ry Road	3					2	ample Jate:	10/16/18
Phone:	714-560-4802	Fax: 714-560-4801	Project Name:	5	SFPP No	orwalk		AT( Ma	L Proje inager;	ct	Mario	on Carti	in T								/	
Sectio	n E I Sample Information		I				CONTAINER T	YPE	Т	v	v	A	P	A		<u> </u>						
eaquire	sample information						OF CONTAIN			3		2	1	2								
					ŀ		PRESERVATI		-	H 40		-	N 0 500		-		<b>_</b>				_	
					ŀ		VOLUME (n		+		+0	100	0 500	100						+	-	
					c=coMP)	SAM	PUNG		0	TBA (6260B)		-										
	SAMPLE ID	LOCATION/ DES	CRIPTION		(G=GRAB			DNTAINERS	ŧ	1,2-DCA, MTBE, '	(a)	1944-d, TPH-o8, Total TPH (80158)	Zn (200.8); Hg (245.1)									
TEM #				MATRIX	SAMPLE TYPE	DATE	TIME	TOTAL # OF CONTAINERS	Analysis To	BTEX, 1,1-DCA.	TPH-gas (8015B)	TPH-d, TPH-o8,	Cu, Pb, Zn (200.	Phenol (8270)								Comments
1	EFF-10-16	EFFLUENT		ww	G	(0)16/18	1350	12		X	X	X	X	Х								N032525-01
2				$\rightarrow$			-	·														Report metals, TPH and VOC preliminary data on 24-hr TAT
9				-	_				-11			<u> </u>			<u> </u>							Report total Xylenes
4									-11	⊢		-	_		-	-				_	_	
5				-+	+				-11	H		+	-	+		-			$ \vdash $			
7				+						H		<del>                                      </del>		+	+					+		· · · · · · · · · · · · · · · · · · ·
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		_									
Relinquished by (Signature and Printer Name) Date / Time	ReinpetSized by (Sinci thee and Printed Name):	Da	te/Time		Turn Around Time (T	AT):		Special Instruction	in:		
		1	alection	1.1. rd	🗆 A = Same	Day					
10/16/18 1400	Karla Sevilla	10	116/18	14.00	🗹 B = 24 Ho				2 200	-	
Reinquicited buildigitature and Printed Name): Date / Time	Relinquished by (Signature and Printed Name):	Da	te / Time		🗆 С = 48 Но	an a sin			2. Z * C #	1	
19/16/18	1 1			1	🗆 D = 72 Ho	urs		,	TR #	= /	
Karla Sevillo 17:15	100ntra Ka	Guy	10/17	1.8	🗹 E = 5 Worl	kdays					
Relinquished by (Signature and Printed Name). Date / Time.	Relarqueshed by (Signature and Printed Name):	/ /*	te/Time \$ 2	-s an	🗆 E = 10 Wo	rkdays					
/////////////////////////////////////	í				TAT Starts at 8 AM t	the followiing day if sa 3:00 PM.	mples received after				
		Matrix:			Preservatives:			Container Type	:		
		W = Water	WW = Wastewate	r	H = HCl	N = HNO3	5 = H2504	T = Tube	V = VOA	P = Pint	A = Amber
		0 = 0(1	P = Product	5 = 5oil	Z = Zn(AC)2	O = NaOH	T = Na25203	j = Jar	B = Tediar	G = Glass	
		Others/Specify:			Others/Specify:			M = Metal	P = Plastic	C = Can	

650 4: 1038

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

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: RTNE

Field Sampler: James Dye	
	17-Oct-18
	Field Sampler: James Dye

					Requested Tests
Sample ID	Matrix	Date Collected	Bottle Type	EPA 8015B	
N032525-001B / EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	32OZA	2	
N032525-001E / EFF-10-16	Wastewater	10/16/2018 1:30:00 PM	VOA	1	

Please CC report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N32525A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: 1 day TAT.

Please analyze for TPH gas C4-C12, DRO C13-C22 and ORO C23+. Please also report Total TPH. EDD Requirement "CH2MHill" labspec7. "J" flagged down to MDL format.

	4.10	Date/Time	GSO #: 542447750	Date/Time
Relinquished by:	YU	10/17/2018 17:00	Received by:	
Relinquished by:			Received by:	

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

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

Cooler Received/Opened On:	10/16/2018	8			Workorder:	N032525		
Rep sample Temp (Deg C):	2.2				IR Gun ID:	1		
Temp Blank:	✓ Yes	🗌 No						
Carrier name:	Golden Sta	ate Overnight						
Last 4 digits of Tracking No .:	1038			Packing	Material Used:	Bubble Wrap		
Cooling process:	✓ Ice	Ice Pack	Dry Ice	Other	None None			
		C.	ample Receip	t Chacklist				
1. Shipping container/cooler in g	ood conditio			<u>A CHECKIISI</u>	Yes 🔽	No 🗌	Not Present	
2. Custody seals intact, signed, o	dated on shi	ppping container/	cooler?		Yes 🗌	No 🗌	Not Present	
3. Custody seals intact on sampl	e bottles?				Yes 🗌	No 🗌	Not Present	$\checkmark$
4. Chain of custody present?					Yes 🗹	No 🗌		
5. Sampler's name present in CC	C?				Yes 🗹	No 🗌		
6. Chain of custody signed when	relinquishe	d and received?			Yes 🗹	No 🗌		
7. Chain of custody agrees with	sample labe	ls?			Yes 🗹	No 🗌		
8. Samples in proper container/b	ottle?				Yes 🗹	No 🗌		
9. Sample containers intact?					Yes 🗹	No 🗌		
10. Sufficient sample volume for	indicated te	est?			Yes 🗹	No 🗌		
11. All samples received within h	olding time?	?			Yes 🗹	No 🗌		
12. Temperature of rep sample of	or Temp Blar	nk within acceptal	ole limit?		Yes 🗹	No 🗌	NA	
13. Water - VOA vials have zero	headspace	?			Yes 🗹	No 🗌	NA	
14. Water - pH acceptable upon Example: pH > 12 for (CN		or Metals			Yes 🗹	No 🗌	NA	
15. Did the bottle labels indicate	correct pres	ervatives used?			Yes 🗹	No 🗌	NA	
16. Were there Non-Conformance Wa	ce issues at as Client not				Yes 🗌 Yes 🗍	No 🗌 No 🗌	NA NA	<ul><li>✓</li><li>✓</li></ul>

Comments:

YR 30/17/2018

10/17/18

Reviewed By:

WORK (	ORDER Summar	<b>'y</b>				17-Oct-18			
Client ID:	CH2HI03	•				WorkOrd	er: N(	)325	25
Project:	SFPP Norwalk		QC Leve	I: RTNE		Date Receive	e <b>d:</b> 10	/16/2	.018
Comments:	Report metals, TPH and	nd VOC preliminary data o	on 24-hr TAT						
Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld M	IS S	ub Storage
N032525-001A	EFF-10-16	10/16/2018 1:30:00 PM	10/18/2018	Wastewater	EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS			VW
N032525-001B			10/18/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS			✓ SUB
			10/18/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID		[·	✓ SUB
			10/18/2018		EPA 8015B	Total TPH			SUB
N032525-001C			10/18/2018			AQPREP TOTAL METALS: ICP, FLAA			WW
			10/18/2018		EPA 200.8	TOTAL METALS BY ICPMS			WW
			10/18/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE			WW
			10/18/2018			MERCURY PREP			WW
N032525-001D			10/23/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM			WW
			10/23/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS			WW
N032525-001E			10/18/2018		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID			✔ SUB
N032525-002A	FOLDER	10/18/2018	10/18/2018		Folder	Folder			LAB
			10/18/2018		Folder	Folder			LAB



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

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

COD: \$0,00 Weight: 0 lb(s) **Reference:** 

**Delivery Instructions:** HOLD FOR PICK-UP Signature Type: STANDARD





Print Date: 10/16/2018 6:22 PM

Package 4 of 4

#### 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.

2.2°c Int/



Date of Report: 10/24/2018

Marlon Cartin

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

Client Project:N032525BCL Project:CH2MHILLBCL Work Order:1832862Invoice ID:B320065

Enclosed are the results of analyses for samples received by the laboratory on 10/18/2018. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000808412

Sincerely,

Contact Person: Vanessa Sandoval Client Service Rep

Stuart Buttram Technical Director

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

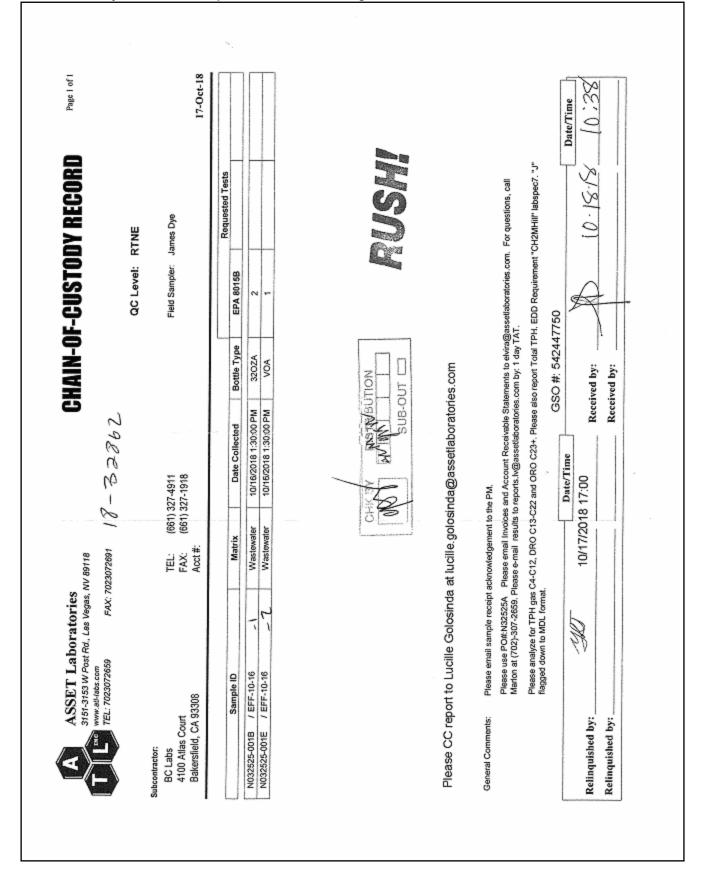


## **Table of Contents**

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Chain of Custody and Cooler Receipt Form for 1832862 Page 1 of 2



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

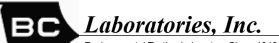
Report ID: 1000808942



#### Chain of Custody and Cooler Receipt Form for 1832862 Page 2 of 2

Submission #: 18-32867	7					a.	64		5 2	
SHIPPING INFORM	ATION	d Delivery	, \$0-	Ice Ches	IPPING	CONTAIN None D	IER Box D	- I	REELIQ ES⊡N W/	0 0
Refrigerant: Ice P Blue Ice	None	0 0	Other 🗆	Comm	ents:					
Custody Seals Tee Chest W	Containe ntact? Yes		None	Z Comn	nents:		I			
All samples received? Yes Ø No D A	di samples	containers	intact?	(es E No D		Descripti	ion(s) mato	h COC? Y		0
and the second se	ssivity:			Loci			the second se	Date/Tim	TAR	21V
0000110001100	mperature:	• •		*C / (			•c	Analyst I	14	10 <b>2</b>
					SAMPLE	NUMBERS			$\sim$	*
SAMPLE CONTAINERS	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										· · · · ·
40z/80z/160z PE UNPRES	· · · ·									
202 Cr'4										· ·
OT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 402 / 802 / 1602										-
PT CYANIDE					· .	· · · ·				
PT NITROGEN FORMS		· ·								
PT TOTAL SULFIDE		5			5	· · · · · ·	· · · ·			1 A
202. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40mi VOA VIAL TRAVEL BLANK	-	here								
10ml VOA VIAL		An								
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										,
10 ml VOA VIAL- 504										
QT EPA 508/608/2080		-								
QT EPA 515.1/8150									ct.	
QT EPA 525										
2T EPA 525 TRAVEL BLANK										
0ml RPA 547										
Ont EPA 531.1										
02 EPA 548										
)T EPA 549										
YT RPA 8015M										
TEPA \$270	MS									
02/1602 (3202) AMBER	19									
nz / 160z / Szoz JAR										
OIL SLEEVE										
CB VIAL										
LASTIC BAG										
EDLAR BAG										
RRROUS IRON								· · · ·		
NCORE										
MART KIT										
JMMA CANISTER										

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

# Reported:10/24/201817:50Project:CH2MHILLProject Number:N032525Project Manager:Marlon Cartin

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1832862-01	COC Number:		Receive Date:	10/18/2018 10:38
	Project Number:		Sampling Date:	10/16/2018 13:30
	Sampling Location:		Sample Depth:	
	Sampling Point:	N032525-001B / EFF-10-16	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater
1832862-02	COC Number:		Receive Date:	10/18/2018 10:38
	Project Number:		Sampling Date:	10/16/2018 13:30
	Sampling Location:		Sample Depth:	
	Sampling Point:	N032525-001E / EFF-10-16	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:10/24/201817:50Project:CH2MHILLProject Number:N032525Project Manager:Marlon Cartin

# **Total Petroleum Hydrocarbons**

BCL Sample ID:	1832862-01	Client Sampl	e Name:	N032525-001B / EFF-10-16, 10/16/2018 1:30:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Diesel (C10 - C	23)	ND	ug/L	40	6.8	EPA-8015CC	ND	U	1		
TPH - Motor Oil (C23 -	- C36)	ND	ug/L	100	13	EPA-8015CC	ND	U	1		
Tetracosane (Surrogat	te)	92.6	%	37 - 134 (LC	L - UCL)	EPA-8015CC			1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015CC	10/19/18 20:45	10/22/18 17:32	RCC	GC-2	1.010	B028012	



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

# Reported:10/24/201817:50Project:CH2MHILLProject Number:N032525Project Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	1832862-02	Client Sampl	e Name:	N032525-	001E / EFI	-10-16, 10/16/2	018 1:30:00P	Μ	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organ	nics (C4 - C12)	ND	ppm	0.050	0.022	EPA-8015B	ND	U	1
a,a,a-Trifluorotoluene	(FID Surrogate)	90.6	%	70 - 130 (LC	L - UCL)	EPA-8015B			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B	10/18/18 15:03	10/18/18 16:49	JBR	GC-V9	1	B027476	



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Reported: 10/24/2018 17:50 Project: CH2MHILL Project Number: N032525 Project Manager: Marlon Cartin

# **Purgeable Aromatics and Total Petroleum Hydrocarbons**

### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B027476						
Gasoline Range Organics (C4 - C12)	B027476-BLK1	ND	ppm	0.050	0.022	U
a,a,a-Trifluorotoluene (FID Surrogate)	B027476-BLK1	89.6	%	70 - 13	0 (LCL - UCL)	



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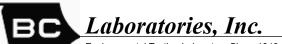
# Reported:10/24/201817:50Project:CH2MHILLProject Number:N032525Project Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

## **Quality Control Report - Laboratory Control Sample**

								Control L	_imits	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: B027476										
Gasoline Range Organics (C4 - C12)	B027476-BS1	LCS	1.1089	1.0000	ppm	111		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	B027476-BS1	LCS	0.035915	0.040000	ppm	89.8		70 - 130		

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# Reported:10/24/201817:50Project:CH2MHILLProject Number:N032525Project Manager:Marlon Cartin

## Purgeable Aromatics and Total Petroleum Hydrocarbons

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B027476	Use	d client samp	le: N								
Gasoline Range Organics (C4 - C12)	MS	1829546-79	ND	1.1239	1.0000	ppm		112		70 - 130	
	MSD	1829546-79	ND	1.1203	1.0000	ppm	0.3	112	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1829546-79	ND	0.037438	0.040000	ppm		93.6		70 - 130	
	MSD	1829546-79	ND	0.036508	0.040000	ppm	2.5	91.3		70 - 130	

## **Quality Control Report - Precision & Accuracy**



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## **Total Petroleum Hydrocarbons**

### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B028012						
TPH - Diesel (C10 - C23)	B028012-BLK1	ND	ug/L	40	6.8	U
TPH - Motor Oil (C23 - C36)	B028012-BLK1	ND	ug/L	100	13	U
Tetracosane (Surrogate)	B028012-BLK1	103	%	37 - 13	4 (LCL - UCL)	



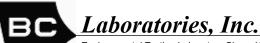
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Reported: 10/24/2018 17:50 Project: CH2MHILL Project Number: N032525 Project Manager: Marlon Cartin

# **Total Petroleum Hydrocarbons**

## **Quality Control Report - Laboratory Control Sample**

								Control L	<u>imits</u>		
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B028012											
TPH - Diesel (C10 - C23)	B028012-BS1	LCS	487.38	500.00	ug/L	97.5		52 - 128			
Tetracosane (Surrogate)	B028012-BS1	LCS	20.197	20.000	ug/L	101		37 - 134			



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:10/24/201817:50Project:CH2MHILLProject Number:N032525Project Manager:Marlon Cartin

## **Total Petroleum Hydrocarbons**

## **Quality Control Report - Precision & Accuracy**

									<u>Cont</u>	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B028012	Use	d client samp	ole: N								
TPH - Diesel (C10 - C23)	MS	1829546-67	ND	401.54	500.00	ug/L		80.3		50 - 127	
	MSD	1829546-67	ND	495.34	500.00	ug/L	20.9	99.1	30	50 - 127	
Tetracosane (Surrogate)	MS	1829546-67	ND	16.905	20.000	ug/L		84.5		37 - 134	
	MSD	1829546-67	ND	19.714	20.000	ug/L	15.3	98.6		37 - 134	



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#### Reported: 10/24/2018 17:50 Project: CH2MHILL Project Number: N032525 Project Manager: Marlon Cartin

#### **Notes And Definitions**

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

Analyte Not Detected at or above the reporting limit (CLP Flag) U

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

Workorder No.: N032999

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on November 15, 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,

"ano wmm

Quennie Manimtim Laboratory Director

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CLIENT:CH2MHillProject:SFPP NorwalkLab Order:N032999

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

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

Subcontracted Analyses:

EPA 8015B for DRO, ORO and GRO was subcontracted to BC Laboratories, Bakersfield, CA. Total TPH was calculated and reported in the lab based on Subcon Lab's result.

Ammonia Nitrogen, Cyanide, Sulfides, MBAS, BOD, EPA 8081, EPA 8082 and EPA 8270 were subcontractwed to BC Laboratories, Bakersfield, CA.

Acrolein and Acrylonitrile were subcontracted to Test America, Irvine, CA.

EPA 8290 was subcontracted to Pace Analytical Services, Inc., Minneapolis, MN.

Asbestos was subcontracted to LA testing, South Pasadena, CA.

Analytical Comment for EPA 1664\_HEM Rev B:

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

Analytical Comment for EPA 200.7:

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CLIENT:CH2MHillProject:SFPP NorwalkLab Order:N032999

### **CASE NARRATIVE**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comment for EPA 200.8:

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

Analytical Comment for EPA 8260B:

Laboratory Control Sample (LCS) recovery biased high for 2-Chloroethyl Vinyl Ether. Sample results were non-detect (ND) for these analytes therefore reanalysis of the samples was not necessary.



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CLIENT: CH2MHill Project: SFPP Norwalk Lab Order: N032999

#### **Contract No:**

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	<b>Collection Date</b>	Date Received	Date Reported
N032999-001A	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001B	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001C	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001D	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001E	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001F	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001G	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001H	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001I	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001J	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001K	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001L	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001M	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001N	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001O	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001P	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001Q	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001R	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-001S	EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	11/15/2018	11/29/2018
N032999-002A	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002B	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002C	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002D	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002E	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002F	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002G	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002H	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018
N032999-002I	RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	11/15/2018	11/29/2018

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#### **CLIENT:** Client Sample ID: EFF-11-15 Lab Order: N032999 Collection Date: 11/15/2018 11:00:00 AM **Project:** SFPP Norwalk Matrix: WASTEWATER N032999-001 Lab ID: Analyses Result MDL POL Oual Units DF **Date Analyzed** PH SM4500-H+B NV00922-WC\_181121D RunID: QC Batch: R130110 PrepDate: Analyst: LR bН 6.9 0.10 0.10 н pH Units 11/21/2018 02:30 PM 1 Temp. at time of pH Analysis 25 0 10 0 10 н °C 1 11/21/2018 02:30 PM TOTAL NON-FILTERABLE RESIDUE SM2540D NV00922-WC\_181119C QC Batch: 71451 PrepDate: RunID: 11/19/2018 Analyst: LR Suspended Solids (Residue, Non-ND 10 10 11/19/2018 09:32 AM mg/L 1 Filterable) SETTLEABLE MATTER SM2540F NV00922-WC\_181116H QC Batch: 71444 PrepDate: 11/16/2018 RunID: Analyst: QBM Settleable Matter ND 0.092 0.092 ml/L 11/16/2018 12:04 PM 1 **HEXANE EXTRACTABLE MATERIAL (HEM)** EPA 1664 \_HEM REV B RunID: NV00922-WC\_181120A QC Batch: 71465 PrepDate: 11/20/2018 Analyst: LR Oil & Grease 1.3 0.82 5.1 .1 mg/L 1 11/20/2018 08:02 AM TURBIDITY SM 2130B RunID: NV00922-WC 181116A QC Batch: R130000 PrepDate: Analyst: LR 0.38 NTU 11/16/2018 11:15 AM Turbidity 0.10 0.10 1 SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS EPA 3510C EPA 8270C RunID: NV00922-MS9\_181126A QC Batch: 71493 PrepDate: 11/21/2018 Analyst: RRS Phenol 0.53 0.33 1.0 . I µg/L 1 11/26/2018 04:30 PM 25-108 %REC 11/26/2018 04:30 PM Surr: Phenol-d5 43.0 0 1

EPA 8260B RunID: CA01638-MS10\_181116A QC Batch: CA18VW039 PrepDate: Analyst: AW ND 0.38 1.0 11/16/2018 01:33 PM 1,1,1-Trichloroethane ua/L 1 ND 1.0 11/16/2018 01:33 PM 1,1,2,2-Tetrachloroethane 0.34 ug/L 1 1,1,2-Trichloroethane ND 0.29 1.0 ug/L 1 11/16/2018 01:33 PM 1,1-Dichloroethane ND 0 45 0.50 ug/L 1 11/16/2018 01:33 PM

**Qualifiers:** В Analyte detected in the associated Method Blank Η Holding times for preparation or analysis exceeded ND

Not Detected at the Reporting Limit Results are wet unless otherwise specified Е Value above quantitation range

J Analyte detected below quantitation limits

S Spike/Surrogate outside of limits due to matrix interference

Surrogate Diluted Out DO

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**VOLATILE ORGANIC COMPOUNDS BY GC/MS** 

CH2MHill

**ASSET Laboratories** 

## ANALYTICAL RESULTS

Print Date: 28-Nov-18

#### **ANALYTICAL RESULTS**

Print Date: 28-Nov-18

CLIENT:CH2MHillLab Order:N032999Project:SFPP NorwalkLab ID:N032999-001

#### Client Sample ID: EFF-11-15 Collection Date: 11/15/2018 11:00:00 AM Matrix: WASTEWATER

analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUN	DS BY GC/MS						
			EP	A 8260B			
RunID: CA01638-MS10_181116A	QC Batch: CA	18VW039		PrepD	ate:		Analyst: AW
1,1-Dichloroethene	ND	0.34	1.0		ug/L	1	11/16/2018 01:33 PM
1,2,4-Trichlorobenzene	ND	0.21	1.0		ug/L	1	11/16/2018 01:33 PI
1,2-Dichlorobenzene	ND	0.29	1.0		ug/L	1	11/16/2018 01:33 PI
1,2-Dichloroethane	ND	0.29	0.50		ug/L	1	11/16/2018 01:33 PI
1,2-Dichloropropane	ND	0.24	1.0		ug/L	1	11/16/2018 01:33 PI
1,3-Dichlorobenzene	ND	0.28	1.0		ug/L	1	11/16/2018 01:33 PI
1,4-Dichlorobenzene	ND	0.32	1.0		ug/L	1	11/16/2018 01:33 PI
2-Butanone	ND	4.9	10		ug/L	1	11/16/2018 01:33 PI
Benzene	ND	0.34	1.0		ug/L	1	11/16/2018 01:33 PI
Bromodichloromethane	ND	0.38	1.0		ug/L	1	11/16/2018 01:33 PI
Bromoform	ND	0.39	1.0		ug/L	1	11/16/2018 01:33 PI
Bromomethane	ND	0.79	1.0		ug/L	1	11/16/2018 01:33 PI
Carbon tetrachloride	ND	0.40	0.50		ug/L	1	11/16/2018 01:33 PI
Chlorobenzene	ND	0.30	1.0		ug/L	1	11/16/2018 01:33 PI
Chloroethane	ND	0.97	1.0		ug/L	1	11/16/2018 01:33 PI
Chloroform	ND	0.27	1.0		ug/L	1	11/16/2018 01:33 PI
Chloromethane	ND	0.36	1.0		ug/L	1	11/16/2018 01:33 PI
cis-1,3-Dichloropropene	ND	0.28	1.0		ug/L	1	11/16/2018 01:33 PI
Di-isopropyl ether	ND	0.079	1.0		ug/L	1	11/16/2018 01:33 PI
Dibromochloromethane	ND	0.41	1.0		ug/L	1	11/16/2018 01:33 PI
Ethylbenzene	ND	0.31	1.0		ug/L	1	11/16/2018 01:33 PI
Hexachlorobutadiene	ND	0.30	1.0		ug/L	1	11/16/2018 01:33 PI
m,p-Xylene	ND	0.23	1.0		ug/L	1	11/16/2018 01:33 PI
Methylene chloride	ND	1.9	2.0		ug/L	1	11/16/2018 01:33 PI
MTBE	ND	0.34	1.0		ug/L	1	11/16/2018 01:33 PI
Naphthalene	ND	0.42	1.0		ug/L	1	11/16/2018 01:33 PI
o-Xylene	ND	0.31	1.0		ug/L	1	11/16/2018 01:33 PI
Tert-amyl methyl ether	ND	0.26	1.0		ug/L	1	11/16/2018 01:33 PI
Tert-Butanol	ND	2.4	5.0		ug/L	1	11/16/2018 01:33 PI
Tetrachloroethene	ND	0.30	1.0		ug/L	1	11/16/2018 01:33 PI
Toluene	ND	0.46	2.0		ug/L	1	11/16/2018 01:33 PI
trans-1,2-Dichloroethene	ND	0.40	1.0		ug/L	1	11/16/2018 01:33 PI
trans-1,3-Dichloropropene	ND	0.25	1.0		ug/L	1	11/16/2018 01:33 PI
Trichloroethene	ND	0.37	1.0		ug/L	1	11/16/2018 01:33 PI
Vinyl chloride	ND	0.29	0.50		ug/L	1	11/16/2018 01:33 PI
Xylenes, Total	ND	1.5	2.0		ug/L	1	11/16/2018 01:33 PM

Qualifiers:

В

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: 28-Nov-18

CLIENT:	CH2MHill			Cl	ient Samp	le ID: EFF-	11-15	
Lab Order:	N032999				Collection	Date: 11/15	/2018 11:0	00:00 AM
Project:	SFPP Norwalk				Μ	atrix: WAS	TEWATE	R
Lab ID:	N032999-001							
Analyses		Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE OR	GANIC COMPOUN	DS BY GC/MS						
				EPA	8260B			
RunID: CA016	38-MS10_181116A	QC Batch: CA	18VW039		PrepD	Date:		Analyst: AW
Surr: 1,2-Di	chloroethane-d4	97.4	0	72-119		%REC	1	11/16/2018 01:33 P
Surr: 4-Bror	nofluorobenzene	90.0	0	76-119		%REC	1	11/16/2018 01:33 P
Surr: Dibror	nofluoromethane	104	0	85-115		%REC	1	11/16/2018 01:33 P
Surr: Toluer	ne-d8	99.3	0	81-120		%REC	1	11/16/2018 01:33 P
VOLATILE OR	GANIC COMPOUN	DS BY GC/MS						
				EPA	8260B			
RunID: NV009	22-MS5_181120A	QC Batch: P1	8VW166		PrepD	Date:		Analyst: QBM
2-Chloroethyl	vinyl ether	ND	0.29	0.50		µg/L	1	11/20/2018 11:56 A
Surr: 1,2-Di	chloroethane-d4	111	0	75-130		%REC	1	11/20/2018 11:56 A
Surr: 4-Bror	mofluorobenzene	105	0	80-120		%REC	1	11/20/2018 11:56 A
Surr: Dibror	nofluoromethane	107	0	80-128		%REC	1	11/20/2018 11:56 A
Surr: Toluer	ne-d8	105	0	80-120		%REC	1	11/20/2018 11:56 A
HEXAVALENT	CHROMIUM BY IC				-			
				EP	A 7199			
RunID: NV009	22-IC7_181116A	QC Batch: R1	29997		PrepD	Date:		Analyst: RAB
Hexavalent Ch	nromium	ND	0.033	0.20		µg/L	1	11/16/2018 09:11 A
ANIONS BY IO	N CHROMATOGR	APHY						
				EP/	A 300.0			
RunID: NV009	22-IC8_181116A	QC Batch: R1	30022		PrepD	Date:		Analyst: RAB
Nitrogen, Nitrit	e	ND	0.015	2.5		mg/L	5	11/16/2018 12:15 P
ANIONS BY IO	N CHROMATOGR	APHY			_			
				EPA	A 300.0			
RunID: NV009	22-IC8_181116A	QC Batch: R1	30022		PrepD	Date:		Analyst: RAB
Nitrate/Nitrite a	as N	ND	0.0050	0.10		mg/L	1	11/16/2018 12:15 P
ANIONS BY IO	N CHROMATOGR	APHY						
				EPA	A 300.0			
RunID: NV009	22-IC8_181116A	QC Batch: R1	30022		PrepD	Date:		Analyst: RAB
Nitrate as N		ND	0.025	0.25		mg/L	5	11/16/2018 12:15 P

Qualifiers:

ers: 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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#### **CLIENT:** CH2MHill Client Sample ID: EFF-11-15 Lab Order: N032999 Collection Date: 11/15/2018 11:00:00 AM **Project:** SFPP Norwalk Matrix: WASTEWATER Lab ID: N032999-001 Analyses Result MDL POL Oual Units DF **Date Analyzed** MERCURY BY COLD VAPOR TECHNIQUE EPA 245.1 NV00922-AA1\_181116A QC Batch: 71423 PrepDate: RunID: 11/16/2018 Analyst: MG Mercury ND 0.018 0.050 1 11/16/2018 11:52 AM µg/L TOTAL METALS BY COLLISION/REACTION CELL ICPMS EPA 200.8 RunID: NV00922-ICP7\_181119A QC Batch: 71430 PrepDate: 11/16/2018 Analyst: CEI Selenium ND 0.36 0.50 11/19/2018 11:23 AM µg/L 1 TOTAL METALS BY ICPMS EPA 200.8

RunID:	NV00922-ICP7_181119A	QC Batch: 71	430		Prep	Date:	11/16/2018	Analyst: CEI
Antimo	ony	0.29	0.16	0.50	J	µg/L	1	11/19/2018 11:23 AM
Arseni	c	6.9	0.081	0.10		µg/L	1	11/19/2018 11:23 AM
Berylli	um	0.36	0.042	0.50	J	µg/L	1	11/16/2018 01:50 PM
Cadm	ium	ND	0.053	0.25		µg/L	1	11/16/2018 01:50 PM
Chrom	nium	ND	0.13	0.50		µg/L	1	11/16/2018 01:50 PM
Coppe	r	ND	0.26	0.50		µg/L	1	11/16/2018 01:50 PM
Lead		ND	0.13	0.50		µg/L	1	11/16/2018 01:50 PM
Nickel		4.3	0.26	1.0		µg/L	1	11/16/2018 01:50 PM
Silver		ND	0.23	0.25		µg/L	1	11/16/2018 01:50 PM
Thalliu	IM	ND	0.19	0.50		µg/L	1	11/16/2018 01:50 PM
Zinc		2.1	0.27	1.0		µg/L	1	11/19/2018 11:23 AM
TOTAL	ТРН							
				EPA	8015B			
RunID:	SUBCONTRACT_181128A	QC Batch: R1	30188		Prep	Date:		Analyst: admin
Total <sup>-</sup>	ГРН	ND	22	100		ug/L	1	11/28/2018



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#### **ANALYTICAL RESULTS**

Print Date: 28-Nov-18

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CH2MHill

SFPP Norwalk

N032999-002

N032999

**CLIENT:** 

**Project:** 

Lab ID:

Lab Order:

#### ANALYTICAL RESULTS

Print Date: 28-Nov-18

Client Sample ID: RSW-001-11-15 Collection Date: 11/15/2018 1:45:00 PM Matrix: WASTEWATER

Analyses Result MDL POL Oual Units DF **Date Analyzed VOLATILE ORGANIC COMPOUNDS BY GC/MS** EPA 8260B RunID: CA01638-MS10\_181116A QC Batch: CA18VW039 PrepDate: Analyst: AW ND 1.0 11/16/2018 01:57 PM 1,1,1-Trichloroethane 0.38 ug/L 1 1,1,2,2-Tetrachloroethane ND 0.34 1.0 1 11/16/2018 01:57 PM ug/L ND 1,1,2-Trichloroethane 0.29 1.0 ug/L 1 11/16/2018 01:57 PM 1,1-Dichloroethane ND 0.45 0.50 ug/L 1 11/16/2018 01:57 PM 1,1-Dichloroethene ND 0.34 1.0 ug/L 1 11/16/2018 01:57 PM ND 11/16/2018 01:57 PM 1,2,4-Trichlorobenzene 0.21 1.0 ug/L 1 ND 1,2-Dichlorobenzene 0.29 1.0 ug/L 1 11/16/2018 01:57 PM 1,2-Dichloroethane ND 0.29 0.50 ug/L 1 11/16/2018 01:57 PM 1,2-Dichloropropane ND 0.24 1.0 ug/L 1 11/16/2018 01:57 PM ND 0.28 1,3-Dichlorobenzene 1.0 11/16/2018 01:57 PM ug/L 1 ND 1,4-Dichlorobenzene 0.32 1.0 ug/L 1 11/16/2018 01:57 PM ND 4.9 10 1 11/16/2018 01:57 PM 2-Butanone ug/L Benzene ND 0.34 1.0 ug/L 1 11/16/2018 01:57 PM Bromodichloromethane ND 0.38 1.0 ug/L 1 11/16/2018 01:57 PM Bromoform ND 0.39 1.0 ug/L 1 11/16/2018 01:57 PM Bromomethane ND 0.79 1.0 11/16/2018 01:57 PM ug/L 1 Carbon tetrachloride ND 0.40 0.50 1 11/16/2018 01:57 PM ug/L Chlorobenzene ND ug/L 0.30 1.0 1 11/16/2018 01:57 PM Chloroethane ND 0.97 1.0 ug/L 1 11/16/2018 01:57 PM ND 1.0 11/16/2018 01:57 PM Chloroform 0.27 ug/L 1 Chloromethane ND 0.36 1.0 1 11/16/2018 01:57 PM ug/L 1.0 cis-1,3-Dichloropropene ND 0.28 ug/L 1 11/16/2018 01:57 PM 11/16/2018 01:57 PM Di-isopropyl ether ND 0.079 1.0 ug/L 1 Dibromochloromethane ND 0.41 1.0 ug/L 1 11/16/2018 01:57 PM **Ethylbenzene** ND 0.31 1.0 ug/L 1 11/16/2018 01:57 PM Hexachlorobutadiene ND 0.30 1.0 ug/L 1 11/16/2018 01:57 PM m,p-Xylene ND 0.23 1.0 ug/L 1 11/16/2018 01:57 PM Methylene chloride ND 1.9 2.0 ug/L 1 11/16/2018 01:57 PM MTBF ND 0.34 1.0 ug/L 1 11/16/2018 01:57 PM ND Naphthalene 0.42 1.0 ug/L 1 11/16/2018 01:57 PM ND 0.31 1.0 1 11/16/2018 01:57 PM o-Xylene ug/L Tert-amyl methyl ether ND 0.26 1.0 ug/L 1 11/16/2018 01:57 PM Tert-Butanol ND 2.4 5.0 1 11/16/2018 01:57 PM ug/L ND Tetrachloroethene 0.30 1.0 ug/L 1 11/16/2018 01:57 PM ND 2.0 1 11/16/2018 01:57 PM Toluene 0.46 ug/L trans-1,2-Dichloroethene ND 0.40 1.0 ug/L 1 11/16/2018 01:57 PM

Qualifiers:

В

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

ASSET LABORATORIES

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: 28-Nov-18

CLIENT:	CH2MHill			CI	ent Samula II	<b>D:</b> RSW-001-11	-15		
Lab Order:	N032999				-	e: 11/15/2018 1			
				(					
Project:	SFPP Norwalk				Matrix	<b>K:</b> WASTEWA	TER		
Lab ID:	N032999-002								
Analyses		Result	MDL	PQL	Qual U	nits D	F Date Analyzed		
VOLATILE OR	GANIC COMPOUNI	DS BY GC/MS							
				EPA	8260B				
RunID: CA016	38-MS10_181116A	QC Batch: CA	18VW039		PrepDate:		Analyst: AW		
trans-1,3-Dich	loropropene	ND	0.25	1.0	ug/l	∟ 1	11/16/2018 01:57 PN		
Trichloroethen	e	ND	0.37	1.0	ug/l	∟ 1	11/16/2018 01:57 PN		
Vinyl chloride		ND	0.29	0.50	ug/l	L 1	11/16/2018 01:57 PN		
Xylenes, Total		ND	1.5	2.0	ug/l	L 1	11/16/2018 01:57 PN		
Surr: 1,2-Di	chloroethane-d4	109	0	72-119	%R	EC 1	11/16/2018 01:57 PN		
Surr: 4-Broi	mofluorobenzene	94.1	0	76-119	%R	EC 1	11/16/2018 01:57 PN		
Surr: Dibror	nofluoromethane	106	0	85-115	%R	EC 1	11/16/2018 01:57 PN		
Surr: Toluer	ne-d8	99.8	0	81-120	%R	EC 1	11/16/2018 01:57 PN		
VOLATILE OR	GANIC COMPOUNI	DS BY GC/MS		EDA	8260B				
RunID: NV009	22-MS5_181120A	QC Batch: P1	8VW166		PrepDate:		Analyst: QBM		
2-Chloroethyl	vinyl ether	ND	0.29	0.50	μg/	L 1	11/20/2018 12:19 PN		
Surr: 1,2-Di	chloroethane-d4	112	0	75-130	%R	EC 1	11/20/2018 12:19 PN		
Surr: 4-Broi	mofluorobenzene	100	0	80-120	%R	EC 1	11/20/2018 12:19 PN		
Surr: Dibror	nofluoromethane	103	0	80-128	%R	EC 1	11/20/2018 12:19 PN		
Surr: Toluer	ne-d8	103	0	80-120	%R	EC 1	11/20/2018 12:19 PN		
HEXAVALENT	CHROMIUM BY IC			EP/	7199				
RunID: NV009	22-IC7_181116A	QC Batch: R1	29997	217	PrepDate:		Analyst: <b>RAB</b>		
Hexavalent Ch	—	0.51	0.033	0.20	μg/	L 1	11/16/2018 09:20 AN		
MERCURY BY	COLD VAPOR TEC	HNIQUE							
				EPA	245.1				
RunID: NV009	22-AA1_181116A	QC Batch: 714	123		PrepDate:	11/16/2018	Analyst: MG		
Mercury		ND	0.018	0.050	μg/	L 1	11/16/2018 11:59 AN		
TOTAL META	LS BY ICP								
				EPA	200.7				
	22-ICP2_181119E	QC Batch: 714			PrepDate:	11/16/2018	Analyst: CEI		
Calcium		67000	85	500	µg/				
Magnesium		36000	48	100	μg/	L 1	11/19/2018 10:05 AM		

Qualifiers:

- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Results are wet unless otherwise specified

- Е Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out



В

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CLIENT:	CH2MHill		(	Client Samp	le ID: R	SW-001-11-1	5
Lab Order:	N032999			Collection	Date: 1	1/15/2018 1:4	5:00 PM
Project:	SFPP Norwalk			Μ	atrix: V	VASTEWATE	R
Lab ID:	N032999-002						
Analyses		Result MDL	PQL	Qual	Units	DF	Date Anal
HARDNESS E	BY CALCULATION						
			SI	VI 2340 B			
	022 1002 4944405	OC Botoby 71422		Drop	Noto:	44/46/2049	Analyst

## **ANALYTICAL RESULTS**

Print Date: 28-Nov-18

Analyse	S	Result	MDL	PQL	Qual	Unit	s DF	Date Analyzed
HARD	NESS BY CALCULATION							
				SM	2340 B			
RunID:	NV00922-ICP2_181119E	QC Batch: 714	422		Prep	Date:	11/16/2018	Analyst: CEI
Hardn	ess, Calcium (As CaCO3)	170	0.50	0.50		mg/L	1	11/16/2018
Hardn	ess, Magnesium (As CaCO3)	150	0.50	0.50		mg/L	1	11/16/2018
Total	Hardness (As CaCO3)	310	1.0	1.0		mg/L	1	11/16/2018
TOTAL	METALS BY COLLISION/F	REACTION CELL						
				EP	A 200.8			
RunID:	NV00922-ICP7_181119A	QC Batch: 714	430		Prep	Date:	11/16/2018	Analyst: CEI
Selen	ium	2.2	0.36	0.50		µg/L	1	11/19/2018 12:02 PM
TOTAL	METALS BY ICPMS							
				EP	A 200.8			
RunID:	NV00922-ICP7_181119A	QC Batch: 714	430		Prep	Date:	11/16/2018	Analyst: CEI
Antim	ony	0.73	0.16	0.50		µg/L	1	11/19/2018 12:02 PM
Arsen	ic	2.2	0.081	0.10		µg/L	1	11/19/2018 12:02 PM
Beryll	ium	ND	0.042	0.50		µg/L	1	11/16/2018 02:24 PM
Cadm	ium	ND	0.053	0.25		µg/L	1	11/16/2018 02:24 PM
Chron	nium	0.72	0.13	0.50		µg/L	1	11/16/2018 02:24 PM
Coppe	er	1.4	0.26	0.50		µg/L	1	11/16/2018 02:24 PM
Lead		0.28	0.13	0.50	J	µg/L	1	11/16/2018 02:24 PM
Nicke	l	0.72	0.26	1.0	J	µg/L	1	11/16/2018 02:24 PM
Silver		ND	0.23	0.25		µg/L	1	11/16/2018 02:24 PM
Thalliu	um	ND	0.19	0.50		µg/L	1	11/16/2018 02:24 PM
Zinc		9.3	0.27	1.0		µg/L	1	11/19/2018 12:02 PM

**Qualifiers:** 

В

Analyte detected in the associated Method Blank

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Results are wet unless otherwise specified

ASSET LABORATORIES

- Е 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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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** 

**CLIENT:** CH2MHill

Work Order: N032999

**Project:** SFPP Norwalk

#### ANALYTICAL QC SUMMARY REPORT

#### TestCode: 150.1\_4500H+B\_W

Sample ID: N032999-001GDUP	SampType: <b>DUP</b>	TestCo	de: 150.1_450	0H+ Units: pH Units	5	Prep Dat	te:		RunNo: 130	0110	
Client ID: ZZZZZZ	Batch ID: R130110	Test	No: SM4500-H	I+B		Analysis Da	te: 11/21/2	018	SeqNo: 321	1366	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH Temp. at time of pH Analysis	6.890 25.000	0.10 0.10						6.860 25.00	0.436 0	10 10	н н

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

ASSET LABORATORIES

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E Value above quantitation range

ND Not Detected at the Reporting Limit

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H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2\_2540D\_W

Sample ID: LCS-71451 Client ID: LCSW	SampType: LCS Batch ID: 71451	TestCode: <b>160.2_2540D</b> Units: <b>mg/L</b> TestNo: <b>SM2540D</b>	Prep Date: <b>11/19/2018</b> Analysis Date: <b>11/19/2018</b>	RunNo: <b>130072</b> SeqNo: <b>3210014</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Suspended Solids (Residue, No	on-Filter 958.000	10 1000 0	95.8 80 120	
Sample ID: MB-71451 Client ID: PBW	SampType: <b>MBLK</b> Batch ID: <b>71451</b>	TestCode: 160.2_2540D_ Units: mg/L TestNo: SM2540D	Prep Date: <b>11/19/2018</b> Analysis Date: <b>11/19/2018</b>	RunNo: <b>130072</b> SeqNo: <b>3210015</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Suspended Solids (Residue, No	on-Filter ND	10		
Sample ID: N032999-001GDU	P SampType: DUP Batch ID: 71451	TestCode: 160.2_2540D_ Units: mg/L TestNo: SM2540D	Prep Date: 11/19/2018 Analysis Date: 11/19/2018	RunNo: <b>130072</b> SeqNo: <b>3210017</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Suspended Solids (Residue, No	on-Filter ND	10	0	0 5

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

  - CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

ND

- Not Detected at the Reporting Limit

E Value above quantitation range

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- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
  - Calculations are based on raw values

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ASSET LABORATORIES

#### **CLIENT:** CH2MHill Work Order: N032999

**Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 160.5\_2540F\_W

Sample ID: MB-71444	SampType: MBLK	TestCode: 160.5_2540F_ Units: m	L Prep Date: 11/16/2018	RunNo: 130151
Client ID: PBW	Batch ID: 71444	TestNo: SM2540F	Analysis Date: 11/16/2018	SeqNo: 3212407
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 DO Surrogate Diluted Out
  - 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
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Calculations are based on raw values

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Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

### TestCode: 1664\_HEM\_W

Sample ID: MB-71465	SampType: <b>MBLK</b>	TestCode: 1664_HEM_W Units: mg/L	Prep Date: 11/20/2018	RunNo: 130058
Client ID: PBW	Batch ID: 71465	TestNo: EPA 1664 _H	Analysis Date: 11/20/2018	SeqNo: 3209801
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Oil & Grease	ND	4.0		
Sample ID: LCS-71465	SampType: LCS	TestCode: 1664_HEM_W Units: mg/L	Prep Date: 11/20/2018	RunNo: 130058
Client ID: LCSW	Batch ID: 71465	TestNo: EPA 1664 _H	Analysis Date: 11/20/2018	SeqNo: 3209802
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Oil & Grease	37.900	4.0 40.00 0	94.8 78 114	
Sample ID: N033006-002AMS	SampType: <b>MS</b>	TestCode: 1664_HEM_W Units: mg/L	Prep Date: 11/20/2018	RunNo: 130058
Client ID: ZZZZZZ	Batch ID: 71465	TestNo: EPA 1664 _H	Analysis Date: 11/20/2018	SeqNo: 3209807
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Oil & Grease	40.435	4.3 43.48 16.65	54.7 78 114	S
Sample ID: N033006-002AMSD	SampType: <b>MSD</b>	TestCode: 1664_HEM_W Units: mg/L	Prep Date: 11/20/2018	RunNo: 130058
Client ID: ZZZZZZ	Batch ID: 71465	TestNo: EPA 1664 _H	Analysis Date: 11/20/2018	SeqNo: <b>3209808</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual

Qualifiers:

J

- В Analyte detected in the associated Method Blank
  - Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703

ELAP Cert 2921 EPA ID CA01638

ND

E Value above quantitation range

Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

ASSET LABORATORIES

Work Order: N032999

**Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7\_WPGEPPB

Sample ID: MB-71422	SampType: <b>MBLK</b>	TestCode: 200.7_WPGE Units: µg/L	Prep Date: 11/16/2018	RunNo: 130033
Client ID: PBW	Batch ID: 71422	TestNo: <b>EPA 200.7</b>	Analysis Date: 11/19/2018	SeqNo: 3208651
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	ND	500		
Magnesium	ND	100		
Sample ID: LCS-71422	SampType: LCS	TestCode: 200.7_WPGE Units: µg/L	Prep Date: 11/16/2018	RunNo: 130033
Client ID: LCSW	Batch ID: 71422	TestNo: <b>EPA 200.7</b>	Analysis Date: <b>11/19/2018</b>	SeqNo: 3208652
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	4971.291	500 5000 0	99.4 85 115	
Magnesium	5148.320	100 5000 0	103 85 115	
Sample ID: N032999-002B-DUP	SampType: <b>DUP</b>	TestCode: 200.7_WPGE Units: µg/L	Prep Date: 11/16/2018	RunNo: 130033
Client ID: ZZZZZZ	Batch ID: 71422	TestNo: <b>EPA 200.7</b>	Analysis Date: 11/19/2018	SeqNo: 3208654
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	68649.392	500	67070	2.33 20
Magnesium	36212.694	100	35590	1.73 20
Sample ID: N032999-002B-MS	SampType: <b>MS</b>	TestCode: 200.7_WPGE Units: µg/L	Prep Date: 11/16/2018	RunNo: 130033
Client ID: ZZZZZZ	Batch ID: 71422	TestNo: <b>EPA 200.7</b>	Analysis Date: 11/19/2018	SeqNo: 3208657
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	75181.757	500 5000 67070	162 75 125	S
Magnesium	41576.595	100 5000 35590	120 75 125	
Sample ID: N032999-002B-MSD	SampType: <b>MSD</b>	TestCode: 200.7_WPGE Units: µg/L	Prep Date: 11/16/2018	RunNo: <b>130033</b>
Client ID: ZZZZZZ	Batch ID: 71422	TestNo: <b>EPA 200.7</b>	Analysis Date: 11/19/2018	SeqNo: <b>3208658</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	75433.363	500 5000 67070	167 75 125 75180	0.334 20 S

### Qualifiers:

J

В Analyte detected in the associated Method Blank Analyte detected below quantitation limits

- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

ASSET LABORATORIES

#### **CLIENT:** CH2MHill Work Order: N032999

**Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7\_WPGEPPB

Sample ID: N032999-002B-MSD	SampType: <b>MSD</b>	TestCo	de: 200.7_WP	GE Units: µg/L		Prep Da	te: 11/16/2	018	RunNo: 130	033	
Client ID: ZZZZZZ	Batch ID: 71422	Test	lo: EPA 200.7			Analysis Da	te: 11/19/2	018	SeqNo: 320	8658	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	41616.782	100	5000	35590	120	75	125	41580	0.0966	20	

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out



CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

E Value above quantitation range

- ND Not Detected at the Reporting Limit

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_DRC

Sample ID: MB-71430	SampType: MBLK	TestCode: 200.8_W_DR Units: µg/L	Prep Date: 11/16/2018	RunNo: 130036
Client ID: PBW	Batch ID: 71430	TestNo: EPA 200.8	Analysis Date: 11/19/2018	SeqNo: 3208743
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Selenium	ND	0.50		
Sample ID: LCS-71430	SampType: LCS	TestCode: 200.8_W_DR Units: µg/L	Prep Date: 11/16/2018	RunNo: 130036
Client ID: LCSW	Batch ID: 71430	TestNo: <b>EPA 200.8</b>	Analysis Date: 11/19/2018	SeqNo: 3208744
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Selenium	9.989	0.50 10.00 0	99.9 85 115	
Sample ID: N032999-001D-DUP	SampType: <b>DUP</b>	TestCode: 200.8_W_DR Units: µg/L	Prep Date: 11/16/2018	RunNo: 130036
Client ID: ZZZZZZ	Batch ID: 71430	TestNo: EPA 200.8	Analysis Date: 11/19/2018	SeqNo: 3208746
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Selenium	ND	0.50	0	0 20
Sample ID: N032999-001D-MS	SampType: <b>MS</b>	TestCode: 200.8_W_DR Units: µg/L	Prep Date: 11/16/2018	RunNo: 130036
Client ID: ZZZZZZ	Batch ID: 71430	TestNo: EPA 200.8	Analysis Date: 11/19/2018	SeqNo: 3208749
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Selenium	9.180	0.50 10.00 0	91.8 75 125	
Sample ID: N032999-001D-MSD	SampType: <b>MSD</b>	TestCode: 200.8_W_DR Units: µg/L	Prep Date: 11/16/2018	RunNo: <b>130036</b>
Client ID: ZZZZZZ	Batch ID: 71430	TestNo: EPA 200.8	Analysis Date: 11/19/2018	SeqNo: <b>3208750</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual

Qualifiers:

- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - 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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

3151 W. Post Rd., Las Vegas, NV 89118 ELAP Cert 2676 | NV Cert NV00922 ORELAP/NELAP Cert 4046 18 of 38

NEVADA | P:702.307.2659 F:702.307.2691



Work Order: N032999

#### **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_SFPP

Sample ID: MB-71430	SampType: MBLK	TestCode: 200.8_	W_SFP Units: µg/L		Prep Dat	te: 11/16/2	2018	RunNo: 130	029	
Client ID: PBW	Batch ID: 71430	TestNo: EPA 2	00.8		Analysis Dat	te: 11/16/2	2018	SeqNo: 320	8618	
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.50								
Cadmium	ND	0.25								
Chromium	ND	0.50								
Copper	ND	0.50								
Lead	ND	0.50								
Nickel	ND	1.0								
Silver	ND	0.25								
Thallium	ND	0.50								
Sample ID: LCS-71430	SampType: LCS	TestCode: 200.8_	W_SFP Units: µg/L		Prep Dat	te: 11/16/2	2018	RunNo: 130	029	
Client ID: LCSW	Batch ID: 71430	TestNo: EPA 2	00.8		Analysis Dat	te: 11/16/2	2018	SeqNo: 320	8622	
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Beryllium	9.804	0.50 10	00 0	98.0	85	115				
Cadmium	10.132	0.25 10	00 0	101	85	115				
Chromium	10.033	0.50 10	00 0	100	85	115				
Copper	10.358	0.50 10	00 0	104	85	115				
Lead	10.566	0.50 10	00 0	106	85	115				
Nickel	9.551	1.0 10	00 0	95.5	85	115				
Silver	9.904	0.25 10	00 0	99.0	85	115				
Thallium	9.575	0.50 10	00 0	95.7	85	115				
Sample ID: N032999-001D-D	UP SampType: DUP	TestCode: 200.8_	W_SFP Units: µg/L		Prep Dat	te: 11/16/2	2018	RunNo: 130	029	
Client ID: ZZZZZZ	Batch ID: 71430	TestNo: EPA 2	00.8		Analysis Dat	te: 11/16/2	2018	SeqNo: 320	8624	
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Beryllium	0.355	0.50					0.3645	0	20	J
Cadmium	ND	0.25					0	0	20	
Chromium	ND	0.50					0	0	20	

Qualifiers:

J

В Analyte detected in the associated Method Blank Analyte detected below quantitation limits

- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

CALIFORNIA P:562.219.7435 F:562.219.7436

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 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

ASSET LABORATORIES

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_SFPP

Sample ID: N032999-001D-DUP	SampType: <b>DUP</b>	TestCo	de: 200.8_W_	SFP Units: µg/L		Prep Dat	e: 11/16/2	018	RunNo: 130	029	
Client ID: ZZZZZZ	Batch ID: 71430	Test	No: EPA 200.8	3		Analysis Dat	e: 11/16/2	018	SeqNo: 320	8624	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.50						0	0	20	
Nickel	4.309	1.0						4.283	0.619	20	
Silver	ND	0.25						0	0	20	
Thallium	ND	0.50						0	0	20	
Sample ID: N032999-001D-MS	SampType: <b>MS</b>	TestCo	de: 200.8_W_	SFP Units: µg/L		Prep Dat	e: 11/16/2	018	RunNo: 130	029	
Client ID: ZZZZZZ	Batch ID: 71430	Test	lo: EPA 200.8	3		Analysis Dat	e: 11/16/2	2018	SeqNo: 320	8627	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	9.921	0.50	10.00	0.3645	95.6	75	125				
Cadmium	9.475	0.25	10.00	0	94.7	75	125				
Chromium	9.495	0.50	10.00	0	94.9	75	125				
Copper	6.076	0.50	10.00	0	60.8	75	125				S
Lead	10.791	0.50	10.00	0	108	75	125				
Nickel	13.676	1.0	10.00	4.283	93.9	75	125				
Silver	9.406	0.25	10.00	0	94.1	75	125				
Thallium	10.317	0.50	10.00	0	103	75	125				
Sample ID: N032999-001D-MSD	SampType: MSD	TestCo	de: 200.8_W_	SFP Units: µg/L		Prep Dat	e: 11/16/2	2018	RunNo: 130	029	
Client ID: ZZZZZZ	Batch ID: 71430	Test	No: EPA 200.8	3		Analysis Dat	e: 11/16/2	018	SeqNo: 320	8628	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	10.039	0.50	10.00	0.3645	96.7	75	125	9.921	1.19	20	
Cadmium	9.743	0.25	10.00	0	97.4	75	125	9.475	2.79	20	
Chromium	9.407	0.50	10.00	0	94.1	75	125	9.495	0.930	20	
Copper	6.110	0.50	10.00	0	61.1	75	125	6.076	0.570	20	S
Lead	10.665	0.50	10.00	0	107	75	125	10.79	1.17	20	
Nickel	13.446	1.0	10.00	4.283	91.6	75	125	13.68	1.69	20	
		0.05	10.00	0	93.5	75	125	9.406	0.602	20	
Silver	9.349	0.25	10.00	0	93.5	75	125	3.400	0.002	20	

### Qualifiers:

J

В Analyte detected in the associated Method Blank

ASSET LABORATORIES

"Serving Clients with Passion and Professionalism"

Analyte detected below quantitation limits

11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921

EPA ID CA01638

- E Value above quantitation range
- ND Not Detected at the Reporting Limit

S

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

CALIFORNIA P:562.219.7435 F:562.219.7436

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

Work Order: N032999 **Project:** SFPP Norwalk ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_SFPP

Sample ID: MB-71430 Client ID: PBW	SampType: <b>MBLK</b> Batch ID: <b>71430</b>	TestCode: 200.8_W_SFP Units: µg/L TestNo: EPA 200.8	Prep Date: 11/16/2018 Analysis Date: 11/19/2018	RunNo: <b>130036</b> SeqNo: <b>3208770</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Antimony	ND	0.50		
Arsenic	ND	0.10		
Zinc	ND	1.0		
Sample ID: LCS-71430	SampType: LCS	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 11/16/2018	RunNo: 130036
Client ID: LCSW	Batch ID: 71430	TestNo: EPA 200.8	Analysis Date: 11/19/2018	SeqNo: 3208771
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Antimony	10.065	0.50 10.00 0	101 85 115	
Arsenic	10.041	0.10 10.00 0	100 85 115	
Zinc	10.039	1.0 10.00 0	100 85 115	
Sample ID: N032999-001D-DUP	SampType: <b>DUP</b>	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 11/16/2018	RunNo: <b>130036</b>
Sample ID: N032999-001D-DUP Client ID: ZZZZZZ	SampType: <b>DUP</b> Batch ID: <b>71430</b>	TestCode: 200.8_W_SFP Units: µg/L TestNo: EPA 200.8	Prep Date: 11/16/2018 Analysis Date: 11/19/2018	RunNo: <b>130036</b> SeqNo: <b>3208773</b>
			·	
Client ID: ZZZZZZ	Batch ID: 71430	TestNo: EPA 200.8	Analysis Date: 11/19/2018	SeqNo: 3208773
Client ID: ZZZZZZ	Batch ID: <b>71430</b> Result	TestNo: EPA 200.8 PQL SPK value SPK Ref Val	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val	SeqNo: 3208773 %RPD RPDLimit Qual
Client ID: ZZZZZZ Analyte Antimony	Batch ID: <b>71430</b> Result 0.273	TestNo: EPA 200.8 PQL SPK value SPK Ref Val 0.50	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val 0.2885	SeqNo:         3208773           %RPD         RPDLimit         Qual           0         20         J
Client ID: ZZZZZZ Analyte Antimony Arsenic	Batch ID: <b>71430</b> Result 0.273 6.488	TestNo: EPA 200.8 PQL SPK value SPK Ref Val 0.50 0.10	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val 0.2885 6.872	SeqNo: 3208773           %RPD         RPDLimit         Qual           0         20         J           5.75         20
Client ID: ZZZZZZ Analyte Antimony Arsenic Zinc	Batch ID: <b>71430</b> Result 0.273 6.488 1.759	TestNo: EPA 200.8           PQL         SPK value         SPK Ref Val           0.50         0.10         1.0	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val 0.2885 6.872 2.069	SeqNo: 3208773           %RPD         RPDLimit         Qual           0         20         J           5.75         20         16.2         20
Client ID: ZZZZZZ Analyte Antimony Arsenic Zinc Sample ID: N032999-001D-MS	Batch ID: <b>71430</b> Result 0.273 6.488 1.759 SampType: <b>MS</b>	TestNo: EPA 200.8 PQL SPK value SPK Ref Val 0.50 0.10 1.0 TestCode: 200.8_W_SFP Units: μg/L	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val 0.2885 6.872 2.069 Prep Date: 11/16/2018	SeqNo: 3208773           %RPD         RPDLimit         Qual           0         20         J           5.75         20         16.2         20           RunNo: 13035
Client ID: ZZZZZZ Analyte Antimony Arsenic Zinc Sample ID: N032999-001D-MS Client ID: ZZZZZZ	Batch ID: <b>71430</b> Result 0.273 6.488 1.759 SampType: <b>MS</b> Batch ID: <b>71430</b>	TestNo: EPA 200.8 PQL SPK value SPK Ref Val 0.50 0.10 1.0 TestCode: 200.8_W_SFP Units: μg/L TestNo: EPA 200.8	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val 0.2885 6.872 2.069 Prep Date: 11/16/2018 Analysis Date: 11/19/2018	SeqNo: 3208773       Qual         %RPD       RPDLimit       Qual         0       20       J         5.75       20       -         16.2       20       -         RunNo: 130036       -       -         SeqNo: 3208776       -       -
Client ID: ZZZZZZ Analyte Antimony Arsenic Zinc Sample ID: N032999-001D-MS Client ID: ZZZZZZ Analyte	Batch ID: <b>71430</b> Result 0.273 6.488 1.759 SampType: <b>MS</b> Batch ID: <b>71430</b> Result	TestNo: EPA 200.8           PQL         SPK value         SPK Ref Val           0.50         0.10         1.0           TestCode:         200.8_W_SFP         Units:         μg/L           TestNo:         EPA 200.8         PQL         SPK value         SPK Ref Val	Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val 0.2885 6.872 2.069 Prep Date: 11/16/2018 Analysis Date: 11/19/2018 %REC LowLimit HighLimit RPD Ref Val	SeqNo: 3208773       Qual         %RPD       RPDLimit       Qual         0       20       J         5.75       20       -         16.2       20       -         RunNo: 130036       -       -         SeqNo: 3208776       -       -

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - 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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

ASSET LABORATORIES

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_SFPP

Sample ID: N032999-001D-MSD	SampType: <b>MSD</b>	TestCoo	de: 200.8_W_	SFP Units: µg/L		Prep Dat	te: 11/16/2	018	RunNo: 130	036	
Client ID: ZZZZZZ	Batch ID: 71430	TestN	lo: EPA 200.8	ł		Analysis Da	te: 11/19/2	018	SeqNo: 320	8777	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.203	0.50	10.00	0.2885	99.1	75	125	10.09	1.11	20	
Arsenic	16.148	0.10	10.00	6.872	92.8	75	125	15.66	3.06	20	
Zinc	10.349	1.0	10.00	2.069	82.8	75	125	10.41	0.582	20	

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 DO Surrogate Diluted Out

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

E Value above quantitation range

ND Not Detected at the Reporting Limit

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 2130\_W

Sample ID: MB-R130000	SampType: MBLK	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: <b>130000</b>
Client ID: PBW	Batch ID: R130000	TestNo: SM 2130B		Analysis Date: 11/16/2018	SeqNo: 3207339
Analyte	Result	PQL SPK value SI	PK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Turbidity	ND	0.10			
Sample ID: N032999-001GDUP	SampType: <b>DUP</b>	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: <b>130000</b>
Sample ID: N032999-001GDUP Client ID: ZZZZZZ	SampType: DUP Batch ID: R130000	TestCode: <b>2130_W</b> TestNo: <b>SM 2130B</b>	Units: <b>NTU</b>	Prep Date: Analysis Date: 11/16/2018	RunNo: <b>130000</b> SeqNo: <b>3207341</b>

Qualifiers:

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

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1\_W\_LL

Sample ID: MB-71423	SampType: MBLK	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 11/16/2018	RunNo: 129995
Client ID: PBW	Batch ID: 71423	TestNo: EPA 245.1	Analysis Date: 11/16/2018	SeqNo: 3207230
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	ND	0.050		
Sample ID: LCS-71423	SampType: LCS	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 11/16/2018	RunNo: 129995
Client ID: LCSW	Batch ID: 71423	TestNo: EPA 245.1	Analysis Date: 11/16/2018	SeqNo: 3207231
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.613	0.050 2.500 0	105 85 115	
Sample ID: N032999-001D-MS	SampType: <b>MS</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 11/16/2018	RunNo: 129995
Client ID: ZZZZZZ	Batch ID: 71423	TestNo: EPA 245.1	Analysis Date: 11/16/2018	SeqNo: 3207232
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.400	0.050 2.500 0	96.0 75 125	
Sample ID: N032999-001D-MSD	SampType: MSD	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 11/16/2018	RunNo: 129995
Client ID: ZZZZZZ	Batch ID: 71423	TestNo: EPA 245.1	Analysis Date: 11/16/2018	SeqNo: 3207233
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.302	0.050 2.500 0	92.1 75 125 2.400	4.17 20
Sample ID: N032999-001D-DUP	SampType: DUP	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 11/16/2018	RunNo: 129995
Client ID: ZZZZZZ	Batch ID: 71423	TestNo: EPA 245.1	Analysis Date: 11/16/2018	SeqNo: <b>3207235</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:

J

S

- B Analyte detected in the associated Method Blank
- E Value above quantitation range Not Detected at the Reporting Limit
- Analyte detected below quantitation limits
- ND Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

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- CALIFORNIA P:562.219.7435 F:562.219.7436
- - 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
- H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

ASSET LABORATORIES

Work Order:N032999Project:SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 300\_W\_NO2PGE

Sample ID: MB-R130022_NO2	SampType: <b>MBLK</b>	TestCode: 300_W_NO2P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: PBW	Batch ID: R130022	TestNo: <b>EPA 300.0</b>	Analysis Date: 11/16/2018	SeqNo: 3207972
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrogen, Nitrite	ND	0.50		
Sample ID: LCS-R130022_NO2	SampType: LCS	TestCode: 300_W_NO2P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: LCSW	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3207973
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrogen, Nitrite	1.195	0.50 1.250 0	95.6 90 110	
Sample ID: N032999-001GDUP	SampType: <b>DUP</b>	TestCode: 300_W_NO2P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3207975
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrogen, Nitrite	ND	2.5	0	0 20
Sample ID: N032999-001GMS	SampType: <b>MS</b>	TestCode: 300_W_NO2P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3207976
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrogen, Nitrite	6.027	2.5 6.250 0	96.4 80 120	
Sample ID: N032999-001GMSD	SampType: <b>MSD</b>	TestCode: 300_W_NO2P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3207977
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrogen, Nitrite	6.304	2.5 6.250 0	101 80 120 6.027	4.48 20

Qualifiers:

J

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

### TestCode: 300\_W\_NO3/NO2

Sample ID: MB-R130022_NO3/N Client ID: PBW	SampType: <b>MBLK</b> Batch ID: <b>R130022</b>	TestCode: 300_W_NO3/ Units: mg/L TestNo: EPA 300.0	Prep Date: Analysis Date: 11/16/2018	RunNo: <b>130022</b> SeqNo: <b>3208130</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N Nitrate/Nitrite as N	ND ND	0.10 0.10		
Sample ID: LCS-R130022_NO3/	SampType: LCS	TestCode: 300_W_NO3/ Units: mg/L	Prep Date:	RunNo: 130022
Client ID: LCSW	Batch ID: R130022	TestNo: <b>EPA 300.0</b>	Analysis Date: 11/16/2018	SeqNo: 3208131
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N Nitrate/Nitrite as N	1.191 2.386	0.101.25000.102.5000	95.39011095.490110	
Sample ID: N032999-001GDUP	SampType: <b>DUP</b>	TestCode: 300_W_NO3/ Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: <b>EPA 300.0</b>	Analysis Date: 11/16/2018	SeqNo: 3208133
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate/Nitrite as N	ND	0.10	0	0 20
Sample ID: N032999-001GMS	SampType: <b>MS</b>	TestCode: 300_W_NO3/ Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: <b>EPA 300.0</b>	Analysis Date: 11/16/2018	SeqNo: 3208134
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate/Nitrite as N	11.767	0.10 12.50 0	94.1 80 120	
Sample ID: N032999-001GMSD	SampType: <b>MSD</b>	TestCode: 300_W_NO3/ Units: mg/L	Prep Date:	RunNo: <b>130022</b>
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3208135
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate/Nitrite as N	12.097	0.10 12.50 0	96.8 80 120 11.77	2.77 20

### Qualifiers:

J

S

- В Analyte detected in the associated Method Blank Analyte detected below quantitation limits
- Е Value above quantitation range
- ND Not Detected at the Reporting Limit
- Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - - CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

ASSET LABORATORIES

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Work Order:N032999Project:SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

### TestCode: 300WLLNO3PGE

Sample ID: MB-R130022_NO3 Client ID: PBW	SampType: <b>MBLK</b> Batch ID: <b>R130022</b>	TestCode: 300WLLNO3P Units: mg/L TestNo: EPA 300.0	Prep Date: Analysis Date: 11/16/2018	RunNo: <b>130022</b> SeqNo: <b>3208124</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N	ND	0.050		
Sample ID: LCS-R130022_NO3	SampType: LCS	TestCode: 300WLLNO3P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: LCSW	Batch ID: R130022	TestNo: <b>EPA 300.0</b>	Analysis Date: 11/16/2018	SeqNo: 3208125
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N	1.191	0.050 1.250 0	95.3 90 110	
Sample ID: N032999-001GDUP Client ID: ZZZZZZ	SampType: <b>DUP</b> Batch ID: <b>R130022</b>	TestCode: 300WLLNO3P Units: mg/L TestNo: EPA 300.0	Prep Date: Analysis Date: 11/16/2018	RunNo: <b>130022</b> SeqNo: <b>3208127</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N	ND	0.25	0	0 20
Sample ID: N032999-001GMS	SampType: <b>MS</b>	TestCode: 300WLLNO3P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3208128
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N	5.740	0.25 6.250 0	91.8 80 120	
Sample ID: N032999-001GMSD	SampType: <b>MSD</b>	TestCode: 300WLLNO3P Units: mg/L	Prep Date:	RunNo: 130022
Client ID: ZZZZZZ	Batch ID: R130022	TestNo: EPA 300.0	Analysis Date: 11/16/2018	SeqNo: 3208129
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrate as N	5.794	0.25 6.250 0	92.7 80 120 5.740	0.928 20

Qualifiers:

J

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 7199\_WPGE

Sample ID: MB-R129997	SampType: <b>MBLK</b>	TestCode: 7199_WPGE Units: µg/L	Prep Date:	RunNo: 129997
Client ID: PBW	Batch ID: R129997	TestNo: EPA 7199	Analysis Date: 11/16/2018	SeqNo: 3207312
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Hexavalent Chromium	ND	0.20		
Sample ID: LCS-R129997	SampType: LCS	TestCode: 7199_WPGE Units: µg/L	Prep Date:	RunNo: <b>129997</b>
Client ID: LCSW	Batch ID: R129997	TestNo: EPA 7199	Analysis Date: 11/16/2018	SeqNo: 3207313
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qua
Hexavalent Chromium	4.982	0.20 5.000 0	99.6 90 110	
Sample ID: N032999-001KDUP	SampType: <b>DUP</b>	TestCode: 7199_WPGE Units: µg/L	Prep Date:	RunNo: <b>129997</b>
Client ID: ZZZZZZ	Batch ID: R129997	TestNo: <b>EPA 7199</b>	Analysis Date: 11/16/2018	SeqNo: 3207316
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qua
Hexavalent Chromium	ND	0.20	0	0 20
Sample ID: N032999-002REP	SampType: <b>DUP</b>	TestCode: 7199_WPGE Units: µg/L	Prep Date:	RunNo: 129997
Client ID: ZZZZZZ	Batch ID: R129997	TestNo: <b>EPA 7199</b>	Analysis Date: 11/16/2018	SeqNo: 3207317
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qua
Hexavalent Chromium	0.502	0.20	0.5088	1.29 20
Sample ID: N032999-002DMS	SampType: <b>MS</b>	TestCode: 7199_WPGE Units: µg/L	Prep Date:	RunNo: 129997
Client ID: ZZZZZZ	Batch ID: R129997	TestNo: EPA 7199	Analysis Date: 11/16/2018	SeqNo: 3207318
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qua
Hexavalent Chromium	1.503	0.20 1.000 0.5088	99.4 90 110	

#### Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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EPA ID CA01638

- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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ASSET LABORATORIES

Work Order: N032999

**Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 7199\_WPGE

Sample ID: N032999-002DMSD	SampType: <b>MSD</b>	TestCo	TestCode: 7199_WPGE Units: µg/L		Prep Date:				RunNo: 129		
Client ID: ZZZZZZ	Batch ID: R129997	TestN	lo: EPA 7199			Analysis Da	te: 11/16/2	018	SeqNo: 320	7319	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.443	0.20	1.000	0.5088	93.4	90	110	1.503	4.11	20	

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - 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
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
  - Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

#### **CLIENT:** CH2MHill Work Order: N032999

**Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8015\_W\_SFPPTOT

Sample ID: MB-R130188	SampType: MBLK	TestCode: 8015_W_SFP Units: ug/L TestNo: EPA 8015B				Prep Da			RunNo: 130		
Client ID: <b>PBW</b> Analyte	Batch ID: R130188 Result	PQL		SPK Ref Val	%REC		ite: 11/28/2 HighLimit	RPD Ref Val	SeqNo: <b>32</b> 1 %RPD	RPDLimit	Qual
Total TPH	ND	100									

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
- ASSET LABORATORIES "Serving Clients with Passion and Professionalism"
- CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

E Value above quantitation range

- ND Not Detected at the Reporting Limit

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

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H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Client ID:         LCSW         Batch ID:         CA18VW039         TestIV:: EPA 8260E         Analysis         Date:         11/16/2018         SeqNo:: 3207616           Analyte         Result         PQL         SPK value         SPK Rel Val         %REC         LouLimit         HighLimit         RPD Rel Val         %RPD         RPD Limit         Qual           1.1.1.2.71rdihloroethane         19.600         1.0         20.00         0         85.0         67         132           1.1.2.71rdihloroethane         19.620         1.0         20.00         0         99.1         75         125         1.4         1.4         1.4         1.4         1.2         1.2         68         133         1.2         1.4         1.4         1.4         1.0         20.00         0         11.1         1.2         1.4         1.2         1.4         1.2<	Sample ID: CA181116-LCS	SampType: LCS	TestCode: 8260_WP_SF Units: ug/L				Prep Da	te:		RunNo: 130016		
1.1.1 Trichloroethane       19.600       1.0       20.00       0       96.0       67       132         1.1.2 - Trichloroethane       17.070       1.0       20.00       0       85.4       63       128         1.1.2 - Trichloroethane       19.820       1.0       20.00       0       81.2       69       133         1.1 - Dichloroethane       16.240       0.50       20.00       0       81.2       68       130         1.2.4 - Trichloroethane       18.370       1.0       20.00       0       81.2       68       134         1.2-Dichloroethane       20.110       1.0       20.00       0       116       69       132         1.2-Dichloroptopane       19.850       1.0       20.00       0       101       71       122         1.2-Dichloroptopane       19.850       1.0       20.00       0       102       75       124         1.4-Dichloroethazene       19.840       1.0       20.00       0       102       75       124         1.2-Dichloroptopane       19.840       1.0       20.00       0       104       69       128         2-Butanone       17.740       10       20.00       0	Client ID: LCSW	Batch ID: CA18VW039	Test	No: EPA 8260	В		Analysis Da	te: 11/16/2	2018	SeqNo: 320	07616	
1,1,2,2-Tetrachloroethane17,0701.020.00085.4631281,1-2-Trichloroethane19.8201.020.00089.1751251,1-Dichloroethane16.6301.020.00083.2681301,2-Dichloroethane18.3701.020.00091.9661321,2-Dichloroethane23.2100.5020.00091.9661321,2-Dichloroethane23.2100.5020.00099.2751241,2-Dichloroethane19.8501.020.00098.2741231,2-Dichloroethane19.6401.020.00098.2741231,3-Dichlorobenzene19.6401.020.00098.2741232-Butanone217.401.020.00098.2741232-Butanone217.401.020.00010476121Bromodichloromethane20.7301.020.00010476121Bromodichloromethane21.5801.020.00086.766138Chloroethane19.401.020.00097.668131Chloroethane19.401.020.00097.668131Chloroethane19.501.020.00097.668131Chloroethane19.501.020.00097.6	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane19.8201.020.00099.1751251,1-Dichloroethane16.6301.020.00081.2681301,2-Lichloroethane18.3701.020.00091.9661341,2-Dichloroethane23.2100.5020.000101711221,2-Dichloroethane19.8501.020.00099.2751251,3-Dichlorobenzene19.6401.020.000102751241,4-Dichlorobenzene21.7401.020.00099.2751241,4-Dichlorobenzene21.7401.020.00010949136Benzene17.8901.020.00010469128Bromodichloromethane20.7301.020.00010469128Bromodichloromethane19.6401.020.00010469128Bromodichloromethane19.6401.020.00010469128Bromodichloromethane19.6401.020.00093.181122Chloroethane19.6401.020.00094.6138Chloroethane19.6401.020.00097.058133Chloroethane19.6401.020.00097.656131Dibromochinome19.5001.020.00097.656	1,1,1-Trichloroethane	19.600	1.0	20.00	0	98.0	67	132				
1.1-Dichloroethane16.2400.5020.00081.2691331.1-Dichloroethane16.8301.020.00083.2681301.2-Dichlorobenzene20.1101.020.000101711221.2-Dichloroethane23.2100.5020.000101711221.2-Dichlorobenzene20.3001.020.00099.2751261.3-Dichlorobenzene20.3001.020.00098.2741232-Butanone217.7401.020.00089.41<22	1,1,2,2-Tetrachloroethane	17.070	1.0	20.00	0	85.4	63	128				
1.1-bickhoroethane16.6301.020.00083.2681301.2-Lichkorobenzene20.1101.020.00091.9661341.2-bickhorobenzene20.1101.020.000116691321.2-bickhorobenzene20.3001.020.00099.2751251.3-bichkorobenzene20.3001.020.00098.2741232-buckhorobenzene217.401.020.00089.4811222-buckhorobenzene217.7401.020.00089.481122Bromodichkoromethane20.7301.020.00010476121Bromodichkoromethane21.5801.020.00010853141Carbon tetrachkoride19.4101.020.00093.181122Chkorophane19.4101.020.00093.181122Chkorophane19.4101.020.00093.181122Chkorophane19.4101.020.00097.058133Chkorophane19.501.020.00097.566134Chkorophane19.501.020.00097.566133Chkorophane19.501.020.00097.566133Dibromothane19.501.020.00097.566133 <td>1,1,2-Trichloroethane</td> <td>19.820</td> <td>1.0</td> <td>20.00</td> <td>0</td> <td>99.1</td> <td>75</td> <td>125</td> <td></td> <td></td> <td></td> <td></td>	1,1,2-Trichloroethane	19.820	1.0	20.00	0	99.1	75	125				
1.2.4-Trichlorobenzene18.3701.020.00091.9661341.2Dichlorobenzene20.101.020.000116691321.2-Dichloropopane19.8601.020.00099.2751251.3-Dichlorobenzene20.3001.020.00098.2741232-Butanore17.8401.020.00098.481122Benzene17.8901.020.00089.481122Bromodichloromethane20.7301.020.00010476121Bromodichloromethane21.5801.020.00010469128Bromodichloromethane21.8401.020.00086.766138Chlorobenzene18.6001.020.00093.181122Bromodichloromethane19.40120.00086.766138Chlorobenzene18.6021.020.00097.068131Chlorobenzene18.6021.020.00097.656131Chlorobenzene19.9001.020.00097.656131Chlorobenzene19.9001.020.00097.556131Chlorobenzene19.9001.020.00097.556133Dibromochloromethane19.9001.020.00097.556133	1,1-Dichloroethane	16.240	0.50	20.00	0	81.2	69	133				
1,2-Dichlorobenzene20,1101.020,000101711221,2-Dichloroptotathane23,2100.5020,000116691321,2-Dichloroptopane19,8501.020,00099.2751241,4-Dichlorobenzene20,3001.020,000102751241,4-Dichlorobenzene19,6401.020,00098.2741232-Butanone217,7401020,00010476121Bromodichloromethane20,7901.020,00010476121Bromodichloromethane21,5801.020,00010469128Chlorobenzene18,6201.020,00093.181122Chlorobenzene18,6201.020,00093.181122Chlorobenzene18,6201.020,00093.181122Chlorobenzene19,4101.020,00093.181122Chlorobenzene19,6201.020,00097.056131Chlorobenzene19,5001.020,00097.566133Chlorobenzene19,5001.020,00097.566133Dibromochloromethane19,5001.020,00097.773127Hexachlorobutadiene19,3901.020,00097.773 </td <td>1,1-Dichloroethene</td> <td>16.630</td> <td>1.0</td> <td>20.00</td> <td>0</td> <td>83.2</td> <td>68</td> <td>130</td> <td></td> <td></td> <td></td> <td></td>	1,1-Dichloroethene	16.630	1.0	20.00	0	83.2	68	130				
1.2-Dichloroethane23.2100.5020.000116691321.2-Dichloropropane19.8501.020.00099.2751251.3-Dichlorobenzene20.3001.020.000102751241.4-Dichlorobenzene19.6401.020.00098.2741232-Butanone217.7401020.00089.481122Bromodichloromethane20.7301.020.00010476121Bromodichloromethane20.7901.020.00010469128Bromodichloromethane11.8601.020.00086.766138Chlorobenzene18.6201.020.00093.181122Chlorobenzene19.8001.020.00097.058133Chlorobenzene19.6001.020.00097.656131Chloromethane15.9201.020.00097.566133Dibromochloromethane19.5001.020.00097.566133Dibromochloromethane20.1901.020.00095.773127Hexablorobutadiene19.3001.020.00095.773127Hexablorobutadiene19.3001.020.00095.773127Hexablorobutadiene19.3001.020.00095	1,2,4-Trichlorobenzene	18.370	1.0	20.00	0	91.9	66	134				
1.2-Dichloropropane19.8501.020.00099.2751251.3-Dichlorobenzene20.3001.020.000102751241.4-Dichlorobenzene19.6401.020.00098.2741232-Butanone217.7401.020.00089.481122Bromodichloromethane20.7301.020.00010476121Bromodichloromethane21.7301.020.00010469128Bromodichloromethane17.3400.5020.00086.766138Chlorobenzene18.6201.020.00097.058131Chlorobenzene19.4101.020.00076128Chlorobenzene19.4001.020.00097.056131Chlorobenzene19.3001.020.00097.566138Chlorobenzene19.5001.020.00097.566131Dibromonchlane19.5001.020.00097.566133Dibromothane19.3001.020.00097.067131Dibromothane19.3001.020.00097.067131Mires19.3001.020.00097.067131Mires19.3001.020.00010476125Ethylbenzene <td< td=""><td>1,2-Dichlorobenzene</td><td>20.110</td><td>1.0</td><td>20.00</td><td>0</td><td>101</td><td>71</td><td>122</td><td></td><td></td><td></td><td></td></td<>	1,2-Dichlorobenzene	20.110	1.0	20.00	0	101	71	122				
1.3-Dichlorobenzene20.3001.020.000102751241.4-Dichlorobenzene19.6401.020.00098.2741232-Butanone217.74010200.0010949136Benzene17.8901.020.00089.481122Bromodichloromethane20.7301.020.00010469128Bromodichloromethane21.5801.020.00086.766138Chlorobenzene18.6201.020.00086.766138Chlorobenzene18.6201.020.00093.181122Chlorothane19.4101.020.00093.181122Chlorothane19.4001.020.00093.181122Chlorothane19.4101.020.00097.058131Chlorothane19.5001.020.00097.566133Dibromochloromethane20.1901.020.00097.573127Hexablorobutadiene19.3901.020.00097.773127Hexablorobutadiene19.3901.020.00097.773127Hexablorobutadiene19.3901.020.00097.773127Hexablorobutadiene19.3901.020.00097.773127 <td>1,2-Dichloroethane</td> <td>23.210</td> <td>0.50</td> <td>20.00</td> <td>0</td> <td>116</td> <td>69</td> <td>132</td> <td></td> <td></td> <td></td> <td></td>	1,2-Dichloroethane	23.210	0.50	20.00	0	116	69	132				
1.4-Dichlorobenzene19.6401.020.00098.2741232-Butanone217.74010200.0010949136Benzene17.8901.020.00089.481122Bromodichloromethane20.7301.020.00010476121Bromodichloromethane21.5801.020.00010853141Carbon tetrachloride17.3400.5020.00086.766138Chlorobenzene18.6201.020.00097.058133Chloroform18.0801.020.00090.469128Chloroform18.6801.020.00097.058133Chloroform18.0801.020.00097.656131Chloromethane19.5001.020.00097.566133Dibromochloromethane20.1501.020.00097.566133Dibromochloromethane19.1301.020.00097.573127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene19.3901.020.00097.067131MTBE19.3401.020.00010163137	1,2-Dichloropropane	19.850	1.0	20.00	0	99.2	75	125				
2-Butanone       217.740       10       20.00       0       109       49       136         Benzene       17.890       1.0       20.00       0       89.4       81       122         Bromodichloromethane       20.730       1.0       20.00       0       104       76       121         Bromoform       20.790       1.0       20.00       0       108       53       141         Carbon ethanehoride       17.340       0.50       20.00       0       86.7       66       138         Chlorobenzene       18.620       1.0       20.00       0       93.1       81       122         Chlorobentane       19.410       1.0       20.00       0       93.1       81       122         Chlorobentane       19.410       1.0       20.00       0       93.1       81       122         Chlorobentane       19.400       1.0       20.00       0       97.0       58       133         Chlorobentane       15.920       1.0       20.00       0       101       69       131         Dibromothoromethane       19.500       1.0       20.00       0       97.5       66       133 <tr< td=""><td></td><td></td><td></td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>					0							
Benzene17.8901.020.00089.481122Bromodichloromethane20.7301.020.00010476121Bromoform20.7901.020.00010469128Bromomethane21.5801.020.00010853141Carbon tetrachloride17.3400.5020.00086.766138Chlorobenzene18.6201.020.00093.181122Chlorothane19.4101.020.00093.181122Chlorothane15.9201.020.00093.469138Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00097.566133Dibromothane19.5001.020.00095.773127Hexachlorobutadiene19.3011.020.00095.773127Hexachlorobutadiene19.3031.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.2102.000097.067131MTBE19.3401.020.00097.067131MET10.02.000097.067131Michylene chloride19.3401.0	1,4-Dichlorobenzene	19.640	1.0	20.00	0	98.2	74	123				
Bromodichloromethane20.7301.020.00010476121Bromoform20.7901.020.00010469128Bromomethane21.5801.020.00010853141Carbon tetrachloride17.3400.5020.00088.766138Chlorobenzene18.6201.020.00093.181122Chlorotethane19.4101.020.00097.058131Chlorotorm18.0801.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00097.566133Dibromothane19.5001.020.00097.566133Dibromothane19.5001.020.00097.566133Dibromothane19.5001.020.00097.073125Ethylbenzene19.3901.020.00097.067131Dibromothane19.3901.020.00097.067131Hexachlorobutadiene19.3901.020.00097.067131MpXylene41.6501.040.00010476128Methylene chloride20.21020.00010476128Methylene chloride10.3401.020.00010476128Methylene chlorid	2-Butanone	217.740	10	200.0	0	109	49	136				
Bromoform20.7901.020.00010469128Bromomethane21.5801.020.00010853141Carbon tetrachloride17.3400.5020.00086.766138Chlorobenzene18.6201.020.00093.181122Chloroform18.0801.020.00090.469128Chloroform18.0801.020.00097.058133Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00097.566133Dibromothane19.5001.020.00097.566133Dibromothane20.1901.020.00097.573127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.21020.00097.067131MTBE19.3401.020.00097.067131MTBE19.3401.020.00010476128MTBE19.3401.020.00010163137MTBE19.3401.020.00010165123	Benzene	17.890	1.0	20.00	0	89.4	81	122				
Bromomethane21.5801.020.00010853141Carbon tetrachloride17.3400.5020.00086.766138Chlorobenzene18.6201.020.00093.181122Chloroethane19.4101.020.00097.058133Chloroform18.0801.020.00090.469128Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00097.566133Dibromomethane19.5001.020.00095.773127Hexachlorobutadiene19.301.020.00095.773127Hexachlorobutadiene19.3001.020.00097.067131m,p-Xylene41.6501.040.00010476128Mttplene chloride20.2102.0096.763131MTBE19.3401.020.00095.773127	Bromodichloromethane	20.730	1.0	20.00	0	104	76	121				
Bromomethane21.5801.020.00010853141Carbon tetrachloride17.3400.5020.00086.766138Chlorobenzene18.6201.020.00093.181122Chloroethane19.4101.020.00097.058133Chloroform18.0801.020.00090.469128Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00097.566133Dibromothane19.5001.020.00097.566133Dibromothane20.1901.020.00097.573127Hexachlorobutadiene19.3001.020.00097.067131m,p-Xylene41.6501.040.00010476128Mthylene chloride20.21020.00097.067131MTBE19.3401.020.00097.067131	Bromoform	20.790	1.0	20.00	0	104	69	128				
Chlorobenzene18.6201.020.00093.181122Chloroethane19.4101.020.00097.058133Chloroform18.0801.020.00090.469128Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00097.566133Dibromochloromethane19.5001.020.00095.773125Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128MtBE19.3401.020.00097.067131	Bromomethane	21.580	1.0		0	108		141				
Chloroethane19.4101.020.00097.058133Chloroform18.0801.020.00090.469128Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00010169131Dibromochloromethane19.5001.020.00097.566133Dibromochloromethane20.1901.020.00095.773125Ethylbenzene19.1301.020.00097.067131MacAchlorobutadiene19.3901.020.00097.067131Methylene chloride20.2102.0010476128MTBE19.3401.020.00096.765123	Carbon tetrachloride	17.340	0.50	20.00	0	86.7	66	138				
Chloroform18.0801.020.00090.469128Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00010169131Dibromochloromethane19.5001.020.00097.566133Dibromochloromethane20.1901.020.00010176125Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.21020.0020.00096.765123	Chlorobenzene	18.620	1.0	20.00	0	93.1	81	122				
Chloromethane15.9201.020.00079.656131cis-1,3-Dichloropropene20.1501.020.00010169131Dibromochloromethane19.5001.020.00097.566133Dibromoethane20.1901.020.00010176125Ethylbenzene19.3001.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.21020.00096.765123	Chloroethane	19.410	1.0	20.00	0	97.0	58	133				
cis-1,3-Dichloropropene20.1501.020.00010169131Dibromochloromethane19.5001.020.00097.566133Dibromomethane20.1901.020.00010176125Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.21020.00096.765123	Chloroform	18.080	1.0	20.00	0	90.4	69	128				
Dibromochloromethane19.5001.020.00097.566133Dibromomethane20.1901.020.00010176125Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m.p-Xylene41.6501.040.00010476128Methylene chloride20.2102.020.00096.765123	Chloromethane	15.920	1.0	20.00	0	79.6	56	131				
Dibromomethane20.1901.020.00010176125Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.2102.020.00096.765123	cis-1,3-Dichloropropene	20.150	1.0	20.00	0	101	69	131				
Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.2102.020.00010163137MTBE19.3401.020.00096.765123	Dibromochloromethane	19.500	1.0	20.00	0	97.5	66	133				
Ethylbenzene19.1301.020.00095.773127Hexachlorobutadiene19.3901.020.00097.067131m,p-Xylene41.6501.040.00010476128Methylene chloride20.2102.020.00010163137MTBE19.3401.020.00096.765123	Dibromomethane	20.190	1.0		0	101	76	125				
m,p-Xylene41.6501.040.00010476128Methylene chloride20.2102.020.00010163137MTBE19.3401.020.00096.765123	Ethylbenzene	19.130			0	95.7						
Methylene chloride         20.210         2.0         20.00         0         101         63         137           MTBE         19.340         1.0         20.00         0         96.7         65         123	Hexachlorobutadiene	19.390	1.0	20.00	0	97.0	67	131				
Methylene chloride         20.210         2.0         20.00         0         101         63         137           MTBE         19.340         1.0         20.00         0         96.7         65         123	m,p-Xylene	41.650	1.0	40.00	0	104	76	128				
MTBE 19.340 1.0 20.00 0 96.7 65 123												
	•				0							
	n-Propylbenzene	20.510	1.0	20.00								

#### Qualifiers:

J

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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"

ASSET LABORATORIES

Work Order:N032999Project:SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: CA181116-LCS	SampType: LCS	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Da	te:		RunNo: 130016		
Client ID: LCSW	Batch ID: CA18VW039	Test	No: EPA 8260	В		Analysis Da	te: 11/16/2	2018	SeqNo: 320	7616	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	20.160	1.0	20.00	0	101	80	121				
Tert-amyl methyl ether	20.600	1.0	20.00	0	103	70	130				
Tert-Butanol	96.000	5.0	100.0	0	96.0	70	130				
Tetrachloroethene	19.000	1.0	20.00	0	95.0	66	128				
Toluene	19.500	2.0	20.00	0	97.5	77	122				
trans-1,2-Dichloroethene	17.070	1.0	20.00	0	85.4	63	137				
trans-1,3-Dichloropropene	21.960	1.0	20.00	0	110	59	135				
Trichloroethene	19.240	1.0	20.00	0	96.2	70	127				
Vinyl chloride	18.330	0.50	20.00	0	91.7	50	134				
Xylenes, Total	61.810	2.0	60.00	0	103	75	125				
Surr: 1,2-Dichloroethane-d4	26.560		25.00		106	72	119				
Surr: 4-Bromofluorobenzene	26.000		25.00		104	76	119				
Surr: Dibromofluoromethane	25.940		25.00		104	85	115				
Surr: Toluene-d8	25.740		25.00		103	81	120				
Sample ID: CA181116-LCSD	SampType: LCSD	TestCo	de: 8260_WP_	SF Units: ug/L		Prep Da	te:		RunNo: 130	016	
Client ID: LCSS02	Batch ID: CA18VW039	Test	No: EPA 8260	В		Analysis Da	te: 11/16/2	2018	SeqNo: 320	7617	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	18.730	1.0	20.00	0	93.6	67	132	19.60	4.54	20	
1,1,2,2-Tetrachloroethane	17.820	1.0	20.00	0	89.1	63	128	17.07	4.30	20	
1,1,2-Trichloroethane	19.630	1.0	20.00	0	98.2	75	125	19.82	0.963	20	
1,1-Dichloroethane	16.890	0.50	20.00	0	84.4	69	133	16.24	3.92	20	
1,1-Dichloroethene	16.760	1.0	20.00	0	83.8	68	130	16.63	0.779	20	
1,2,4-Trichlorobenzene	18.070	1.0	20.00	0	90.4	66	134	18.37	1.65	20	
1,2-Dichlorobenzene	20.190	1.0	20.00	0	101	71	122	20.11	0.397	20	
1,2-Dichloroethane	21.310	0.50	20.00	0	107	69	132	23.21	8.54	20	
1 0 D' 11									0.50		
1,2-Dichloropropane	19.360	1.0	20.00	0	96.8	75	125	19.85	2.50	20	
1,2-Dichloropropane 1,3-Dichlorobenzene	19.360 20.670	1.0 1.0	20.00 20.00	0 0	96.8 103	75 75	125 124	19.85 20.30	2.50 1.81	20 20	

### Qualifiers:

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

to matrix interference DO Surrogat <u>CALIFORNIA</u>|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
 ORELAP/NELAP Cert 4046
 ORELAP/NELAP Cert 4046

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

ASSET LABORATORIES

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: CA181116-LCSD	SampType: LCSD	TestCode: 8260_WP_SF Units: ug/L				Prep Da	ite:		RunNo: 130016		
Client ID: LCSS02	Batch ID: CA18VW039	Test	No: EPA 8260	В		Analysis Da	ite: 11/16/2	2018	SeqNo: 320	7617	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	194.780	10	200.0	0	97.4	49	136	217.7	11.1	20	
Benzene	17.770	1.0	20.00	0	88.8	81	122	17.89	0.673	20	
Bromodichloromethane	19.260	1.0	20.00	0	96.3	76	121	20.73	7.35	20	
Bromoform	20.110	1.0	20.00	0	101	69	128	20.79	3.33	20	
Bromomethane	19.290	1.0	20.00	0	96.5	53	141	21.58	11.2	20	
Carbon tetrachloride	16.850	0.50	20.00	0	84.2	66	138	17.34	2.87	20	
Chlorobenzene	18.890	1.0	20.00	0	94.4	81	122	18.62	1.44	20	
Chloroethane	17.560	1.0	20.00	0	87.8	58	133	19.41	10.0	20	
Chloroform	17.920	1.0	20.00	0	89.6	69	128	18.08	0.889	20	
Chloromethane	15.850	1.0	20.00	0	79.2	56	131	15.92	0.441	20	
cis-1,3-Dichloropropene	19.410	1.0	20.00	0	97.0	69	131	20.15	3.74	20	
Dibromochloromethane	20.240	1.0	20.00	0	101	66	133	19.50	3.72	20	
Dibromomethane	20.010	1.0	20.00	0	100	76	125	20.19	0.896	20	
Ethylbenzene	19.760	1.0	20.00	0	98.8	73	127	19.13	3.24	20	
Hexachlorobutadiene	19.360	1.0	20.00	0	96.8	67	131	19.39	0.155	20	
m,p-Xylene	44.040	1.0	40.00	0	110	76	128	41.65	5.58	20	
Methylene chloride	20.210	2.0	20.00	0	101	63	137	20.21	0	20	
МТВЕ	18.850	1.0	20.00	0	94.3	65	123	19.34	2.57	20	
n-Propylbenzene	21.730	1.0	20.00	0	109	72	129	20.51	5.78	20	
o-Xylene	21.550	1.0	20.00	0	108	80	121	20.16	6.67	20	
Tert-amyl methyl ether	19.940	1.0	20.00	0	99.7	70	130	20.60	3.26	20	
Tert-Butanol	108.880	5.0	100.0	0	109	70	130	96.00	12.6	20	
Tetrachloroethene	17.570	1.0	20.00	0	87.9	66	128	19.00	7.82	20	
Toluene	19.170	2.0	20.00	0	95.9	77	122	19.50	1.71	20	
trans-1,2-Dichloroethene	17.030	1.0	20.00	0	85.2	63	137	17.07	0.235	20	
trans-1,3-Dichloropropene	22.260	1.0	20.00	0	111	59	135	21.96	1.36	20	
Trichloroethene	19.170	1.0	20.00	0	95.9	70	127	19.24	0.364	20	
Vinyl chloride	17.810	0.50	20.00	0	89.0	50	134	18.33	2.88	20	
Xylenes, Total	65.590	2.0	60.00	0	109	75	125	61.81	5.93	20	
Surr: 1,2-Dichloroethane-d4	25.290		25.00		101	72	119		0		

### Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits

ASSET LABORATORIES

"Serving Clients with Passion and Professionalism"

- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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

#### Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

### TestCode: 8260\_WP\_SFPP

Client ID: LCSS02 Ba Analyte Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	Result 26.620 24.710 24.900	TestN PQL	lo: EPA 8260 SPK value 25.00 25.00	B SPK Ref Val	%REC	Analysis Da LowLimit		018 RPD Ref Val	SeqNo: <b>320</b> %RPD	07617 RPDLimit	Qual
Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane	26.620 24.710 24.900	PQL	25.00	SPK Ref Val		LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	24.710 24.900										200.
	24.900		25.00		106	76	119		0		
Surr: Toluene-d8					98.8	85	115		0		
			25.00		99.6	81	120		0		
Sample ID: CA181116-MB3 Sam	npType: MBLK	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Da	te:		RunNo: 130	0016	
Client ID: PBW Ba	atch ID: CA18VW039	TestN	TestNo: EPA 8260B			Analysis Date: 11/16/2018				07618	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2-Butanone	ND	10									
Benzene	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									

### Qualifiers:

J

- В Analyte detected in the associated Method Blank Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

CALIFORNIA P:562.219.7435 F:562.219.7436

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H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

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ASSET LABORATORIES

# Work Order:N032999Project:SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: CA181116-MB3	SampType: MBLK	TestCode: 8260_WP_SF Units: ug/L			Prep Date:				RunNo: 130016		
Client ID: PBW	Batch ID: CA18VW039	TestNo: EPA 8260B				Analysis Da	ate: 11/16/2	2018	SeqNo: 3207618		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Ethylbenzene	ND	1.0									
Hexachlorobutadiene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Propylbenzene	ND	1.0									
o-Xylene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	28.550		25.00		114	72	119				
Surr: 4-Bromofluorobenzene	22.680		25.00		90.7	76	119				
Surr: Dibromofluoromethane	27.080		25.00		108	85	115				
Surr: Toluene-d8	25.340		25.00		101	81	120				

Qualifiers:

S

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

ue to matrix interference DO Surrogate Di CALIFORNIA | P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703

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<u>NEVADA</u> |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 H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

ASSET LABORATORIES

# Work Order:N032999Project:SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

### TestCode: 8260WATERU

Sample ID: P181120LCS	SampType: LCS	TestCode: 8260WATERU Units: µg/L				Prep Da	te:		RunNo: 130083		
Client ID: LCSW	Batch ID: P18VW166	TestN	lo: EPA 8260	В		Analysis Da	te: 11/20/2	018	SeqNo: <b>32</b> 1	0211	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	25.590	0.50	20.00	0	128	28	120				S
Surr: 1,2-Dichloroethane-d4	26.480		25.00		106	75	130				
Surr: 4-Bromofluorobenzene	25.170		25.00		101	80	120				
Surr: Dibromofluoromethane	25.580		25.00		102	80	128				
Surr: Toluene-d8	25.140		25.00		101	80	120				
Sample ID: N032999-001QMS	SampType: <b>MS</b>	TestCo	de: 8260WAT	ERU Units: µg/L		Prep Da	te:		RunNo: 130	0083	
Client ID: ZZZZZZ	Batch ID: P18VW166	TestN	lo: EPA 8260	В		Analysis Da	te: 11/20/2	018	SeqNo: <b>32</b> 1	10212	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	23.740	0.50	20.00	0	119	5	175				
Surr: 1,2-Dichloroethane-d4	26.720		25.00		107	75	130				
Surr: 4-Bromofluorobenzene	25.390		25.00		102	80	120				
Surr: Dibromofluoromethane	26.400		25.00		106	80	128				
Surr: Toluene-d8	25.360		25.00		101	80	120				
Sample ID: N032999-001QMSD	SampType: <b>MSD</b>	TestCo	de: 8260WAT	ERU Units: µg/L		Prep Da	te:		RunNo: 130	0083	
Client ID: ZZZZZZ	Batch ID: P18VW166	TestN	lo: EPA 8260	В		Analysis Da	te: 11/20/2	018	SeqNo: <b>32</b> 1	10213	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	22.490	0.50	20.00	0	112	5	175	23.74	5.41	20	
Surr: 1,2-Dichloroethane-d4	27.450		25.00		110	75	130		0		
Surr: 4-Bromofluorobenzene	25.970		25.00		104	80	120		0		
Surr: Dibromofluoromethane	26.170		25.00		105	80	128		0		
Surr: Toluene-d8	25.490		25.00		102	80	120		0		

### Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - ASSET LABORATORIES CALIFO
    - CALIFORNIA | P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921

EPA ID CA01638

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H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

Work Order: N032999 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERU

Sample ID: P181120MB3	SampType: <b>MBLK</b>	TestCo	TestCode: 8260WATERU Units: µg/L Prep Date:			te:	RunNo: 130083				
Client ID: PBW	Batch ID: P18VW166	Test	TestNo: EPA 8260B			Analysis Da	te: 11/20/2	018	SeqNo: 3210216		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	ND	0.50									
Surr: 1,2-Dichloroethane-d4	26.510		25.00		106	75	130				
Surr: 4-Bromofluorobenzene	25.320		25.00		101	80	120				
Surr: Dibromofluoromethane	25.900		25.00		104	80	128				
Surr: Toluene-d8	25.210		25.00		101	80	120				

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 DO Surrogate Diluted Out
  - ASSET LABORATORIES

"Serving Clients with Passion and Professionalism"

- CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

Work Order: N032999

#### **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

### TestCode: 8270WATER\_SIMEXT

Sample ID: LCS-71493	SampType: LCS	TestCode: 8270WATER_ Units: µg/L	Prep Date: 11/21/2018	RunNo: <b>130141</b>
Client ID: LCSW	Batch ID: 71493	TestNo: EPA 8270C EPA 3510C	Analysis Date: 11/26/2018	SeqNo: 3212110
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Phenol	3.400	1.0 6.000 0	56.7 24 120	
Surr: Phenol-d5	0.470	1.000	47.0 25 108	
Sample ID: LCSD-71493	SampType: LCSD	TestCode: 8270WATER_ Units: µg/L	Prep Date: 11/21/2018	RunNo: 130141
Client ID: LCSS02	Batch ID: 71493	TestNo: EPA 8270C EPA 3510C	Analysis Date: <b>11/26/2018</b>	SeqNo: 3212111
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Phenol	3.000	1.0 6.000 0	50.0 24 120 3.400	12.5 20
Surr: Phenol-d5	0.430	1.000	43.0 25 108	0
Sample ID: MB-71493	SampType: MBLK	TestCode: 8270WATER_ Units: µg/L	Prep Date: 11/21/2018	RunNo: 130141
Client ID: PBW	Batch ID: 71493	TestNo: EPA 8270C EPA 3510C	Analysis Date: 11/26/2018	SeqNo: 3212112
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Phenol	0.570	1.0		J
Surr: Phenol-d5	0.430	1.000	43.0 25 108	

Qualifiers:

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

E Value above quantitation range

CALIFORNIA P:562.219.7435 F:562.219.7436

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H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

ASSET LABORATORIES



	Asset Laborator 3151 W. Post Ro Las Vegas, NV 8 Tel: 702-307-26 Marion Cartin (r	ad	es.com)																											
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11				$\vdash$				L	_ 4		/					$\rightarrow$		-	-			-	-+-	-+-	-+-	+	-			Vesse Provide Deteiled Sample Receipt with a list of sample bottles
								IΓ					+-	+	+	-+-	-+	-+-	-+-	-			-	$\rightarrow$						and analysis associated with the sample bottles.
12								1		+	+	+		+	+			-+				T	-				- 1	Ţ		
									_														1	T	T	T			-+	
Relinquished	by Chembers and Printed Horsels		18/142	Ø	K	Strature and P	herman harrenge	w			Date/Tim	11	115	5 / I	18			P	A = :	und Time Same ( 24 Hou	Day	•								Special Instruction:
V	Lan Ma	11/15	118	R	ulinquished by b	and was and	finted Marse):				1000/	. 1	1					-1-	c = 4	48 Hou	18									1.9°c/2.5°c/

Senlla 707 11/15/18 1707 2.9° IN#1 Mantol D = 72 Hours ■ E = 5 Workdays 11/15/18 17.11 10 Workda 1 andra Relguez 11/10/18 8.2 Sa TAT Starts at 8 AM the follow! ofter 3:00 PM atric: reservative Container Type: W = Water WW = Wastewater H = HCl N = HNO3 5 = H2504 . F ≈ Tube o ≠ Ol V = VOA P = Product P = Pint A = Amber 5 ≏ Soll Z = Zn(AC)2 O = NaOH T = NeZS2O3 = Jar B = Tedlar G = Glass Others/Specify: Others/Specify: M = Metai P = Plastic C = Can

650 #: 3689/3690/3691

N032999

## **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.

	/ed/Opened On:	11/15/201	10			Workorder:	N032999		
Rep sample T	emp (Deg C):	1.9/2.7/2.9	9			IR Gun ID:	1		
Temp Blank:		✓ Yes	🗌 No						
Carrier name:		Golden St	tate Overnight						
Last 4 digits c	of Tracking No.:	3689/369	0/3691		Packing	g Material Used:	Bubble Wrap		
Cooling proce	ess:	✓ Ice	Ice Pack	Dry Ice	Other	None			
			S	ample Receip	ot Checklis	t			
1. Shipping co	ontainer/cooler in g	ood conditio				Yes 🗹	No 🗌	Not Present	
2. Custody se	als intact, signed, o	dated on sh	hippping container/	cooler?		Yes	No 🗌	Not Present	$\checkmark$
3. Custody se	als intact on sampl	le bottles?				Yes	No 🗌	Not Present	$\checkmark$
4. Chain of cu	istody present?					Yes 🗹	No 🗌		
5. Sampler's r	name present in CC	C?				Yes 🗹	No 🗌		
6. Chain of cu	istody signed when	n relinquishe	ed and received?			Yes 🗹	No 🗌		
7. Chain of cu	istody agrees with	sample labe	els?			Yes 🗹	No 🗌		
8. Samples in	proper container/b	ottle?				Yes 🗹	No 🗌		
9. Sample cor	ntainers intact?					Yes 🗹	No 🗌		
10. Sufficient	sample volume for	indicated te	est?			Yes 🗹	No 🗌		
11. All sample	es received within h	olding time	?			Yes	No 🗹		
12. Temperate	ure of rep sample c	or Temp Bla	ank within acceptal	ble limit?		Yes 🗸	No 🗌	NA	
13. Water - V	OA vials have zero	headspace	e?			Yes 🗹	No 🗌	NA	
•	H acceptable upon	•				Yes 🗹	No 🗌	NA	
Exampl	e: pH > 12 for (CN	,S); pH<2 f	for Metals				_		
15. Did the bo	ottle labels indicate	correct pres	servatives used?			Yes 🗹	No 🗌	NA	
16. Were ther	e Non-Conformanc	ce issues at as Client no	•			Yes ✔ Yes □	No 🗌 No 🗌	NA NA	
0				· · ·				INA	
Comments:	Sample for pH wa	is past noid	ling time upon rece	apt.					

YR 41/21/2018

Reviewed By: MBC

11/27/2018

WORK C	<b>)RDER Summar</b>	<b>'V</b>				19-Nov-18					
		•				WorkOrd	er: N032999				
Client ID: Project: Comments:	CH2HI03 SFPP Norwalk Report metals, TPH ar	nd VOC preliminary data o	<b>QC Leve</b> n 24-hr TAT. R		enes.	<b>Date Received:</b> 11/15/2018					
Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld MS Sub Storage				
N032999-001A	EFF-11-15	11/15/2018 11:00:00 AM	11/19/2018	Wastewater	EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	V-CA				
N032999-001B			11/19/2018		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	SUB				
N032999-001C			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	SUB				
			11/19/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID	SUB				
			11/19/2018		EPA 8015B	Total TPH	SUB				
N032999-001D			11/19/2018			AQPREP TOTAL METALS: ICP, FLAA	WW				
			11/19/2018		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	U U WW				
			11/19/2018		EPA 200.8	TOTAL METALS BY ICPMS	WW				
			11/19/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	ww				
			11/19/2018			MERCURY PREP	WW				
N032999-001E			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE/PCB	SUB				
			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C	SUB				
			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE	SUB				
			11/19/2018		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	SUB				
			11/19/2018		EPA 8082	PCBs BY GC/ECD	SUB				
			11/19/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	□ □ ✔ SUB				
N032999-001F			11/26/2018		SM 5210 B	BIOCHEMICAL OXYGEN DEMAND	SUB				
N032999-001G			11/26/2018		SM2540D	TOTAL NON-FILTERABLE RESIDUE					
			11/26/2018			Total Suspended Solids Prep					

#### 19-Nov-18 **WORK ORDER Summary** WorkOrder: N032999 **Client ID:** CH2HI03 OC Level: RTNE **Project:** SFPP Norwalk Date Received: 11/15/2018 **Comments:** Report metals, TPH and VOC preliminary data on 24-hr TAT. Report Total Xylenes. **Date Due Test Name** Hld MS Sub Storage Sample ID **Client Sample ID Date Collected** Matrix Test No N032999-001G EFF-11-15 11/15/2018 11:00:00 AM 11/26/2018 Wastewater SM 2130B TURBIDITY LSR $\square$ □ LSR 11/26/2018 EPA 300.0 ANIONS BY ION CHROMATOGRAPHY $\square$ LSR 11/26/2018 EPA 300.0 ANIONS BY ION CHROMATOGRAPHY $\square$ 11/26/2018 EPA 300.0 ANIONS BY ION CHROMATOGRAPHY LSR N032999-001H 11/26/2018 Oil and Grease Sample Prep WW 11/26/2018 EPA 1664 \_HEM Hexane Extractable Material (HEM) WW SM4500-NH3C AMMONIA-N N032999-001I 11/26/2018 SUB WW 11/26/2018 SM2540F SETTLEABLE MATTER N032999-001J WW 11/26/2018 Setteable Matter $\square$ WW N032999-001K 11/26/2018 EPA 7199 Hexavalent Chromium by IC $\square$ SM4500-CN E CYANIDE, TOTAL N032999-001L 11/26/2018 SUB SUB N032999-001M 11/26/2018 SM 5540 C SURFACTANTS $\square$ N032999-001N 11/26/2018 SM4500-S-2D SULFIDE, TOTAL SUB N032999-001O 11/26/2018 EPA 8290 Dioxins and Dibenzofurans SUB N032999-001P 11/19/2018 TEM Asbestos TEM SUB VOLATILE ORGANIC COMPOUNDS BY VW N032999-001Q 11/26/2018 EPA 8260B GC/MS VOLATILE ORGANIC COMPOUNDS BY SUB N032999-001R 11/26/2018 EPA 8260B GC/MS N032999-002A RSW-001-11-15 11/15/2018 1:45:00 PM 11/19/2018 EPA 8260B VOLATILE ORGANIC COMPOUNDS BY V-CA GC/MS □ WW N032999-002B 11/19/2018 AQPREP TOTAL METALS: ICP, FLAA 11/19/2018 EPA 200.7 TOTAL METALS BY ICP WW $\square$ 11/19/2018 AQPREP TOTAL METALS: ICP, FLAA WW

WORK (	ORDER Summar	·y	19-Nov-18				
Client ID:	CH2HI03					WorkOrd	er: N032999
Project:	SFPP Norwalk		QC Leve	I: RTNE		Date Receive	ed: 11/15/2018
Comments:	Report metals, TPH as	nd VOC preliminary data	on 24-hr TAT. R	eport Total Xyl	enes.		
Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld MS Sub Storage
N032999-002B	RSW-001-11-15	11/15/2018 1:45:00 PM	11/19/2018	Wastewater	EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	ww
			11/19/2018		EPA 200.8	TOTAL METALS BY ICPMS	ww
			11/19/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	ww
			11/19/2018			MERCURY PREP	WW
			11/26/2018		SM 2340 B	Hardness by Calculation	WW
N032999-002C			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE/PCB	□ □ V SUB
			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C	SUB
			11/19/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: PESTICIDE	SUB
			11/19/2018		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	SUB
			11/19/2018		EPA 8082	PCBs BY GC/ECD	SUB
			11/19/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	SUB
N032999-002D			11/26/2018		EPA 7199	Hexavalent Chromium by IC	WW
N032999-002E			11/26/2018		SM4500-CN E	CYANIDE, TOTAL	SUB
N032999-002F			11/26/2018		EPA 8290	Dioxins and Dibenzofurans	SUB
N032999-002G			11/19/2018		TEM	Asbestos TEM	SUB
N032999-002H			11/26/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	
N032999-002I			11/26/2018		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	SUB
N032999-003A	FOLDER	11/19/2018	11/19/2018		Folder	Folder	
			11/19/2018		Folder	Folder	



### **ASSET Laboratories**

3151-3153 W Post Rd., Las Vegas, NV 89118 www.atl-labs.com TEL: 7023072659

FAX: 7023072691

**CHAIN-OF-CUSTODY RECORD** 

Page 1 of 1

QC Level: RTNE

Project Manager DANIELLE ROBERTS Subcontractor: Test America - Irvine TEL: (949) 261-1022 17461 Derian Ave, Ste. 100 FAX: (949) 261-1228 Irvine, CA 92614 Acct #:

Field Sampler: SIGNED

16-Nov-18

87

	Requested Tests				
Sample ID	Matrix	Date Collected	Bottle Type	EPA 8260B	
N032999-001R / EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	VOA	1	
N032999-002I / RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	VOA	1	

Limited sample (1 VOA each)

Acrolein: RL-5 Acrylonitrile: RL-2 EDD Requirement CH2MHILL Labspec7 edata. Please report "J' flagged down to MDL format.

Please cc report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

General Comments: Please email sample receipt acknowledgement to the PM.

> Please use PO#:N32999C Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marion at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Please analyze for Acrolein (RL-5) and Acrylonitrile (RL-2) by 8260.

Relinquished by:	Date/Time 11/16/18 16 20	Received by:	Date/Time
	A	5.7/5.7	(K- 85

## **ASSET Laboratories**

3151-3153 W Post Rd., Las Vegas, NV 89118 www.atl-labs.com TEL: 7023072659 FAX: 7023072691

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: RTNE

S	ubcontractor:					
	Pace Analytical Services, Inc.	TEL:	(612) 607-1700	Field Sampler:	SIGNED	
	1700 Elm Street, Suite 200	FAX:	(612) 607-6444			
	Minneapolis, MN 55414	Acct #:				19-Nov-18
-						

						Requested Tests	
	Sample ID	Matrix	Date Collected	Bottle Type	EPA 8290		
N032999-001O	/ EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	32OZA	1		
N032999-002F	/ RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	32OZA	1		

EDD Requirement CH2MHILL Labspec7 edata. Please report "J" flagged down to MDL format.

Please cc Report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N32999D Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Please analyze for 2,3,7,8-TCDD and TCDD equivalents by SW8290.

		[		Fedex #: 773761146537	
			Date/Time		Date/Time
Relinquished by:	Y	11/19/20	18 16:00	Received by:	
Relinquished by:				Received by:	

Out a suffra star

N032999-002G

**ASSET Laboratories** 

/ RSW-001-11-15

3151-3153 W Post Rd., Las Vegas, NV 89118 www.atl-labs.com TEL: 7023072659 FAX: 7023072691

## **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

4.6°C

**Date/Time** 

QC Level: RTNE

Wi

LA Testing 159 Pasadena Avenue South Pasadena, CA 91030		254-9960 254-9982		Field Sampler:		16-Nov-18
					Requested Tests	
Sample ID	Matrix	Date Collected	Bottle Type	Asb_PLM	TEM	
N032999-001P / EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	3207P	N BO		

320ZP

320ZP

11/15/2018 11:00:00 AM

11/15/2018 1:45:00 PM

EDD Requirement CH2MHILL Labspec7 edata. Please report "J" flagged down to MDL format.

Please cc report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

Wastewater

Wastewater

General Comments:

Please email sample receipt acknowledgement to the PM.

Please use PO#:N32999B Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Molky at (562)-219-7435. Please e-mail results to reports@assetlaboratories.com by: 11/26/18

Please analyze for Asbestos (EPA 600/R-94/134)

	in ne
Relinquished by:	Renlla

**Date/Time Received by:** 

**Relinquished by:** 

**Received by:** 



## **ASSET Laboratories**

3151-3153 W Post Rd., Las Vegas, NV 89118 www.atl-labs.com TEL: 7023072659 FAX: 7023072691

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: RTNE

Su	ibcontractor:					
	BC Labs	TEL:	(661) 327-4911	Field Sampler:	SIGNED	
	4100 Atlas Court	FAX:	(661) 327-1918			
	Bakersfield, CA 93308	Acct #:				19-Nov-18

					Requested Tests	
Sample ID	Matrix	Date Collected	Bottle Type	EPA 8081A	EPA 8082	EPA 8270C
N032999-001E / EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	32OZA	1	1	1
N032999-002C / RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	32OZA	1	1	1

EDD Requirement CH2MHILL Labspec7 edata. Please report "J" flagged down to MDL format.

Please cc Report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N32999E Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Please analyze for Priority Pollutant SVOCs, Pesticides and PBCs.

			GSO#: 542826164 / 542834736	
		Date/Time		Date/Time
Relinquished by:	YD	11/19/2018 17:00	Received by:	
Relinquished by:			Received by:	



SUBCONTRACT TO: BC LABS

Contact us:

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.3072691 California: 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 P: 562.219.7435 F: 562.219.7436

R	ANALYTICAL SU	PORT SERVICES FOR ENVIRONMENTAL TECHNOI	СНА													l fornia:	<ul> <li>3151 W. Post Road, Las Vegas, NV 85</li> <li>P: 702.307.2659 F: 702.3072691</li> <li>11110 Artesla Blvd., Ste B, Cerritos, (</li> <li>P: 552.219.7435 F: 562.219,7436</li> <li>www.assetlaboratories.com</li> </ul>										
Client: ASSET Laboratories Report to: Marlon Cartin								Bill to: Elvira Allegaert/Accounts Payable								E	DD R	equire	ment	T	_	vac	<u> </u>				
	11110 Artesia	Blvd Ste B	Company: ASSE	SSET Laboratories			Address: 11110 Artesia Blvd Ste B									Excel	EDD	_		RT				Sampe Receipt Condition			
Addres	Cerritos, CA 9	0703	Email: marlon@assetiaboratorles.com									Geotracker							-	/QCB Trans	-						
Phone:	562.219.7435	Fax:	Address:	Address:				Cerritos, CA 90703								Others					vel III			Headspace Container Intect			
Submitt		562.219.7436	3151 W Post Rd				elvira@assetlaboratories.com					N32999A					Specify:				/EL IV		_	Seal Present	_		
	Molky Bra	ar	Las Vegas, NV 89113				Phone: 562.219.7435					<sup>12</sup> 562.219.7436 Global ID:							_	ulatory cify St			IR number Method of	┼—	_		
Title:			Phone: 702.307.2659 Fax:				Matrix				Analyses Requested							-				oling ample Temp:					
Signatu	re:	Date:	Sampled by:																_	-							
l hereby i	whorize ASSET Labs to per	form the tests indicated below:	with or intendonally mil	nd authenticity of this sam slabeling the sample locat	tion. dete or time	that tempering of collection is	Potable		1	AMMONIA NITROGEN			52108	E					Í	Н		T					
Project	Vame: SFPP NOR		considered fraud and r Signature:	nay be grounds for legal a	action.			Other	-	Ē	335.4) 500 \$7-1		SW 22	10ta									Courier				
Project	lumber:		1			Solid L			EPA SM4	A 554	DEG. C	H-oil							ie g	NOL T	Fracking	king No.					
ltem	Laboratory Work Orde	r No. Samp	le ID/Location				Surface		╞───	NA I	CYANIDE (EPA SULFIDES (SM 4	SULFIDES (SM ASD0 52-D) MBAs (SM 5540C) BOD (@20 DEG. C) SM 52108 TPH-gas (SW 8015) TPH-d, TPH-oil, Total TPH								Tum Around	No. of container Container Type	SERVI	Tracking No. Remarks				
No.			F-11-15		Date	Time	Water	Solid	Others		-			티르	$\left  \right $	_		$\downarrow$		) L	No. of Conta	PRES		Remark	5		
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-11	d M (Signature and Printed N	11/15/18 11/11/18	Date / Time	Received by (Signature	and Printed Nan	ne):			Dete / Time					d Time					Special	Instri	Iction	ĻĻ				_	
<u>//)</u> efingujsha	MANY Signature and Printed N		19:00											24 Hrs			Day TA	- H	EDD F	REQU	IREMI	ENT CH	12MHil	LL Labspec7 e	data.	┥	
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elinquishe	d by (Signature and Printed N	ime):	Date / Time	Received by (Signature	and Printed Mo-									3 Worl					Please cc report to Lucille Golosinda at								
				, cognition of the second s		ia).		Ľ	Date / Time			E = Routine 5-7 Workdays TAT Starts at 8 AM the following day if							lucille.golosinda@assetlaboratories.com							1	
All samples	will be disposed in 45 days			5. Trip Blanks and Equipment	Bladie ave Alliabi							TAT	sample	at 8 AM	the fo ved afi	bilowlin ter 3:00	g dey PM.	H									
Less tha	1 24 Hrs = 200% Next Day = 1009	I Montrobury a Erfort of the stand of the st		6. ASSET Laboratories is not re 7. Terres are not 30 Days	esponsible for sample	es collected using inc						Prese H = HC	evative Si	96: N = H	INCo	8-	H2SO4		= 4°C T = Tube V = VOA IP = Pint								
Custom ED	) formats will be an additional 9% of th	ne total project price. S for Level IV Data Packates Surchards applied on total project		8. All reports are submitted in 9. For subcontract analysis, TA	AT and Surcharges wi	ll very.	aboratrories if hard i	opy of report is nee	ded.			Ž = Zn	(AC)2	0 = N			NazSzi		= 4°C	- J	= Jar		B = 1	Tedlar G =	Glass	-	
											Others/Specify: M = Metal P = Plastic C = Can Yellow = Customer's Copy																



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

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

COD: \$0.00 Weight: 0 lb(s) **Reference:** 

**Delivery Instructions:** HOLD FOR PICK-UP Signature Type: STANDARD



800-322-5555 www.gso.com



Package 1 of 3

LABEL INSTRUCTIONS:

Print Date: 11/15/2018 7:41 PM

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

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.

1.9°C sn#1



Ship From ASSET LABORATORIES MOLKY BRAR 11110 ARTESIA BLVD. SUIT CERRITOS, CA 90703

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

COD: \$0.00 Weight: 0 lb(s) **Reference:** 

**Delivery Instructions:** HOLD FOR PICK-UP Signature Type: STANDARI



800-322-5555 www.gso.com

ΈB	Tracking #: 542803690	DS
	LVS A	
D	C89102A	

Package 2 of 3

LABEL INSTRUCTIONS:

Print Date: 11/15/2018 7:41 PM

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

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

2.700 sn#1



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

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

COD: \$0.00 Weight: 0 lb(s) Reference:

**Delivery Instructions:** HOLD FOR PICK-UP **Signature Type:** STANDARD



Package 3 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.

25% soft1

Print Date: 11/15/2018 7:41 PM



520 Mission Street South Pasadena, CA 91030 Phone/Fax: (323) 254-9960 / (323) 254-9982 <u>http://www.LATesting.com</u> / pasadenalab@latesting.com LA Testing Order ID: 321826571 Customer ID: ADTL34 Customer PO: N32999B Project ID:

Attn:	Marlon Cartin	Phone:	(702) 307-2659	
	Asset Laboratories	Fax:		
	3151 West Post Road	Collected:	11/15/2018	
	Las Vegas, NV 89118	Received:	11/16/2018	
	<b>0</b>	Analyzed:	11/23/2018	
		•		

Proj:

# Test Report: Determination of Asbestos Structures ≥ 0.5 µm & > 10µm in Water Performed by the 100.2 Method (EPA 600/R-94/134)

							Α	SBESTOS		
Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered	Effective Filter Area	Area Analyze		Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
		( <i>ml</i> )	(mm²)	(mm²)				MFL	(million fibers per	liter)
N032999-001P/EFF- 11-15 321826571-0001	11/16/2018 02:50 PM	100	1288	0.0640	≥ 0.5 µm	None Detected	ND	0.20	<0.20	0.00 - 0.74
521020571-0001					> 10 µm only	None Detected	ND	0.20	<0.20	0.00 - 0.74
N032999-002G/RS W-001-11-15 321826571-0002	11/16/2018 02:50 PM	30	1288	0.2176	≥ 0.5 µm	None Detected	ND	0.20	<0.20	0.00 - 0.73
521020571-0002					> 10 µm only	None Detected	ND	0.20	<0.20	0.00 - 0.73

Analyst(s) Kyeong Corbin

(2)

Jerry Drapala Ph.D, Laboratory Manager or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 11/23/2018 10:35:04

Sample collection and containers provided by the client, acceptable bottle blank level is defined as <0.01MFL>10um. ND=None Detected. This report relates only to those items tested. This report may not be reproduced, except in full, without written permission by LA Testing. Samples received in good condition unless otherwise noted.

Samples analyzed by LA Testing South Pasadena, CA CA ELAP 2283



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

# TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 440-224648-1 Client Project/Site: N032999

# For:

..... Links

Review your project results through

**Total**Access

Have a Question?

Ask-

The

www.testamericainc.com

Visit us at:

Expert

Advanced Technology Laboratories dba Asset Laboratories 3151-3153 W Post Road Las Vegas, Nevada 89118

Attn: Marlon Cartin

aner Roberso

Authorized for release by: 11/23/2018 3:48:29 PM Danielle Roberts, Senior Project Manager

(949)261-1022 danielle.roberts@testamericainc.com

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

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

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

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Lab Sample ID	Client Sample ID	Matrix	Collected Received
440-224648-1	EFF-11-15	Water	11/15/18 11:00 11/16/18 16:20
440-224648-2	RSW-001-11-15	Water	11/15/18 13:45 11/16/18 16:20

## Job ID: 440-224648-1

### Laboratory: TestAmerica Irvine

#### Narrative

Job Narrative 440-224648-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2018 4:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.7° C.

#### GC/MS VOA

Method(s) 8260B: The following volatile samples were analyzed with significant headspace in the sample container(s) due to multiple runs: EFF-11-15 (440-224648-1) and RSW-001-11-15 (440-224648-2). Significant headspace is defined as a bubble greater than 6 mm in diameter. Only one VOA vial provided per samples.

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

#### **VOA Prep**

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

TestAmerica Job ID: 440-224648-1

# **Detection Summary**

Client: Advanced Technology Laboratories Project/Site: N032999

Client Sample ID: RSW-001-11-15

**Client Sample ID: EFF-11-15** 

No Detections.

No Detections.

2 Lab Sample ID: 440-224648-1 4 Lab Sample ID: 440-224648-2 5 6 7 8 9

This Detection Summary does not include radiochemical test results.

Lab Sample ID: 440-224648-2

## Client Sample ID: EFF-11-15 Date Collected: 11/15/18 11:00

Date Received: 11/16/18 16:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		5.0	2.5	ug/L			11/21/18 09:46	1
Acrylonitrile	ND		2.0	1.0	ug/L			11/21/18 09:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120					11/21/18 09:46	1
Dibromofluoromethane (Surr)	101		76 - 132					11/21/18 09:46	1
Toluene-d8 (Surr)	111		80 - 128					11/21/18 09:46	1

### Client Sample ID: RSW-001-11-15 Date Collected: 11/15/18 13:45 Date Received: 11/16/18 16:20

Method: 8260B - Volatile O	-								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		5.0	2.5	ug/L			11/21/18 10:11	1
Acrylonitrile	ND		2.0	1.0	ug/L			11/21/18 10:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			80 - 120			-		11/21/18 10:11	1
Dibromofluoromethane (Surr)	101		76 - 132					11/21/18 10:11	1
Toluene-d8 (Surr)	108		80 - 128					11/21/18 10:11	1

Lab Sample ID: 440-224648-1 Matrix: Water

Matrix: Water

5 6

Prep Type: Total/NA

# Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix:	Water

			Pe	ercent Surr
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(76-132)	(80-128)
440-224648-1	EFF-11-15	101	101	111
440-224648-2	RSW-001-11-15	104	101	108
440-224657-A-5 MS	Matrix Spike	103	97	100
440-224657-A-5 MSD	Matrix Spike Duplicate	105	99	99
LCS 440-512593/5	Lab Control Sample	102	103	99
LCSD 440-512593/16	Lab Control Sample Dup	96	98	100
MB 440-512593/4	Method Blank	98	101	101

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Client: Advanced Technology Laboratories Project/Site: N032999

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
5030C	Purge and Trap	SW846	TAL IRV

#### **Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

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

Initial

Amount

10 mL

Final

Amount

10 mL

Batch

Number

512593

or Analyzed

11/21/18 09:46 GK

Client Sample ID: EFF-11-15 Date Collected: 11/15/18 11:00

Date Received: 11/16/18 16:20

Prep Type

Total/NA

Analyst

Lab Sample ID: 440-224648-2

# Lab Sample ID: 440-224648-1 Matrix: Water Prepared 5

Lab

TAL IRV

Matrix: Water

## Client Sample ID: RSW-001-11-15 Date Collected: 11/15/18 13:45 Date Received: 11/16/18 16:20

Batch

Туре

Analysis

Batch

8260B

Method

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	512593	11/21/18 10:11	GK	TAL IRV

Dil

1

Factor

Run

#### Laboratory References:

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

9

5 6

10

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water	512593/4							U	lie	nt Sam	ple ID: Method Prep Type: To	
Analysis Batch: 512593											Fieb Type. It	
Analysis Batch. 512555	MF	MB										
Analyte		t Qualifier	RL	Ν	NDL U	Unit		D	Pre	epared	Analyzed	Dil Fa
Acrolein	ND	)	5.0		2.5 ī	ug/L				•	11/21/18 08:03	
Acrylonitrile	NE	)	2.0		1.0 ι	-					11/21/18 08:03	
	МЕ	B MB										
Surrogate	%Recovery	Qualifier	Limits						Pr	epared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	98	3	80 - 120								11/21/18 08:03	
Dibromofluoromethane (Surr)	101	1	76 - 132								11/21/18 08:03	1
Toluene-d8 (Surr)	101	1	80 - 128								11/21/18 08:03	-
Matrix: Water	512593/5						Cli	ent S	an	nple ID:	Lab Control S Prep Type: To	
Lab Sample ID: LCS 440- Matrix: Water Analysis Batch: 512593	512593/5		Spika	109	1.05		Cli	ent S	an	nple ID:	Prep Type: To	
Matrix: Water Analysis Batch: 512593	512593/5		Spike Added	LCS Result		fier					Prep Type: To %Rec.	
Matrix: Water	512593/5		Spike Added	LCS Result 19.1		fier	Unit			<b>Nple ID</b> <u>%Rec</u> 76	Prep Type: To	
Matrix: Water Analysis Batch: 512593 Analyte	512593/5		Added	Result		fier				%Rec	Prep Type: To %Rec. Limits	
Matrix: Water Analysis Batch: 512593 Analyte Acrolein	-512593/5		Added	<b>Result</b> 19.1		fier	Unit ug/L			%Rec 76	Wrep Type: To         %Rec.         Limits         10 - 145	
Matrix: Water Analysis Batch: 512593 Analyte Acrolein			Added	<b>Result</b> 19.1		fier	Unit ug/L			%Rec 76	Wrep Type: To         %Rec.         Limits         10 - 145	
Matrix: Water Analysis Batch: 512593 Analyte Acrolein Acrylonitrile			Added 25.0 250	<b>Result</b> 19.1		fier	Unit ug/L			%Rec 76	Wrep Type: To         %Rec.         Limits         10 - 145	
Matrix: Water Analysis Batch: 512593 Analyte Acrolein Acrylonitrile Surrogate	LCS LC %Recovery Qu		Added 25.0 250 Limits	<b>Result</b> 19.1		fier	Unit ug/L			%Rec 76	Wrep Type: To         %Rec.         Limits         10 - 145	
Matrix: Water Analysis Batch: 512593 Analyte Acrolein Acrylonitrile Surrogate 4-Bromofluorobenzene (Surr)	LCS LC %Recovery Qu 102		Added 25.0 250 Limits 80 - 120	<b>Result</b> 19.1		fier	Unit ug/L			%Rec 76	Wrep Type: To         %Rec.         Limits         10 - 145	

#### Matrix: Water Analysis Batch: 512593

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acrolein	25.0	18.4		ug/L		74	10 - 145	3	30
Acrylonitrile	250	216		ug/L		86	48 - 140	10	30

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132
Toluene-d8 (Surr)	100		80 - 128

#### Lab Sample ID: 440-224657-A-5 MS Matrix: Water Analysis Batch: 512593

Analysis Daten. 012000	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acrolein	ND		25.0	17.0		ug/L		68	10 - 147	
Acrylonitrile	ND		250	192		ug/L		77	38 - 144	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	103		80 - 120							
Dibromofluoromethane (Surr)	97		76 - 132							
Toluene-d8 (Surr)	100		80 - 128							

## TestAmerica Irvine

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

10

# Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

#### Lab Sample ID: 440-224657-A-5 MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water** Prep Type: Total/NA Analysis Batch: 512593 Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Acrolein ND 25.0 19.1 ug/L 76 10 - 147 12 40 Acrylonitrile ND 250 224 ug/L 90 38 - 144 15 40 MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 105 80 - 120 99 76 - 132 Dibromofluoromethane (Surr) 80 - 128 Toluene-d8 (Surr) 99

# GC/MS VOA

## Analysis Batch: 512593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-224648-1	EFF-11-15	Total/NA	Water	8260B	
440-224648-2	RSW-001-11-15	Total/NA	Water	8260B	
MB 440-512593/4	Method Blank	Total/NA	Water	8260B	
LCS 440-512593/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-512593/16	Lab Control Sample Dup	Total/NA	Water	8260B	
440-224657-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-224657-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

# **Definitions/Glossary**

# Glossary

Project/Site: N	I estAmerica Job ID: 440-224648-1 N032999	
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	5
CFL	Contains Free Liquid	
CNF	Contains No Free Liquid	
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision Level Concentration (Radiochemistry)	8
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	9
LOQ	Limit of Quantitation (DoD/DOE)	
MDA	Minimum Detectable Activity (Radiochemistry)	
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	12
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

## Laboratory: TestAmerica Irvine

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

Authority		Program		EPA	Region	Identification Number	r Expiration Date
California		LA Cty Sanitati	on Districts	9		10256	06-30-19
The following analytes the agency does not c		• •	t the laboratory i	is not certi	ified by the	governing authority. Th	is list may include analytes for wh
Analysis Method	Prep Meth	hod	Matrix		Analyte	9	
8260B			Water		Acrolei	n	
8260B			Water		Acrylor	nitrile	
California		State Program		9		CA ELAP 2706	06-30-19
The following analytes the agency does not c		• •	t the laboratory i	s not certi	ified by the	governing authority. Th	iis list may include analytes for wh
Analysis Method	Prep Meth	nod	Matrix		Analyte	9	

Subcontractor:

Test America - Irvine

Irvine, CA 92614

17461 Derian Ave, Ste, 100

Project Manager DANIELLE ROBERTS

# **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

QC Level: RTNE

Field Sampler: SIGNED

16-Nov-18

			ſ		Requested Tests
Sample ID	Matrix	Date Collected	Bottle Type	EPA 8260B	
N032999-001R / EFF-11-15	Wastewater	11/15/2018 11:00:00 AM	VOA	1	
N032999-002I / RSW-001-11-15	Wastewater	11/15/2018 1:45:00 PM	VOA	1	

Limited sample (1 VOA each)

Acrolein: RL-5 Acrylonitrile: RL-2 EDD Requirement CH2MHILL Labspec7 edata. Please report "J' flagged down to MDL format.

Please cc report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

TEL:

FAX:

Acct #:

(949) 261-1022

(949) 261-1228



General Comments: Please email sample receipt acknowledgement to the PM.

> Please use PO#:N32999C Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Please analyze for Acrolein (RL-5) and Acrylonitrile (RL-2) by 8260.

Relinquished by: Bevilla	Date/Time	Received by:	Date/Time
Relinquished by:	11/16/18 16 20		11/14/18/16-20
		5.7/5.7	(K-89

4

11/23/2018

811LILISV

# Login Sample Receipt Checklist

#### Client: Advanced Technology Laboratories

#### Login Number: 224648 List Number: 1 Creator: Skinner, Alma D

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

Job Number: 440-224648-1

List Source: TestAmerica Irvine



Date of Report: 12/06/2018

Marlon Cartin

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

Client Project:N032999: SFPP NORWALKBCL Project:CH2MHILLBCL Work Order:1836187Invoice ID:B323580

Enclosed are the results of analyses for samples received by the laboratory on 11/16/2018. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000823615

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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Chain of Custody and Cooler Receipt Form for 1836187 Page 1 of 4

Conflect us: Nevada: 3151 W. Post Road, Las Vegui, NV £9113 P: 702.307.2659 F: 702.3071691	Californie: 11110 Artesta 814d., Ste B. Cerritos, CA.90703 P: 562, 219,7435 F: 562, 219,7435 Www.assetlaboratonies.com	GAVOC Sampe Receipt Condition		Califrans Califrans	3. Container Integ. 4. Sault Proteine		Specify State: 5. Method of Cooking	Sample Terrp:		Counter:	NO	vir baug angelina (TAV90)	o jo isk ektroj	4											Special Instruction: EDD REQUIREMENT CH2MHiLL Labspec? edate.	Please report "I" flagged down to MDL format.	Presse do report to Lucite dolarinda at Tucile golosinda@attettaboratoriat.com		Container Type: 1 = 1.00 1 = 1.57 0 = 0.01 0 = 0.010 0 = 0.010	2001 -
Contact us: Nevada: 3	fornia:	hene	맏	p					E							E	$\vdash$						1		Specia	200	Inelling		2.5	
	_	EDD Requirement	Evol EDO	Labebec	Ceners Specify	10000	Crockel EC:	pessed															5		un Around Time (FAT) C A < 24 Hrs or Same Day TAT	day S	2	Let E a Routine 5-7 Workdays TAT Starts at a AM the following day If samples reserved after 2000 PM.	Preservatives: N= HCI N= HHCI 3= HCSO 2 = 20420 0 = HSON 1 = Na1500 Center Seator	Copy
						4	562.219.7436	Analyses Requested		-	stoa	MS) SE	8-1443	×									19 3 a		uin Around Time (TAT) A < 24 Hrs or 5a	[d] B = Next Workday [] C = 2 Workdays	= 3 Workday	<ul> <li>Routing 5-1</li> <li>Routing 5-1</li> <li>Routing 5-1</li> </ul>	athes: N=HNDs CIP O = NaOH	(elow = Oustamer's Capy
	ŝ	Payable	8	5	Appendix	1969	562.	A	E	900754	2015	s ins)	sABN	×			-						 		Y L L	s o I	å	н « н Т	Presen H = HCI Z = ZNIA	Yelow
a	OK	ounts I	Wod Ste	Cerritos, CA 90703	AD4	-	ĕ		NBS	_	88 V.	a) sa	INYX3	×	×		-	-												
10	Ч. Т.	ert/Acc	rtesia B	ritos, C		ories.co	5						Others												DS: 30	04111-00	Ools / Tare		¥	
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				ratories.com						<ul> <li>Faito deviario (hila)</li> <li>Clobo dr Seno d/ L</li> </ul>			Dute	11/15/18	11/15/18										AD PURING 74Km	on and Prinkel Name	Printed have		and and helder samples out monthly in samples out of the factor of same	aboratory Cap
SUBCONTRACT TO: BC LABS		Marlon Cartin	ASSET Laboratories	marten Stassetaborajorios.com	3151 W Post Rd		Las Vegas, NV 89113	702.307.2659		F where to the mainfully and authorized of the submodule. I wan online the foregrands with an interactionally without for the submodule data of the or fore of collection is represented fraud and module so anotatic for leads and anotae.			lon					DING TIME		(MBAS) COT		NUT ON CAL			A 0	Received by Barenus a	Received by (Separate and Prese have)		<ol> <li>Tong Man Ji and Onghowa Wakati ang Middle (1986).</li> <li>And Takan Mana Manatana Manakatana angkata (1986).</li> <li>And Manatana Manatana Manakatana angkatana angkatanana angkatanana angkatana angkatana angkatana</li></ol>	White = Laboratory Copy
	. 1	Report to:	Company:	Emat:	Address:		- 1	Phone:	Sempled by:	Fellet to the with or interest contreleved ha	Signature		Sample ID/Location	EFF-11-15	RSW-001-11-15				NO3			HARING W	8		14:0	Cuto / Tore	Deto / Time		olan af faud nepose. A monthes - 205	
ASSET LABORATORIES	RVICES FOR ENVIRONMENTAL TECHNOLO				562.219.7436				Date:				Sample	EFI	H-MSH			ICH TACHS	Cr <sup>+6</sup> NO <sub>2</sub>	DO CI <sup>2</sup>	Tana and	CHKBY R	hallo	,	11/15/18 -11/14/18 14:00				and in 5 years upon ruban 1 Workdays - 20%	
ASSET L		Cient: ASSET Laboratories	11110 Artesia Blvd Ste B	Addresse Cerritos, CA 90703	Phone: 562.219.7435 Fax:	Submitted By: A 4 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	Tex Molky Brar		Signature:	f faraby authorius 42357 (.e0s to perform the doats indicated bakes	SFPP NORWALK	Project Number:	No. Laboratory Work Order No.	7	, ,										Junder	Town is a part of the set of the set	Telescolored by (Separture and Ported Notes)		1.44 Sector and the dependent of 24 Appropriate and internal world by dependent 1.44 Sector and the dependent of 24 Appropriate and and internal world by dependent 2.50 pper 21 No. 5 A December and a pper and approximate and a pper a 2000. A dependent to the dependent of the dependent of the dependent of the 4 control of the dependent of the dependent of the dependent of the a dependent of the dependent of the dependent of the dependent of the a dependent of the dependent of the dependent of the dependent of the a dependent of the dependent of the dependent of the dependent of the a dependent of the dependent of the dependent of the dependent of the a dependent of the depend	

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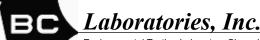
Chain of Custody and Cooler Receipt Form for 1836187 Page 2 of 4

		Analytical N	fethod Inform	nation				
Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix %R	Spike RPD	Blank Spik %R	e / LCS RPD
gm608w CTR in Water (EPA-60	(8)							
Preservation: Store cool at 4	°C in Dark							
Container: O20: EPA 508	A	Amo	ount Required: N	1	1	fold Time:	7 days	
1000ml, No Pr								
Aldrin	0.00037	0.0010 ug/I.			60 - 130	30	60 - 130	30
alpha-BHC beta-BHC	0.00046	0.0010 ug/L						
delta-BHC	0.00049 0.00048	0.0010 ug/L						
gamma-BHC (Lindane)	0.00048	0.0010 ug/L 0.0010 ug/L			60 - 130	30	60 120	20
Chlordane (Technical)	0.030	0.10 ug/L			60 - 150	30	60 - 130	30
4,4-DDD	0.00049	0.0010 ug/L						
4,4-DDE	0.00048	0.0010 ug/L						
4,4'-DDT	0.00034	0.0010 ug/L			60 - 130	30	60 - 130	30
Dieldrin	0.00046	0.0010 ug/L			65 - 130	30	60 - 130	30
Endosulfan I	0.00048	0.0010 ug/L				20		20
Endosulfan II	0.00059	0.0010 ug/L						
Endosulfan sulfate	0.00085	0.0010 ug/L						
Endrin	0.00072	0.0010 ug/L			60 - 130	30	60 - 130	30
Endrin aldehyde	0.00077	0.0020 ug/L						
Heptachlor	0.00039	0.0010 ug/L			60 - 130	30	60 - 130	30
Heptachlor epoxide	0.00084	0.0010 ug/L						
Methoxychlor	0.00076	0.0010 ug/L						
Toxaphene	0.040	0.40 ug/L						
PCB-1016	0.013	0.040 ug/L						
PCB-1221	0.019	0.040 ug/L						
PCB-1232	0.013	0.040 ug/L						
PCB-1242	0.014	0.040 ug/L						
PCB-1248	0.024	0.040 ug/L						
PCB-1254	0.012	0.040 ug/L						
PCB-1260	0.0068	0.040 ug/L				25		25
PCB-1262	0.024	0.040 ug/L						
PCB-1268	0.020	0.040 ug/L						
Total PCB's (Summation)	0.020	0.040 ug/L					<b>CO</b> 100	
Aldrin [2C]	0.00040	0.0010 ug/L			60 - 130	30	60 - 130	30
alpha-BHC [2C] beta-BHC [2C]	0.00034 0.00043	0.0010 ug/L						
delta-BHC [2C]	0.00046	0.0010 ug/L 0.0010 ug/L						
gamma-BHC (Lindane) [2C]	0.00043	0.0010 ug/L			60 - 130	30	60 - 130	30
Chlordane (Technical) [2C]	0.021	0.10 ug/L			00-130	50	00 - 130	30
I,4'-DDD [2C]	0.00037	0.0010 ug/L						
4,4-DDE [2C]	0.00031	0.0010 ug/L						
4,4'-DDT [2C]	0.00028	0.0010 ug/L			60 - 130	30	60 - 130	30
Dieldrin [2C]	0.00041	0.0010 ug/L			65 - 130	30	60 - 130	30
Endosulfan I [2C]	0.00050	0.0010 ug/L						
Endosulfan II [2C]	0.00057	0.0010 ug/L						
Endosulfan sulfate [2C]	0.00043	0.0010 ug/L						
Endrin [2C]	0.00053	0.0010 ug/L			60 - 130	30	60 - 130	30
Endrin aldehyde [2C]	0.00061	0.0020 ug/L						
leptachlor [2C]	0.00036	0.0010 ug/L			60 - 130	30	60 - 130	30
leptachlor epoxide [2C]	0.00056	0.0010 ug/L						

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Chain of Custody and Cooler Receipt Form for 1836187 Page 3 of 4

		BC L	aboratori	es \l	3.341	0		10/2/201
		Analytical M	fethod Infor	mation				
Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matri %R	x Spike RPD	Blank Spi %R	ke / LCS RPD
Methoxychlor [2C]	0.00053	0.0010 ug/L						
Toxaphene [2C]	0.040	0.40 ug/L						
PCB-1016 [2C]	0.011	0.040 ug/L						
PCB-1221 [2C]	0.0088	0.040 ug/L						
PCB-1232 [2C]	0.015	0.040 ug/L						
PCB-1242 [2C]	0.016	0.040 ug/L						
PCB-1248 [2C]	0.018	0.040 ug/L						
PCB-1254 [2C]	0.013	0.040 ug/L						
PCB-1260 [2C]	0.012	0.040 ug/L				25		25
CB-1262 [2C]	0.028	0.040 ug/L						
PCB-1268 [2C]	0.019	0.040 ug/L						
fotal PCB's (Summation) [2C]	0.020	0.040 ug/L						
arr: TCMX (Surrogate)			40 - 140					
urr: Decachlorobiphenyl (Surrogate)			50 - 130					
urr: TCMX (Surrogate) [2C]			40 - 140					
urr: Decachlorobiphenyl (Surrogate) [2C]			50 - 130					

Page 2 of 2

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#### Chain of Custody and Cooler Receipt Form for 1836187 Page 4 of 4

BC LABORATORIES INC.			OOLER	RECEIPT	FORM			Pag	e	0f <u>\</u>
Submission #: 18-310187										
SHIPPING INFORM Fed Ex  UPS  Ontrac BC Lab Field Service  Other		l Deliver	'so_	Ice Ch	HIPPING est BP er 🗆 (Spe	None 🗆			FREE LIC YES D 1 W /	0
Refrigerant: Ice ⊠) Blue Ice □	None		Other 🗆	Comr	nents:					
	Containe		None	⊉⊖Com	ments:					
All samples received? Yes 🖉 No 🗆 Al	I samples	containers	intact? Y	esØ No	0	Descrip	tion(s) mate	h COC?	res 🗹 No	0
ND YES DINO	sivity:		Container: しつ	phpe	 (C)(			Date/Tir	ne JI . II	18:3D
SAMPLE CONTAINERS					SAMPLE	NUMBERS			1	
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402 / 802 / 1602 PE UNPRES	8					· · ·				
202 Cr*										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 40z / 80z / 160z						-	1			
PT CYANIDE	6	A			· .					
PT NITROGEN FORMS	Gi ·									
PT TOTAL SULFIDE	F									
202. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
10ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	RB_									
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
0 ml VOA VIAL- 504										
2T EPA 508/608/8080										
OT EPA 515.1/8150										
YT EPA 525										
T EPA 525 TRAVEL BLANK										
0ml EPA 547										
0ml EPA 531.1										
oz EPA 548										
YT EPA 549										
YT EPA 8015M										
T EPA 8270	44									
02 / 1602 / 1202 AMBER 02 / 1602 / 3202 JAR	HT									
OIL SLEEVE										
CB VIAL										
LASTIC BAG										
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ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118

#### 12/06/2018 14:51 Reported: Project: CH2MHILL Project Number: N032999: SFPP NORWALK Project Manager: Marlon Cartin

# Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1836187-01	COC Number:		Receive Date:	11/16/2018 08:30
	Project Number:		Sampling Date:	11/15/2018 11:00
	Sampling Location:		Sample Depth:	
	Sampling Point:	EFF-11-15	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater
1836187-02	COC Number:		Receive Date:	11/16/2018 08:30
	Project Number:		Sampling Date:	11/15/2018 13:45
	Sampling Location:		Sample Depth:	
	Sampling Point:	RSW-001-11-15	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater



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

# Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999: SFPP NORWALK

Project Manager: Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	1836187-01	Client Sampl	e Name:	EFF-11-15, 11/15/2018 11:00:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Orga	nics (C4 - C12)	ND	ppm	0.050	0.022	EPA-8015B	ND	U	1
a,a,a-Trifluorotoluene	(FID Surrogate)	87.8	%	70 - 130 (LC	L - UCL)	EPA-8015B			1

	Run						QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B	11/16/18 15:23	11/16/18 18:04	JBR	GC-V9	1	B030213			



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

# Total Petroleum Hydrocarbons

BCL Sample ID:	1836187-01	Client Sampl	e Name:	EFF-11-1	5, 11/15/20	18 11:00:00AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C	23)	ND	ug/L	40	6.8	EPA-8015CC	ND	U	1
TPH - Motor Oil (C23	- C36)	ND	ug/L	100	13	EPA-8015CC	ND	U	1
Tetracosane (Surrogat	te)	81.7	%	37 - 134 (LC	L - UCL)	EPA-8015CC			1

	Run						QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015CC	11/16/18 21:30	11/22/18 03:37	RCC	GC-5	1.010	B030537		



## ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd

Las Vegas, NV 89118

# Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

# Water Analysis (General Chemistry)

BCL Sample ID:	1836187-01	Client Sampl	e Name:	ne: EFF-11-15, 11/15/2018 11:00:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
MBAS		ND	mg/L	0.20	0.030	SM-5540C	ND	U,A07	1
Total Cyanide		0.0071	mg/L	0.0050	0.0017	EPA-335.4	ND		2
Ammonia as N (Distil	led)	0.11	mg/L	0.20	0.050	SM-4500-NH3G	ND	J	3
Total Sulfide		ND	mg/L	0.10	0.050	SM-4500SD	ND	U	4
Biochemical Oxygen Seeded	Demand -	1.6	mg/L	1.5	1.5	SM17-5210B			5

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	SM-5540C	11/16/18 09:00	11/16/18 09:00	JMN	SPEC06	2	B030302
2	EPA-335.4	11/21/18 08:49	11/21/18 16:30	MC1	KONE-1	1	B030639
3	SM-4500-NH3G	11/20/18 13:43	11/27/18 16:09	JMH	SC-1	1	B030570
4	SM-4500SD	11/20/18 14:30	11/20/18 14:30	JKS	SPEC06	1	B030710
5	SM17-5210B	11/16/18 10:00	11/16/18 10:00	HPR	YSIPRO	1.525	B030713



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999: SFPP NORWALK

Project Manager: Marlon Cartin

# Water Analysis (General Chemistry)

BCL Sample ID:	1836187-02	Client Sampl	Sample Name: RSW-001-11-15, 11/15/2018 1:45:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide		0.0017	mg/L	0.0050	0.0017	EPA-335.4	ND	J	1

			Run QC				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-335.4	11/21/18 08:49	11/21/18 17:06	MC1	KONE-1	1	B030639	



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999: SFPP NORWALKProject Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

## **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030213						
Gasoline Range Organics (C4 - C12)	B030213-BLK1	ND	ppm	0.050	0.022	U
a,a,a-Trifluorotoluene (FID Surrogate)	B030213-BLK1	92.7	%	70 - 130 (LCL - UCL)		



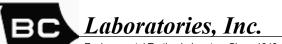
ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118

# Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999: SFPP NORWALKProject Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

# **Quality Control Report - Laboratory Control Sample**

							Control Limits				
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B030213											
Gasoline Range Organics (C4 - C12)	B030213-BS1	LCS	1.1166	1.0000	ppm	112		85 - 115			
a,a,a-Trifluorotoluene (FID Surrogate)	B030213-BS1	LCS	0.039938	0.040000	ppm	99.8		70 - 130			



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999: SFPP NORWALKProject Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

							Control Limits						
		Source	Source		Spike			Percent		Percent	Lab		
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals		
QC Batch ID: B030213	Use	d client samp	ole: N										
Gasoline Range Organics (C4 - C12)	MS	1833163-58	ND	1.0689	1.0000	ppm		107		70 - 130			
	MSD	1833163-58	ND	1.0679	1.0000	ppm	0.1	107	20	70 - 130			
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1833163-58	ND	0.040173	0.040000	ppm		100		70 - 130			
	MSD	1833163-58	ND	0.040632	0.040000	ppm	1.1	102		70 - 130			

# **Quality Control Report - Precision & Accuracy**



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

# **Total Petroleum Hydrocarbons**

# **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030537						
TPH - Diesel (C10 - C23)	B030537-BLK1	ND	ug/L	40	6.8	U
TPH - Motor Oil (C23 - C36)	B030537-BLK1	ND	ug/L	100	13	U
Tetracosane (Surrogate)	B030537-BLK1	67.7	% 37 - 134 (LCL - UCL)			



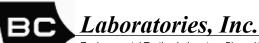
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Reported: 12/06/2018 14:51 Project: CH2MHILL Project Number: N032999: SFPP NORWALK Project Manager: Marlon Cartin

# **Total Petroleum Hydrocarbons**

# **Quality Control Report - Laboratory Control Sample**

							Control Limits				
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B030537											
TPH - Diesel (C10 - C23)	B030537-BS1	LCS	296.72	500.00	ug/L	59.3		52 - 128			
Tetracosane (Surrogate)	B030537-BS1	LCS	13.809	20.000	ug/L	69.0		37 - 134			



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

### **Total Petroleum Hydrocarbons**

#### **Quality Control Report - Precision & Accuracy**

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B030537	Use	d client samp	ole: N								
TPH - Diesel (C10 - C23)	MS	1833163-50	ND	390.00	500.00	ug/L		78.0		50 - 127	
	MSD	1833163-50	ND	473.25	500.00	ug/L	19.3	94.7	30	50 - 127	
Tetracosane (Surrogate)	MS	1833163-50	ND	17.029	20.000	ug/L		85.1		37 - 134	
	MSD	1833163-50	ND	19.727	20.000	ug/L	14.7	98.6		37 - 134	

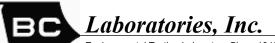


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## Water Analysis (General Chemistry)

### **Quality Control Report - Method Blank Analysis**

		•				
Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030302						
MBAS	B030302-BLK1	ND	mg/L	0.10	0.015	U
QC Batch ID: B030570						
Ammonia as N (Distilled)	B030570-BLK1	ND	mg/L	0.20	0.050	U
QC Batch ID: B030639						
Total Cyanide	B030639-BLK1	ND	mg/L	0.0050	0.0017	U
QC Batch ID: B030710						
Total Sulfide	B030710-BLK1	ND	mg/L	0.10	0.050	U
QC Batch ID: B030713						
Biochemical Oxygen Demand - Seeded	B030713-BLK1	ND	mg/L	1.0	1.0	U



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

## Water Analysis (General Chemistry)

#### **Quality Control Report - Laboratory Control Sample**

								Control L	.imits	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: B030302										
MBAS	B030302-BS1	LCS	0.20240	0.20000	mg/L	101		85 - 115		
QC Batch ID: B030570										
Ammonia as N (Distilled)	B030570-BS1	LCS	0.95950	1.0000	mg/L	96.0		85 - 115		
QC Batch ID: B030639										
Total Cyanide	B030639-BS1	LCS	0.14843	0.15000	mg/L	99.0		90 - 110		
QC Batch ID: B030710										
Total Sulfide	B030710-BS1	LCS	0.45102	0.50000	mg/L	90.2		90 - 110		
QC Batch ID: B030713										
Biochemical Oxygen Demand - Seeded	B030713-BS1	LCS	206.26	198.00	mg/L	104		85 - 115		



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

### Water Analysis (General Chemistry)

### **Quality Control Report - Precision & Accuracy**

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B030302	Use	d client sam	ple: Y - Des	cription: EFI	F-11-15, 11/ <sup>-</sup>	15/2018 1	1:00				
MBAS	DUP	1836187-01	ND	ND		mg/L			20		U
	MS	1836187-01	ND	0.42800	0.40000	mg/L		107		80 - 120	
	MSD	1836187-01	ND	0.41060	0.40000	mg/L	4.1	103	20	80 - 120	
QC Batch ID: B030570	Use	d client sam	ple: N								
Ammonia as N (Distilled)	DUP	1835692-01	0.38690	0.39640		mg/L	2.4		20		
	MS	1835692-01	0.38690	1.4904	1.1111	mg/L		99.3		80 - 120	
	MSD	1835692-01	0.38690	1.5382	1.1111	mg/L	3.2	104	20	80 - 120	
QC Batch ID: B030639	Use	d client sam	ple: N								
Total Cyanide	DUP	1836415-01	0.0021910	0.0018600		mg/L	16.3		10		J,A02
	MS	1836415-01	0.0021910	0.094956	0.10000	mg/L		92.8		90 - 110	
	MSD	1836415-01	0.0021910	0.095766	0.10000	mg/L	0.8	93.6	10	90 - 110	
QC Batch ID: B030710	Use	d client sam	ple: N								
Total Sulfide	DUP	1835946-02	ND	ND		mg/L			10		U
	MS	1835946-02	ND	0.44244	0.50000	mg/L		88.5		80 - 120	
	MSD	1835946-02	ND	0.44587	0.50000	mg/L	0.8	89.2	10	80 - 120	
QC Batch ID: B030713	Use	d client sam	ple: N								
Biochemical Oxygen Demand - Seede	d DUP	1836160-03	7.8690	6.5067		mg/L	19.0		20		

Environmental Testing Laboratory Since 1949

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# Reported:12/06/201814:51Project:CH2MHILLProject Number:N032999:SFPP NORWALKProject Manager:Marlon Cartin

#### **Notes And Definitions**

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
U	Analyte Not Detected at or above the reporting limit (CLP Flag)
A02	The difference between duplicate readings is less than the quantitation limit.
A07	Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.



Date of Report: 11/30/2018

Marlon Cartin

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

**Client Project:** N032999 CH2MHILL **BCL Project:** BCL Work Order: 1836456 B323885 Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 11/20/2018. 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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		3072691						fod
Subcontractor:		18-31	,456		QC Level: R	TNE		of Custody and Cooler Receipt Form for 1836456
BC Labs 4100 Atlas Court Bakersfield, CA 93308			327-4911 327-1918		Field Sampler: SI	GNED		ooler R
Saleshina, or sould		AUGL#.					19-Nov-18	ecei
Sample	ID	Matrix	Date Collected	Bottle Type	EPA 8081A	Requested Tests EPA 8082	EPA 8270C	pt F
N032999-001E / EFF-1 N032999-002C / RSW-	-15 _1 101-11-15 _2	Wastewater Wastewater	11/15/2018 11:00:00 AM 11/15/2018 1:45:00 PM	320ZA 320ZA	1	1	1	orm to
EDD Requirement	CH2MHILL Labsped	7 edata. Pier	ase report "J" flagged	i down to MDi		601		Page 1 of 3
			sinda@assetlaborator					
PI	tase email sample receipt ac ease use PO#:N32999E P arlon at (702)-307-2659. Plet ease analyze for Priority Polk	lease email Invoice ase e-mail results	s and Account Receivable Sta to reports.lv@assetlaboratories	itements to elvira@ s.com by: Normal 1	assetlaboratories.com. 'AT.	For questions, call		
			Date/Time GS	O#: 5428261	64 / 542834736		Date/Time	
							avere a mile	

Page 3 of 29



#### Chain of Custody and Cooler Receipt Form for 1836456 Page 2 of 3

BC LABORATORIES INC.		c	OOLER	RECEIPT	FORM			Pag	e   (	of	
Submission #: 18-36456											
SHIPPING INFOR	NATION	d Deliver		Ice Che	HIPPING st. 20 ar 🗆 (Spe	None 🗆					
Refrigerant: Ice	None		Other 🗆	Comn	nents:			7.	-		
Custody Seals Ice Chest 🗆	Containe Intact? Yes		None	⊊⊳ Com	ments:						
All samples received? Yes No 🗆	All samples	containers	intact? Y	es 🗗 No	0	Descript	tion(s) matc	h COC?	and the	.	
COC Received Em	issivity:										
SAMPLE CONTAINERS					SAMPLE	NUMBERS			_/		
		2	3	4	6	6	7	8	9	10	
QT PE UNPRES											
402/802/1602 PE UNPRES											
200. Cr+4										l	
OT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 402 / 802 / 1602										<b> </b>	
PT CYANIDE										<u> </u>	
PT NITROGEN FORMS										+	
PT TOTAL SULFIDE	1										
202. NITRATE / NITRITE											
PT TOTAL ORGANIC CARBON											
PT CHEMICAL OXYGEN DEMAND	1										
PIA PHENOLICS											
40ml VOA VIAL TRAVEL BLANK											
40ml VOA VIAL										<u> </u>	
OT EPA 1664											
PT ODOR											
RADIOLOGICAL											
BACTERIOLOGICAL 40 ml VOA VIAL- 504											
40 mi VOA VIAL- 304 QT EPA 508/605/8080	<u> </u>										
QT EPA 515.1/8150	I										
QT EPA 515.08150 QT EPA 525	<u> </u>										
QT EPA 525 TRAVEL BLANK	1										
40ml EPA 547											
40ml EPA 547	1									<u>                                     </u>	
Soz EPA 548 QT EPA 549											
QT EPA 8015M	1										
QT EPA 8270											
Soz / 1602 / 3202 AMBER	LB.C	1.9 1									
Soz / 1602 / 3202 JAR	1 mp ~	H132, C-									
SOIL SLEEVE										I	
PCB VIAL									-		
PLASTIC BAG											
FEDLAR BAG											
PERROUS IRON											
ENCORE											
MART KIT	l									<u> </u>	
SUMMA CANISTER	1					and the second second				L	
omments:		laA				1/20/12					

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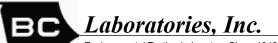
#### Chain of Custody and Cooler Receipt Form for 1836456 Page 3 of 3

Ubmission #: 8-3000000000000000000000000000000000000		Dellivery	0 <sup>1</sup>	Ice Ches		CONTAIN lone 🗆 ify)				
Refrigerant: Ice Blue Ice 🗆	None (	) Ot	ther 🗆	Comm	ents:					
ustody Seals Ice Chest	Container: tact? Yes 🗆		None_/	Comr	nents:				-	
Il samples received? Yet D No D Al	l samples co	ontainers i	ntact? Y	es 🖓 No i	2			h COC? Y	No	
	sivity:	10 c	ontainer:	Ambe	Thermom	eter ID:	274	Date/Tim	» <u>1120</u>	<u>1.18</u>
		(	0	'C /		1.2	*C	Analyst I	init D	09:21
-PDYES INO Ter	nperature:	A) -	1.0	·C /	a second s		<u> </u>		-	
(			A DOLLAR COMPANY		SAMPLE	NUMBERS				
SAMPLE CONTAINERS	1	2	3	4	5	6	7	8	9	10
T PE UNPRES									1	
oz / 8oz / 16oz PE UNPRES									1	
02. Cr*4										
T INORGANIC CHEMICAL METALS										
NORGANIC CHEMICAL METALS 402 / 802 / 1602										
T CYANIDE										
T NITROGEN FORMS	· · · · ·									
T TOTAL SULFIDE										
02. NITRATE / NITRITE										
T TOTAL ORGANIC CARBON										
T CHEMICAL OXYGEN DEMAND				1						
TA PHENOLICS										
0ml VOA VIAL TRAVEL BLANK										
0ml VOA VIAL										
OT EPA 1664										
PT ODOR	1									
RADIOLOGICAL										
BACTERIOLOGICAL										
00 ml VOA VIAL- 504										
QT EPA 505/608/8080 QT EPA 515.1/8150										
OT EPA 525										
OT EPA 525 OT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 541.1										
40mi EFA 5343 Soz EPA 548										
OT EPA 549										
OT EPA 8015M										
OT EPA 8270										
Sor / 16oz 32or AMBER	D.e.F	DEF								
802 / 1602 / 3200 JAR			1							
SOIL SLEEVE								_		
PCB VIAL										
PLASTIC BAG			'							
TEDLAR BAG			-							
FERROUS IRON			-							
ENCORE										
SMART KIT										
SUMMA CANISTER										

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 P.



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

#### Reported: 11/30/2018 16:15 Project: CH2MHILL Project Number: N032999 Project Manager: Marlon Cartin

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1836456-01	COC Number:		Receive Date:	11/20/2018 09:20
	Project Number:		Sampling Date:	11/15/2018 11:00
	Sampling Location:		Sample Depth:	
	Sampling Point:	N032999-001E / EFF-11-15	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater
1836456-02	COC Number:		Receive Date:	11/20/2018 09:20
	Project Number:		Sampling Date:	11/15/2018 13:45
	Sampling Location:		Sample Depth:	
	Sampling Point:	N032999-002C / RSW-001-11-15	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## **Organochlorine Pesticides and PCB's (EPA Method 608)**

BCL Sample ID:	1836456-01	Client Sampl	Client Sample Name:			N032999-001E / EFF-11-15, 11/15/2018 11:00:00AM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #					
PCB-1016		ND	ug/L	0.040	0.013	EPA-608	ND	U	1					
PCB-1221		ND	ug/L	0.040	0.019	EPA-608	ND	U	1					
PCB-1232		ND	ug/L	0.040	0.013	EPA-608	ND	U	1					
PCB-1242		ND	ug/L	0.040	0.014	EPA-608	ND	U	1					
PCB-1248		ND	ug/L	0.040	0.024	EPA-608	ND	U	1					
PCB-1254		ND	ug/L	0.040	0.012	EPA-608	ND	U	1					
PCB-1260		ND	ug/L	0.040	0.0068	EPA-608	ND	U	1					
Decachlorobiphenyl (Su	urrogate)	100	%	56 - 119 (LC	L - UCL)	EPA-608			1					

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-608	11/21/18 11:45	11/27/18 09:35	HKS	GC-17	1.020	B030885	



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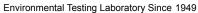
11/30/2018 16:15 Reported: Project: CH2MHILL Project Number: N032999 Project Manager: Marlon Cartin

## **Organochlorine Pesticides (EPA Method 8081A)**

BCL Sample ID:	1836456-01	Client Sampl	e Name:	N032999-001E / EFF-11-15, 11/15/2018 11:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Aldrin		ND	ug/L	0.0010	0.00037	EPA-8081A	ND	U	1	
alpha-BHC		ND	ug/L	0.0010	0.00046	EPA-8081A	ND	U	1	
beta-BHC		ND	ug/L	0.0010	0.00049	EPA-8081A	ND	U	1	
delta-BHC		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1	
gamma-BHC (Lindane)		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1	
Chlordane (Technical)		ND	ug/L	0.10	0.030	EPA-8081A	ND	U	1	
4,4'-DDD		ND	ug/L	0.0010	0.00049	EPA-8081A	ND	U	1	
4,4'-DDE		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1	
4,4'-DDT		ND	ug/L	0.0010	0.00034	EPA-8081A	ND	U	1	
Dieldrin		ND	ug/L	0.0010	0.00046	EPA-8081A	ND	U	1	
Endosulfan I		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1	
Endosulfan II		ND	ug/L	0.0010	0.00059	EPA-8081A	ND	U	1	
Endosulfan sulfate		ND	ug/L	0.0010	0.00085	EPA-8081A	ND	U	1	
Endrin		ND	ug/L	0.0010	0.00072	EPA-8081A	ND	U	1	
Endrin aldehyde		ND	ug/L	0.0020	0.00077	EPA-8081A	ND	U	1	
Heptachlor		ND	ug/L	0.0010	0.00039	EPA-8081A	ND	U	1	
Heptachlor epoxide		ND	ug/L	0.0010	0.00084	EPA-8081A	ND	U	1	
Methoxychlor		ND	ug/L	0.0010	0.00076	EPA-8081A	ND	U	1	
Toxaphene		ND	ug/L	0.40	0.040	EPA-8081A	ND	U	1	
TCMX (Surrogate)		106	%	40 - 140 (LC	L - UCL)	EPA-8081A			1	
Decachlorobiphenyl (Sur	rogate)	100	%	40 - 120 (LC	L - UCL)	EPA-8081A			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8081A	11/21/18 11:45	11/27/18 09:35	HKS	GC-17	1.020	B030885

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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

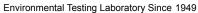
## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1836456-01	Client Sampl	e Name:	N032999-001E / EFF-11-15, 11/15/2018 11:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Acenaphthene		ND	ug/L	1.0	0.22	EPA-8270C	ND	U	1	
Acenaphthylene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Aldrin		ND	ug/L	2.0	0.28	EPA-8270C	ND	U	1	
Aniline		ND	ug/L	5.0	1.8	EPA-8270C	ND	U	1	
Anthracene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Benzidine		ND	ug/L	5.0	3.0	EPA-8270C	ND	U	1	
Benzo[a]anthracene		ND	ug/L	2.0	0.30	EPA-8270C	ND	U	1	
Benzo[b]fluoranthene		ND	ug/L	2.0	0.42	EPA-8270C	ND	U	1	
Benzo[k]fluoranthene		ND	ug/L	2.0	0.29	EPA-8270C	ND	U	1	
Benzo[a]pyrene		ND	ug/L	2.0	0.21	EPA-8270C	ND	U	1	
Benzo[g,h,i]perylene		ND	ug/L	2.0	0.48	EPA-8270C	ND	U	1	
Benzoic acid		ND	ug/L	10	0.72	EPA-8270C	ND	U	1	
Benzyl alcohol		ND	ug/L	2.0	0.35	EPA-8270C	ND	U	1	
Benzyl butyl phthalate		ND	ug/L	2.0	0.26	EPA-8270C	ND	U	1	
alpha-BHC		ND	ug/L	2.0	0.36	EPA-8270C	ND	U	1	
oeta-BHC		ND	ug/L	2.0	0.25	EPA-8270C	ND	U	1	
lelta-BHC		ND	ug/L	2.0	0.28	EPA-8270C	ND	U	1	
gamma-BHC (Lindane)		ND	ug/L	2.0	0.32	EPA-8270C	ND	U	1	
ois(2-Chloroethoxy)metha	ne	ND	ug/L	2.0	0.27	EPA-8270C	ND	U	1	
ois(2-Chloroethyl) ether		ND	ug/L	1.0	0.86	EPA-8270C	ND	U	1	
ois(2-Chloroisopropyl)ethe	er	ND	ug/L	2.0	1.7	EPA-8270C	ND	U	1	
bis(2-Ethylhexyl)phthalate		ND	ug/L	3.0	0.20	EPA-8270C	ND	U	1	
I-Bromophenyl phenyl eth	ier	ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
1-Chloroaniline		ND	ug/L	2.0	0.39	EPA-8270C	ND	U	1	
2-Chloronaphthalene		ND	ug/L	2.0	0.23	EPA-8270C	ND	U	1	
I-Chlorophenyl phenyl eth	ner	ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Chrysene		ND	ug/L	2.0	0.26	EPA-8270C	ND	U	1	
I,4'-DDD		ND	ug/L	2.0	0.40	EPA-8270C	ND	U	1	
I,4'-DDE		ND	ug/L	3.0	0.32	EPA-8270C	ND	U	1	
I,4'-DDT		ND	ug/L	2.0	0.26	EPA-8270C	ND	U	1	
Dibenzo[a,h]anthracene		ND	ug/L	3.0	0.59	EPA-8270C	ND	U	1	
Dibenzofuran		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
1,2-Dichlorobenzene		ND	ug/L	2.0	1.8	EPA-8270C	ND	U	1	

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Report ID: 1000824750



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

## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1836456-01	Client Sampl	e Name:	N032999-001E / EFF-11-15, 11/15/2018 11:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
1,3-Dichlorobenzene		ND	ug/L	1.0	0.50	EPA-8270C	ND	U	<u></u>	
1,4-Dichlorobenzene		ND	ug/L	1.0	0.55	EPA-8270C	ND	U	1	
3,3-Dichlorobenzidine		ND	ug/L	5.0	0.41	EPA-8270C	ND	U	1	
Dieldrin		ND	ug/L	3.0	0.45	EPA-8270C	ND	U	1	
Diethyl phthalate		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Dimethyl phthalate		ND	ug/L	2.0	0.25	EPA-8270C	ND	U	1	
Di-n-butyl phthalate		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
2,4-Dinitrotoluene		ND	ug/L	2.0	0.87	EPA-8270C	ND	U	1	
2,6-Dinitrotoluene		ND	ug/L	2.0	0.46	EPA-8270C	ND	U	1	
Di-n-octyl phthalate		ND	ug/L	2.0	0.31	EPA-8270C	ND	U	1	
1,2-Diphenylhydrazine		ND	ug/L	1.0	0.44	EPA-8270C	ND	U	1	
Endosulfan I		ND	ug/L	10	0.37	EPA-8270C	ND	U	1	
Endosulfan II		ND	ug/L	10	0.37	EPA-8270C	ND	U	1	
Endosulfan sulfate		ND	ug/L	3.0	0.37	EPA-8270C	ND	U	1	
Endrin		ND	ug/L	2.0	0.67	EPA-8270C	ND	U	1	
Endrin aldehyde		ND	ug/L	10	0.37	EPA-8270C	ND	U	1	
Fluoranthene		ND	ug/L	1.0	0.41	EPA-8270C	ND	U	1	
Fluorene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Heptachlor		ND	ug/L	2.0	0.22	EPA-8270C	ND	U	1	
Heptachlor epoxide		ND	ug/L	2.0	0.35	EPA-8270C	ND	U	1	
Hexachlorobenzene		ND	ug/L	1.0	0.23	EPA-8270C	ND	U	1	
Hexachlorobutadiene		ND	ug/L	1.0	0.46	EPA-8270C	ND	U	1	
Hexachlorocyclopentadier	e	ND	ug/L	1.0	0.35	EPA-8270C	ND	U	1	
Hexachloroethane		ND	ug/L	1.0	0.90	EPA-8270C	ND	U	1	
Indeno[1,2,3-cd]pyrene		ND	ug/L	2.0	0.71	EPA-8270C	ND	U	1	
Isophorone		ND	ug/L	1.0	0.41	EPA-8270C	ND	U	1	
2-Methylnaphthalene		ND	ug/L	2.0	0.30	EPA-8270C	ND	U	1	
Naphthalene		ND	ug/L	1.0	0.20	EPA-8270C	ND	U	1	
2-Naphthylamine		ND	ug/L	20	1.7	EPA-8270C	ND	U	1	
2-Nitroaniline		ND	ug/L	2.0	0.36	EPA-8270C	ND	U	1	
3-Nitroaniline		ND	ug/L	2.0	0.52	EPA-8270C	ND	U	1	
4-Nitroaniline		ND	ug/L	5.0	0.85	EPA-8270C	ND	U	1	
Nitrobenzene		ND	ug/L	1.0	0.39	EPA-8270C	ND	U	1	

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Report ID: 1000824750

Environmental Testing Laboratory Since 1949

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

## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1836456-01	Client Sampl	N032999-001E / EFF-11-15, 11/15/2018 11:00:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
N-Nitrosodimethylamine	e	ND	ug/L	2.0	0.56	EPA-8270C	ND	U	1	
N-Nitrosodi-N-propylan	nine	ND	ug/L	2.0	0.56	EPA-8270C	ND	U	1	
N-Nitrosodiphenylamin	e	ND	ug/L	1.0	0.27	EPA-8270C	ND	U	1	
Phenanthrene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Pyrene		ND	ug/L	2.0	0.31	EPA-8270C	ND	U	1	
1,2,4-Trichlorobenzene		ND	ug/L	1.0	0.24	EPA-8270C	ND	U	1	
4-Chloro-3-methylphen	ol	ND	ug/L	1.0	0.42	EPA-8270C	ND	U	1	
2-Chlorophenol		ND	ug/L	2.0	0.85	EPA-8270C	ND	U	1	
2,4-Dichlorophenol		ND	ug/L	1.0	0.26	EPA-8270C	ND	U	1	
2,4-Dimethylphenol		ND	ug/L	1.0	0.30	EPA-8270C	ND	U	1	
4,6-Dinitro-2-methylphe	enol	ND	ug/L	5.0	0.43	EPA-8270C	ND	U	1	
2,4-Dinitrophenol		ND	ug/L	5.0	0.37	EPA-8270C	ND	U	1	
2-Methylphenol		ND	ug/L	2.0	0.43	EPA-8270C	ND	U	1	
3- & 4-Methylphenol		ND	ug/L	2.0	1.3	EPA-8270C	ND	U	1	
2-Nitrophenol		ND	ug/L	2.0	0.39	EPA-8270C	ND	U	1	
4-Nitrophenol		ND	ug/L	2.0	0.66	EPA-8270C	ND	U	1	
Pentachlorophenol		ND	ug/L	1.0	0.43	EPA-8270C	ND	U	1	
Phenol		ND	ug/L	1.0	0.84	EPA-8270C	ND	U	1	
2,4,5-Trichlorophenol		ND	ug/L	5.0	0.36	EPA-8270C	ND	U	1	
2,4,6-Trichlorophenol		ND	ug/L	5.0	0.34	EPA-8270C	ND	U	1	
2-Fluorophenol (Surrog	ate)	51.4	%	34 - 108 (LC	L - UCL)	EPA-8270C			1	
Phenol-d5 (Surrogate)		45.0	%	14 - 76 (LCL	- UCL)	EPA-8270C			1	
Nitrobenzene-d5 (Surro	ogate)	88.9	%	54 - 138 (LC	L - UCL)	EPA-8270C			1	
2-Fluorobiphenyl (Surro	ogate)	78.9	%	52 - 134 (LC	L - UCL)	EPA-8270C			1	
2,4,6-Tribromophenol (	Surrogate)	74.2	%	57 - 162 (LC	L - UCL)	EPA-8270C			1	
p-Terphenyl-d14 (Surro	gate)	76.2	%	38 - 181 (LC	L - UCL)	EPA-8270C			1	

			Run				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID				
1	EPA-8270C	11/20/18 17:00	11/21/18 15:29	MK1	MS-B1	1.010	B030643				

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# Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## **Organochlorine Pesticides and PCB's (EPA Method 608)**

BCL Sample ID:	1836456-02	Client Sampl	e Name:	N032999-	N032999-002C / RSW-001-11-15, 11/15/2018 1:45:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
PCB-1016		ND	ug/L	0.040	0.013	EPA-608	ND	U	1			
PCB-1221		ND	ug/L	0.040	0.019	EPA-608	ND	U	1			
PCB-1232		ND	ug/L	0.040	0.013	EPA-608	ND	U	1			
PCB-1242		ND	ug/L	0.040	0.014	EPA-608	ND	U	1			
PCB-1248		ND	ug/L	0.040	0.024	EPA-608	ND	U	1			
PCB-1254		ND	ug/L	0.040	0.012	EPA-608	ND	U	1			
PCB-1260		ND	ug/L	0.040	0.0068	EPA-608	ND	U	1			
Decachlorobiphenyl (Se	urrogate)	64.8	%	56 - 119 (LC	L - UCL)	EPA-608			1			

			Run			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-608	11/21/18 11:45	11/27/18 09:49	HKS	GC-17	1.020	B030885			



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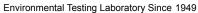
11/30/2018 16:15 Reported: Project: CH2MHILL Project Number: N032999 Project Manager: Marlon Cartin

## **Organochlorine Pesticides (EPA Method 8081A)**

BCL Sample ID:	1836456-02	Client Sampl	e Name:	N032999-	N032999-002C / RSW-001-11-15, 11/15/2018 1:45:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab	Run #		
Aldrin		ND	ug/L	0.0010	0.00037	EPA-8081A	ND	Quals ∪	<u> </u>		
alpha-BHC		ND	ug/L	0.0010	0.00046	EPA-8081A	ND	U	1		
beta-BHC		ND	ug/L	0.0010	0.00049	EPA-8081A	ND	U	1		
delta-BHC		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1		
gamma-BHC (Lindane)		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1		
Chlordane (Technical)		ND	ug/L	0.10	0.030	EPA-8081A	ND	U	1		
4,4'-DDD		ND	ug/L	0.0010	0.00049	EPA-8081A	ND	U	1		
4,4'-DDE		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1		
4,4'-DDT		ND	ug/L	0.0010	0.00034	EPA-8081A	ND	U	1		
Dieldrin		ND	ug/L	0.0010	0.00046	EPA-8081A	ND	U	1		
Endosulfan I		ND	ug/L	0.0010	0.00048	EPA-8081A	ND	U	1		
Endosulfan II		ND	ug/L	0.0010	0.00059	EPA-8081A	ND	U	1		
Endosulfan sulfate		ND	ug/L	0.0010	0.00085	EPA-8081A	ND	U	1		
Endrin		ND	ug/L	0.0010	0.00072	EPA-8081A	ND	U	1		
Endrin aldehyde		ND	ug/L	0.0020	0.00077	EPA-8081A	ND	U	1		
Heptachlor		ND	ug/L	0.0010	0.00039	EPA-8081A	ND	U	1		
Heptachlor epoxide		ND	ug/L	0.0010	0.00084	EPA-8081A	ND	U	1		
Methoxychlor		ND	ug/L	0.0010	0.00076	EPA-8081A	ND	U	1		
Toxaphene		ND	ug/L	0.40	0.040	EPA-8081A	ND	U	1		
TCMX (Surrogate)		107	%	40 - 140 (LC	L - UCL)	EPA-8081A			1		
Decachlorobiphenyl (Sur	rogate)	64.8	%	40 - 120 (LC	L - UCL)	EPA-8081A			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8081A	11/21/18 11:45	11/27/18 09:49	HKS	GC-17	1.020	B030885

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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

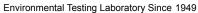
## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1836456-02	Client Sampl	e Name:	N032999-002C / RSW-001-11-15, 11/15/2018 1:45:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB	Lab	Due #	
Acenaphthene		ND	ug/L	1.0	0.22	EPA-8270C	Bias ND	Quals	<b>Run #</b> 1	
Acenaphthylene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Aldrin		ND	ug/L	2.0	0.28	EPA-8270C	ND	U	1	
Aniline		ND	ug/L	5.0	1.8	EPA-8270C	ND	U	1	
Anthracene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Benzidine		ND	ug/L	5.0	3.0	EPA-8270C	ND	U	1	
Benzo[a]anthracene		ND	ug/L	2.0	0.30	EPA-8270C	ND	U	1	
Benzo[b]fluoranthene		ND	ug/L	2.0	0.42	EPA-8270C	ND	U	1	
Benzo[k]fluoranthene		ND	ug/L	2.0	0.29	EPA-8270C	ND	U	1	
Benzo[a]pyrene		ND	ug/L	2.0	0.21	EPA-8270C	ND	U	1	
Benzo[g,h,i]perylene		ND	ug/L	2.0	0.48	EPA-8270C	ND	U	1	
Benzoic acid		ND	ug/L	10	0.72	EPA-8270C	ND	U	1	
Benzyl alcohol		ND	ug/L	2.0	0.35	EPA-8270C	ND	U	1	
Benzyl butyl phthalate		ND	ug/L	2.0	0.26	EPA-8270C	ND	U	1	
alpha-BHC		ND	ug/L	2.0	0.36	EPA-8270C	ND	U	1	
beta-BHC		ND	ug/L	2.0	0.25	EPA-8270C	ND	U	1	
delta-BHC		ND	ug/L	2.0	0.28	EPA-8270C	ND	U	1	
gamma-BHC (Lindane)		ND	ug/L	2.0	0.32	EPA-8270C	ND	U	1	
bis(2-Chloroethoxy)metha	ane	ND	ug/L	2.0	0.27	EPA-8270C	ND	U	1	
bis(2-Chloroethyl) ether		ND	ug/L	1.0	0.86	EPA-8270C	ND	U	1	
bis(2-Chloroisopropyl)eth	er	ND	ug/L	2.0	1.7	EPA-8270C	ND	U	1	
bis(2-Ethylhexyl)phthalate	9	ND	ug/L	3.0	0.20	EPA-8270C	ND	U	1	
4-Bromophenyl phenyl et	ner	ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
4-Chloroaniline		ND	ug/L	2.0	0.39	EPA-8270C	ND	U	1	
2-Chloronaphthalene		ND	ug/L	2.0	0.23	EPA-8270C	ND	U	1	
4-Chlorophenyl phenyl et	ner	ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Chrysene		ND	ug/L	2.0	0.26	EPA-8270C	ND	U	1	
4,4'-DDD		ND	ug/L	2.0	0.40	EPA-8270C	ND	U	1	
4,4'-DDE		ND	ug/L	3.0	0.32	EPA-8270C	ND	U	1	
4,4'-DDT		ND	ug/L	2.0	0.26	EPA-8270C	ND	U	1	
Dibenzo[a,h]anthracene		ND	ug/L	3.0	0.59	EPA-8270C	ND	U	1	
Dibenzofuran		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
1,2-Dichlorobenzene		ND	ug/L	2.0	1.8	EPA-8270C	ND	U	1	

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Report ID: 1000824750



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

## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1836456-02	Client Sampl	Client Sample Name:			N032999-002C / RSW-001-11-15, 11/15/2018 1:45:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
1,3-Dichlorobenzene		ND	ug/L	1.0	0.50	EPA-8270C	ND	U	1			
1,4-Dichlorobenzene		ND	ug/L	1.0	0.55	EPA-8270C	ND	U	1			
3,3-Dichlorobenzidine		ND	ug/L	5.0	0.41	EPA-8270C	ND	U	1			
Dieldrin		ND	ug/L	3.0	0.45	EPA-8270C	ND	U	1			
Diethyl phthalate		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1			
Dimethyl phthalate		ND	ug/L	2.0	0.25	EPA-8270C	ND	U	1			
Di-n-butyl phthalate		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1			
2,4-Dinitrotoluene		ND	ug/L	2.0	0.87	EPA-8270C	ND	U	1			
2,6-Dinitrotoluene		ND	ug/L	2.0	0.46	EPA-8270C	ND	U	1			
Di-n-octyl phthalate		ND	ug/L	2.0	0.31	EPA-8270C	ND	U	1			
1,2-Diphenylhydrazine		ND	ug/L	1.0	0.44	EPA-8270C	ND	U	1			
Endosulfan I		ND	ug/L	10	0.37	EPA-8270C	ND	U	1			
Endosulfan II		ND	ug/L	10	0.37	EPA-8270C	ND	U	1			
Endosulfan sulfate		ND	ug/L	3.0	0.37	EPA-8270C	ND	U	1			
Endrin		ND	ug/L	2.0	0.67	EPA-8270C	ND	U	1			
Endrin aldehyde		ND	ug/L	10	0.37	EPA-8270C	ND	U	1			
Fluoranthene		ND	ug/L	1.0	0.41	EPA-8270C	ND	U	1			
Fluorene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1			
Heptachlor		ND	ug/L	2.0	0.22	EPA-8270C	ND	U	1			
Heptachlor epoxide		ND	ug/L	2.0	0.35	EPA-8270C	ND	U	1			
Hexachlorobenzene		ND	ug/L	1.0	0.23	EPA-8270C	ND	U	1			
Hexachlorobutadiene		ND	ug/L	1.0	0.46	EPA-8270C	ND	U	1			
Hexachlorocyclopentadier	e	ND	ug/L	1.0	0.35	EPA-8270C	ND	U	1			
Hexachloroethane		ND	ug/L	1.0	0.90	EPA-8270C	ND	U	1			
Indeno[1,2,3-cd]pyrene		ND	ug/L	2.0	0.71	EPA-8270C	ND	U	1			
sophorone		ND	ug/L	1.0	0.41	EPA-8270C	ND	U	1			
2-Methylnaphthalene		ND	ug/L	2.0	0.30	EPA-8270C	ND	U	1			
Naphthalene		ND	ug/L	1.0	0.20	EPA-8270C	ND	U	1			
2-Naphthylamine		ND	ug/L	20	1.7	EPA-8270C	ND	U	1			
2-Nitroaniline		ND	ug/L	2.0	0.36	EPA-8270C	ND	U	1			
3-Nitroaniline		ND	ug/L	2.0	0.52	EPA-8270C	ND	U	1			
4-Nitroaniline		ND	ug/L	5.0	0.85	EPA-8270C	ND	U	1			
Nitrobenzene		ND	ug/L	1.0	0.39	EPA-8270C	ND	U	1			

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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

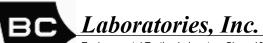
## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1836456-02	Client Sampl	Client Sample Name:			W-001-11-15, 11/	15/2018 1:4	1:45:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
N-Nitrosodimethylamine		ND	ug/L	2.0	0.56	EPA-8270C	ND	U	<u>1</u>	
N-Nitrosodi-N-propylami	ne	ND	ug/L	2.0	0.56	EPA-8270C	ND	U	1	
N-Nitrosodiphenylamine		ND	ug/L	1.0	0.27	EPA-8270C	ND	U	1	
Phenanthrene		ND	ug/L	2.0	0.20	EPA-8270C	ND	U	1	
Pyrene		ND	ug/L	2.0	0.31	EPA-8270C	ND	U	1	
1,2,4-Trichlorobenzene		ND	ug/L	1.0	0.24	EPA-8270C	ND	U	1	
4-Chloro-3-methylpheno	l	ND	ug/L	1.0	0.42	EPA-8270C	ND	U	1	
2-Chlorophenol		ND	ug/L	2.0	0.85	EPA-8270C	ND	U	1	
2,4-Dichlorophenol		ND	ug/L	1.0	0.26	EPA-8270C	ND	U	1	
2,4-Dimethylphenol		ND	ug/L	1.0	0.30	EPA-8270C	ND	U	1	
4,6-Dinitro-2-methylpher	ol	ND	ug/L	5.0	0.43	EPA-8270C	ND	U	1	
2,4-Dinitrophenol		ND	ug/L	5.0	0.37	EPA-8270C	ND	U	1	
2-Methylphenol		ND	ug/L	2.0	0.43	EPA-8270C	ND	U	1	
3- & 4-Methylphenol		ND	ug/L	2.0	1.3	EPA-8270C	ND	U	1	
2-Nitrophenol		ND	ug/L	2.0	0.39	EPA-8270C	ND	U	1	
4-Nitrophenol		ND	ug/L	2.0	0.66	EPA-8270C	ND	U	1	
Pentachlorophenol		ND	ug/L	1.0	0.43	EPA-8270C	ND	U	1	
Phenol		ND	ug/L	1.0	0.84	EPA-8270C	ND	U	1	
2,4,5-Trichlorophenol		ND	ug/L	5.0	0.36	EPA-8270C	ND	U	1	
2,4,6-Trichlorophenol		ND	ug/L	5.0	0.34	EPA-8270C	ND	U	1	
2-Fluorophenol (Surroga	te)	32.1	%	34 - 108 (LC	L - UCL)	EPA-8270C		S09	1	
Phenol-d5 (Surrogate)		25.8	%	14 - 76 (LCL	- UCL)	EPA-8270C			1	
Nitrobenzene-d5 (Surrog	ate)	82.2	%	54 - 138 (LC	L - UCL)	EPA-8270C			1	
2-Fluorobiphenyl (Surrog	jate)	73.4	%	52 - 134 (LC	L - UCL)	EPA-8270C			1	
2,4,6-Tribromophenol (S	urrogate)	61.3	%	57 - 162 (LC	L - UCL)	EPA-8270C			1	
p-Terphenyl-d14 (Surrog	ate)	49.3	%	38 - 181 (LC	L - UCL)	EPA-8270C			1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	11/20/18 17:00	11/21/18 15:55	MK1	MS-B1	0.990	B030643	

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## **Organochlorine Pesticides and PCB's (EPA Method 608)**

#### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030885						
PCB-1016	B030885-BLK1	ND	ug/L	0.040	0.013	U
PCB-1221	B030885-BLK1	ND	ug/L	0.040	0.019	U
PCB-1232	B030885-BLK1	ND	ug/L	0.040	0.013	U
PCB-1242	B030885-BLK1	ND	ug/L	0.040	0.014	U
PCB-1248	B030885-BLK1	ND	ug/L	0.040	0.024	U
PCB-1254	B030885-BLK1	ND	ug/L	0.040	0.012	U
PCB-1260	B030885-BLK1	ND	ug/L	0.040	0.0068	U
Decachlorobiphenyl (Surrogate)	B030885-BLK1	108	%	56 - 11	9 (LCL - UCL)	

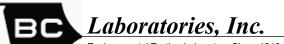


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## **Organochlorine Pesticides and PCB's (EPA Method 608)**

#### **Quality Control Report - Laboratory Control Sample**

							Control Limits			
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: B030885										
PCB-1260	B030885-BS2	LCS	0.31400	0.50000	ug/L	62.8		64 - 120		
Decachlorobiphenyl (Surrogate)	B030885-BS1	LCS	0.11255	0.12000	ug/L	93.8		56 - 119		



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## **Organochlorine Pesticides and PCB's (EPA Method 608)**

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B030885	Use	d client samp	le: N								
PCB-1260	MS	1833163-89	ND	0.31600	0.50000	ug/L		63.2		60 - 119	
	MSD	1833163-89	ND	0.29400	0.50000	ug/L	7.2	58.8	25	60 - 119	
Decachlorobiphenyl (Surrogate)	MS	1833163-89	ND	0.11449	0.12000	ug/L		95.4		56 - 119	
	MSD	1833163-89	ND	0.11413	0.12000	ug/L	0.3	95.1		56 - 119	

#### **Quality Control Report - Precision & Accuracy**

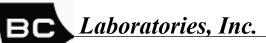


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## **Organochlorine Pesticides (EPA Method 8081A)**

#### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030885						
Aldrin	B030885-BLK1	ND	ug/L	0.0010	0.00037	U
alpha-BHC	B030885-BLK1	ND	ug/L	0.0010	0.00046	U
beta-BHC	B030885-BLK1	ND	ug/L	0.0010	0.00049	U
delta-BHC	B030885-BLK1	ND	ug/L	0.0010	0.00048	U
gamma-BHC (Lindane)	B030885-BLK1	ND	ug/L	0.0010	0.00048	U
Chlordane (Technical)	B030885-BLK1	ND	ug/L	0.10	0.030	U
4,4'-DDD	B030885-BLK1	ND	ug/L	0.0010	0.00049	U
4,4'-DDE	B030885-BLK1	ND	ug/L	0.0010	0.00048	U
4,4'-DDT	B030885-BLK1	ND	ug/L	0.0010	0.00034	U
Dieldrin	B030885-BLK1	ND	ug/L	0.0010	0.00046	U
Endosulfan I	B030885-BLK1	ND	ug/L	0.0010	0.00048	U
Endosulfan II	B030885-BLK1	ND	ug/L	0.0010	0.00059	U
Endosulfan sulfate	B030885-BLK1	ND	ug/L	0.0010	0.00085	U
Endrin	B030885-BLK1	ND	ug/L	0.0010	0.00072	U
Endrin aldehyde	B030885-BLK1	ND	ug/L	0.0020	0.00077	U
Heptachlor	B030885-BLK1	ND	ug/L	0.0010	0.00039	U
Heptachlor epoxide	B030885-BLK1	ND	ug/L	0.0010	0.00084	U
Methoxychlor	B030885-BLK1	ND	ug/L	0.0010	0.00076	U
Toxaphene	B030885-BLK1	ND	ug/L	0.40	0.040	U
TCMX (Surrogate)	B030885-BLK1	95.6	%	40 - 14	0 (LCL - UCL)	
Decachlorobiphenyl (Surrogate)	B030885-BLK1	108	%	40 - 12	0 (LCL - UCL)	

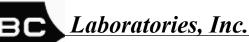


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## **Organochlorine Pesticides (EPA Method 8081A)**

#### **Quality Control Report - Laboratory Control Sample**

							Control Limits				
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B030885											
Aldrin	B030885-BS1	LCS	0.030288	0.030000	ug/L	101		60 - 130			
gamma-BHC (Lindane)	B030885-BS1	LCS	0.028776	0.030000	ug/L	95.9		60 - 130			
4,4'-DDT	B030885-BS1	LCS	0.018802	0.030000	ug/L	62.7		60 - 130			
Dieldrin	B030885-BS1	LCS	0.030908	0.030000	ug/L	103		60 - 130			
Endrin	B030885-BS1	LCS	0.023734	0.030000	ug/L	79.1		60 - 130			
Heptachlor	B030885-BS1	LCS	0.025416	0.030000	ug/L	84.7		60 - 130			
TCMX (Surrogate)	B030885-BS1	LCS	0.053668	0.060000	ug/L	89.4		40 - 140			
Decachlorobiphenyl (Surrogate)	B030885-BS1	LCS	0.11255	0.12000	ug/L	93.8		40 - 120			



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### **Organochlorine Pesticides (EPA Method 8081A)**

#### **Quality Control Report - Precision & Accuracy**

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B030885	Use	d client samp	ole: N								
Aldrin	MS	1833163-89	ND	0.030302	0.030000	ug/L		101		50 - 130	
	MSD	1833163-89	ND	0.030108	0.030000	ug/L	0.6	100	30	50 - 130	
gamma-BHC (Lindane)	MS	1833163-89	ND	0.029044	0.030000	ug/L		96.8		60 - 130	
	MSD	1833163-89	ND	0.028784	0.030000	ug/L	0.9	95.9	30	60 - 130	
4,4'-DDT	MS	1833163-89	ND	0.019750	0.030000	ug/L		65.8		60 - 130	
	MSD	1833163-89	ND	0.019402	0.030000	ug/L	1.8	64.7	30	60 - 130	
Dieldrin	MS	1833163-89	ND	0.031132	0.030000	ug/L		104		65 - 130	
	MSD	1833163-89	ND	0.031084	0.030000	ug/L	0.2	104	30	65 - 130	
Endrin	MS	1833163-89	ND	0.024932	0.030000	ug/L		83.1		60 - 130	
	MSD	1833163-89	ND	0.024532	0.030000	ug/L	1.6	81.8	30	60 - 130	
Heptachlor	MS	1833163-89	ND	0.025824	0.030000	ug/L		86.1		50 - 130	
	MSD	1833163-89	ND	0.025778	0.030000	ug/L	0.2	85.9	30	50 - 130	
TCMX (Surrogate)	MS	1833163-89	ND	0.053656	0.060000	ug/L		89.4		40 - 140	
	MSD	1833163-89	ND	0.052828	0.060000	ug/L	1.6	88.0		40 - 140	
Decachlorobiphenyl (Surrogate)	MS	1833163-89	ND	0.11449	0.12000	ug/L		95.4		40 - 120	
	MSD	1833163-89	ND	0.11413	0.12000	ug/L	0.3	95.1		40 - 120	



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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030643						
Acenaphthene	B030643-BLK1	ND	ug/L	1.0	0.22	U
Acenaphthylene	B030643-BLK1	ND	ug/L	2.0	0.20	U
Aldrin	B030643-BLK1	ND	ug/L	2.0	0.28	U
Aniline	B030643-BLK1	ND	ug/L	5.0	1.8	U
Anthracene	B030643-BLK1	ND	ug/L	2.0	0.20	U
Benzidine	B030643-BLK1	ND	ug/L	5.0	3.0	U
Benzo[a]anthracene	B030643-BLK1	ND	ug/L	2.0	0.30	U
Benzo[b]fluoranthene	B030643-BLK1	ND	ug/L	2.0	0.42	U
Benzo[k]fluoranthene	B030643-BLK1	ND	ug/L	2.0	0.29	U
Benzo[a]pyrene	B030643-BLK1	ND	ug/L	2.0	0.21	U
Benzo[g,h,i]perylene	B030643-BLK1	ND	ug/L	2.0	0.48	U
Benzoic acid	B030643-BLK1	ND	ug/L	10	0.72	U
Benzyl alcohol	B030643-BLK1	ND	ug/L	2.0	0.35	U
Benzyl butyl phthalate	B030643-BLK1	ND	ug/L	2.0	0.26	U
alpha-BHC	B030643-BLK1	ND	ug/L	2.0	0.36	U
beta-BHC	B030643-BLK1	ND	ug/L	2.0	0.25	U
delta-BHC	B030643-BLK1	ND	ug/L	2.0	0.28	U
gamma-BHC (Lindane)	B030643-BLK1	ND	ug/L	2.0	0.32	U
bis(2-Chloroethoxy)methane	B030643-BLK1	ND	ug/L	2.0	0.27	U
bis(2-Chloroethyl) ether	B030643-BLK1	ND	ug/L	1.0	0.86	U
bis(2-Chloroisopropyl)ether	B030643-BLK1	ND	ug/L	2.0	1.7	U
bis(2-Ethylhexyl)phthalate	B030643-BLK1	ND	ug/L	3.0	0.20	U
4-Bromophenyl phenyl ether	B030643-BLK1	ND	ug/L	2.0	0.20	U
4-Chloroaniline	B030643-BLK1	ND	ug/L	2.0	0.39	U
2-Chloronaphthalene	B030643-BLK1	ND	ug/L	2.0	0.23	U
4-Chlorophenyl phenyl ether	B030643-BLK1	ND	ug/L	2.0	0.20	U
Chrysene	B030643-BLK1	ND	ug/L	2.0	0.26	U
	B030643-BLK1	ND	ug/L	2.0	0.40	U
4,4'-DDE	B030643-BLK1	ND	ug/L	3.0	0.32	U
4,4'-DDT	B030643-BLK1	ND	ug/L	2.0	0.26	U
Dibenzo[a,h]anthracene	B030643-BLK1	ND	ug/L	3.0	0.59	U
Dibenzofuran	B030643-BLK1	ND	ug/L	2.0	0.20	U
1,2-Dichlorobenzene	B030643-BLK1	ND	ug/L	2.0	1.8	U
	B030643-BLK1	ND	ug/L	1.0	0.50	U

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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B030643						
1,4-Dichlorobenzene	B030643-BLK1	ND	ug/L	1.0	0.55	U
3,3-Dichlorobenzidine	B030643-BLK1	ND	ug/L	5.0	0.41	U
Dieldrin	B030643-BLK1	ND	ug/L	3.0	0.45	U
Diethyl phthalate	B030643-BLK1	ND	ug/L	2.0	0.20	U
Dimethyl phthalate	B030643-BLK1	ND	ug/L	2.0	0.25	U
Di-n-butyl phthalate	B030643-BLK1	ND	ug/L	2.0	0.20	U
2,4-Dinitrotoluene	B030643-BLK1	ND	ug/L	2.0	0.87	U
2,6-Dinitrotoluene	B030643-BLK1	ND	ug/L	2.0	0.46	U
Di-n-octyl phthalate	B030643-BLK1	ND	ug/L	2.0	0.31	U
1,2-Diphenylhydrazine	B030643-BLK1	ND	ug/L	1.0	0.44	U
Endosulfan I	B030643-BLK1	ND	ug/L	10	0.37	U
Endosulfan II	B030643-BLK1	ND	ug/L	10	0.37	U
Endosulfan sulfate	B030643-BLK1	ND	ug/L	3.0	0.37	U
Endrin	B030643-BLK1	ND	ug/L	2.0	0.67	U
Endrin aldehyde	B030643-BLK1	ND	ug/L	10	0.37	U
Fluoranthene	B030643-BLK1	ND	ug/L	1.0	0.41	U
Fluorene	B030643-BLK1	ND	ug/L	2.0	0.20	U
Heptachlor	B030643-BLK1	ND	ug/L	2.0	0.22	U
Heptachlor epoxide	B030643-BLK1	ND	ug/L	2.0	0.35	U
Hexachlorobenzene	B030643-BLK1	ND	ug/L	1.0	0.23	U
Hexachlorobutadiene	B030643-BLK1	ND	ug/L	1.0	0.46	U
Hexachlorocyclopentadiene	B030643-BLK1	ND	ug/L	1.0	0.35	U
Hexachloroethane	B030643-BLK1	ND	ug/L	1.0	0.90	U
Indeno[1,2,3-cd]pyrene	B030643-BLK1	ND	ug/L	2.0	0.71	U
Isophorone	B030643-BLK1	ND	ug/L	1.0	0.41	U
2-Methylnaphthalene	B030643-BLK1	ND	ug/L	2.0	0.30	U
Naphthalene	B030643-BLK1	ND	ug/L	1.0	0.20	U
2-Naphthylamine	B030643-BLK1	ND	ug/L	20	1.7	U
2-Nitroaniline	B030643-BLK1	ND	ug/L	2.0	0.36	U
3-Nitroaniline	B030643-BLK1	ND	ug/L	2.0	0.52	U
4-Nitroaniline	B030643-BLK1	ND	ug/L	5.0	0.85	U
Nitrobenzene	B030643-BLK1	ND	ug/L	1.0	0.39	U
N-Nitrosodimethylamine	B030643-BLK1	ND	ug/L	2.0	0.56	U
N-Nitrosodi-N-propylamine	B030643-BLK1	ND	ug/L	2.0	0.56	U

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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Constituent	ac sample in		Units			
QC Batch ID: B030643						
N-Nitrosodiphenylamine	B030643-BLK1	ND	ug/L	1.0	0.27	U
Phenanthrene	B030643-BLK1	ND	ug/L	2.0	0.20	U
Pyrene	B030643-BLK1	ND	ug/L	2.0	0.31	U
1,2,4-Trichlorobenzene	B030643-BLK1	ND	ug/L	1.0	0.24	U
4-Chloro-3-methylphenol	B030643-BLK1	ND	ug/L	1.0	0.42	U
2-Chlorophenol	B030643-BLK1	ND	ug/L	2.0	0.85	U
2,4-Dichlorophenol	B030643-BLK1	ND	ug/L	1.0	0.26	U
2,4-Dimethylphenol	B030643-BLK1	ND	ug/L	1.0	0.30	U
4,6-Dinitro-2-methylphenol	B030643-BLK1	ND	ug/L	5.0	0.43	U
2,4-Dinitrophenol	B030643-BLK1	ND	ug/L	5.0	0.37	U
2-Methylphenol	B030643-BLK1	ND	ug/L	2.0	0.43	U
3- & 4-Methylphenol	B030643-BLK1	ND	ug/L	2.0	1.3	U
2-Nitrophenol	B030643-BLK1	ND	ug/L	2.0	0.39	U
4-Nitrophenol	B030643-BLK1	ND	ug/L	2.0	0.66	U
Pentachlorophenol	B030643-BLK1	ND	ug/L	1.0	0.43	U
Phenol	B030643-BLK1	ND	ug/L	1.0	0.84	U
2,4,5-Trichlorophenol	B030643-BLK1	ND	ug/L	5.0	0.36	U
2,4,6-Trichlorophenol	B030643-BLK1	ND	ug/L	5.0	0.34	U
2-Fluorophenol (Surrogate)	B030643-BLK1	57.4	%	34 - 10	8 (LCL - UCL)	
Phenol-d5 (Surrogate)	B030643-BLK1	32.0	%	14 - 7		
Nitrobenzene-d5 (Surrogate)	B030643-BLK1	72.9	%	54 - 138 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	B030643-BLK1	66.9	%	52 - 134 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	B030643-BLK1	107	%	57 - 162 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	B030643-BLK1	74.0	%	38 - 18	1 (LCL - UCL)	



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## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### **Quality Control Report - Laboratory Control Sample**

						Control Limits			
OC Semala ID	Turne	Decult	Spike	110:40	Percent		Percent		Lab
ູບູບ Sample ID	туре	Result	Levei	Units	Recovery	RPD	Recovery	RPD	Quals
B030643-BS1	LCS	37.426	50.000	ug/L	74.9		58 - 118		
B030643-BS1	LCS	43.532	50.000	ug/L	87.1		55 - 109		
B030643-BS1	LCS	54.802	50.000	ug/L	110		53 - 122		
B030643-BS1	LCS	45.041	40.000	ug/L	113		32 - 77		L01
B030643-BS1	LCS	51.969	50.000	ug/L	104		39 - 101		L01
B030643-BS1	LCS	36.348	50.000	ug/L	72.7		48 - 110		
B030643-BS1	LCS	49.696	50.000	ug/L	99.4		50 - 122		
B030643-BS1	LCS	38.083	50.000	ug/L	76.2		48 - 133		
B030643-BS1	LCS	43.110	50.000	ug/L	86.2		35 - 157		
B030643-BS1	LCS	56.428	50.000	ug/L	113		53 - 110		L01
B030643-BS1	LCS	31.860	50.000	ug/L	63.7		44 - 121		
B030643-BS1	LCS	35.750	50.000	ug/L	71.5		50 - 104		
B030643-BS1	LCS	30.635	50.000	ug/L	61.3		39 - 104		
B030643-BS1	LCS	52.626	100.00	ug/L	52.6		31 - 92		
B030643-BS1	LCS	13.034	50.000	ug/L	26.1		17 - 48		
B030643-BS1	LCS	30.027	40.000	ug/L	75.1		43 - 116		
B030643-BS1	LCS	16.268	50.000	ug/L	32.5		19 - 58		
B030643-BS1	LCS	37.034	50.000	ug/L	74.1		53 - 117		
B030643-BS1	LCS	22.569	40.000	ug/L	56.4		34 - 108		
B030643-BS1	LCS	11.838	40.000	ug/L	29.6		14 - 76		
B030643-BS1	LCS	33.163	40.000	ug/L	82.9		54 - 138		
B030643-BS1	LCS	28.449	40.000	ug/L	71.1		52 - 134		
B030643-BS1	LCS	43.600	40.000	ug/L	109		57 - 162		
B030643-BS1	LCS	12.720	20.000	ug/L	63.6		38 - 181		
	B030643-BS1           B030643-BS1	B030643-BS1         LCS           B030643-BS1	B030643-BS1         LCS         37.426           B030643-BS1         LCS         43.532           B030643-BS1         LCS         54.802           B030643-BS1         LCS         54.802           B030643-BS1         LCS         51.969           B030643-BS1         LCS         36.348           B030643-BS1         LCS         36.348           B030643-BS1         LCS         36.348           B030643-BS1         LCS         34.083           B030643-BS1         LCS         38.083           B030643-BS1         LCS         31.860           B030643-BS1         LCS         31.860           B030643-BS1         LCS         35.750           B030643-BS1         LCS         30.635           B030643-BS1         LCS         30.635           B030643-BS1         LCS         30.027           B030643-BS1         LCS         30.027           B030643-BS1         LCS         37.034           B030643-BS1         LCS         37.034           B030643-BS1         LCS         33.163           B030643-BS1         LCS         33.163           B030643-BS1         LCS         33.163 <td>QC Sample IDTypeResultLevelB030643-BS1LCS37.42650.000B030643-BS1LCS43.53250.000B030643-BS1LCS54.80250.000B030643-BS1LCS45.04140.000B030643-BS1LCS51.96950.000B030643-BS1LCS36.34850.000B030643-BS1LCS36.34850.000B030643-BS1LCS38.08350.000B030643-BS1LCS38.08350.000B030643-BS1LCS31.86050.000B030643-BS1LCS31.86050.000B030643-BS1LCS30.63550.000B030643-BS1LCS30.63550.000B030643-BS1LCS13.03450.000B030643-BS1LCS13.03450.000B030643-BS1LCS37.03450.000B030643-BS1LCS37.03450.000B030643-BS1LCS37.03450.000B030643-BS1LCS33.16340.000B030643-BS1LCS33.16340.000B030643-BS1LCS33.16340.000B030643-BS1LCS28.44940.000B030643-BS1LCS28.44940.000</td> <td>QC Sample IDTypeResultLevelUnitsB030643-BS1LCS37.42650.000ug/LB030643-BS1LCS43.53250.000ug/LB030643-BS1LCS54.80250.000ug/LB030643-BS1LCS45.04140.000ug/LB030643-BS1LCS51.96950.000ug/LB030643-BS1LCS36.34850.000ug/LB030643-BS1LCS36.34850.000ug/LB030643-BS1LCS36.34850.000ug/LB030643-BS1LCS36.88350.000ug/LB030643-BS1LCS38.08350.000ug/LB030643-BS1LCS31.86050.000ug/LB030643-BS1LCS31.86050.000ug/LB030643-BS1LCS30.63550.000ug/LB030643-BS1LCS30.63550.000ug/LB030643-BS1LCS13.03450.000ug/LB030643-BS1LCS30.02740.000ug/LB030643-BS1LCS37.03450.000ug/LB030643-BS1LCS37.03450.000ug/LB030643-BS1LCS31.6340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1<!--</td--><td>QC Sample IDTypeResultLevelUnitsRecoveryB030643-BS1LCS37.42650.000ug/L74.9B030643-BS1LCS43.53250.000ug/L87.1B030643-BS1LCS54.80250.000ug/L110B030643-BS1LCS51.96950.000ug/L104B030643-BS1LCS51.96950.000ug/L72.7B030643-BS1LCS36.34850.000ug/L99.4B030643-BS1LCS36.88350.000ug/L76.2B030643-BS1LCS38.08350.000ug/L86.2B030643-BS1LCS56.42850.000ug/L113B030643-BS1LCS56.42850.000ug/L63.7B030643-BS1LCS31.86050.000ug/L61.3B030643-BS1LCS35.75050.000ug/L61.3B030643-BS1LCS30.63550.000ug/L61.3B030643-BS1LCS30.02740.000ug/L26.1B030643-BS1LCS37.03450.000ug/L75.1B030643-BS1LCS37.03450.000ug/L26.4B030643-BS1LCS37.03450.000ug/L74.1B030643-BS1LCS33.16340.000ug/L29.6B030643-BS1LCS33.16340.000ug/L71.1B030643-BS1LCS33.16340.000ug/L71.1<td>QC Sample IDTypeResultLevelUnitsRecoveryRPDB030643-BS1LCS37.42650.000ug/L74.950.000ug/L87.1B030643-BS1LCS43.53250.000ug/L11050.000100100B030643-BS1LCS54.80250.000ug/L11350.00010010050.00010010050.00010010050.000&lt;</td><td>QC Sample ID         Type         Result         Spike Level         Units         Percent Recovery         Percent Recovery           B030643-BS1         LCS         37.426         50.000         ug/L         74.9         58-118           B030643-BS1         LCS         43.532         50.000         ug/L         87.1         55-109           B030643-BS1         LCS         45.041         40.000         ug/L         110         53-122           B030643-BS1         LCS         51.969         50.000         ug/L         113         32-77           B030643-BS1         LCS         51.969         50.000         ug/L         104         39-101           B030643-BS1         LCS         36.348         50.000         ug/L         72.7         48-110           B030643-BS1         LCS         36.348         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         38.083         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         56.428         50.000         ug/L         61.3         35-167           B030643-BS1         LCS         37.50         50.000         ug/L         61.3         39-104</td><td>QC Sample IDTypeResultSpike LevelPercent UnitsPercent RecoveryB030643-BS1LCS51.46050.000ug/L71.748.11053.11053.11053.11053.11053.11053.11053.11053.11053.11753.11753.11753.11753.11053.11650.000ug/L63.714.12111.153.11753.11753.11753.11053.11650.000ug/L63.714.</br></br></br></td></td></td>	QC Sample IDTypeResultLevelB030643-BS1LCS37.42650.000B030643-BS1LCS43.53250.000B030643-BS1LCS54.80250.000B030643-BS1LCS45.04140.000B030643-BS1LCS51.96950.000B030643-BS1LCS36.34850.000B030643-BS1LCS36.34850.000B030643-BS1LCS38.08350.000B030643-BS1LCS38.08350.000B030643-BS1LCS31.86050.000B030643-BS1LCS31.86050.000B030643-BS1LCS30.63550.000B030643-BS1LCS30.63550.000B030643-BS1LCS13.03450.000B030643-BS1LCS13.03450.000B030643-BS1LCS37.03450.000B030643-BS1LCS37.03450.000B030643-BS1LCS37.03450.000B030643-BS1LCS33.16340.000B030643-BS1LCS33.16340.000B030643-BS1LCS33.16340.000B030643-BS1LCS28.44940.000B030643-BS1LCS28.44940.000	QC Sample IDTypeResultLevelUnitsB030643-BS1LCS37.42650.000ug/LB030643-BS1LCS43.53250.000ug/LB030643-BS1LCS54.80250.000ug/LB030643-BS1LCS45.04140.000ug/LB030643-BS1LCS51.96950.000ug/LB030643-BS1LCS36.34850.000ug/LB030643-BS1LCS36.34850.000ug/LB030643-BS1LCS36.34850.000ug/LB030643-BS1LCS36.88350.000ug/LB030643-BS1LCS38.08350.000ug/LB030643-BS1LCS31.86050.000ug/LB030643-BS1LCS31.86050.000ug/LB030643-BS1LCS30.63550.000ug/LB030643-BS1LCS30.63550.000ug/LB030643-BS1LCS13.03450.000ug/LB030643-BS1LCS30.02740.000ug/LB030643-BS1LCS37.03450.000ug/LB030643-BS1LCS37.03450.000ug/LB030643-BS1LCS31.6340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1LCS33.16340.000ug/LB030643-BS1 </td <td>QC Sample IDTypeResultLevelUnitsRecoveryB030643-BS1LCS37.42650.000ug/L74.9B030643-BS1LCS43.53250.000ug/L87.1B030643-BS1LCS54.80250.000ug/L110B030643-BS1LCS51.96950.000ug/L104B030643-BS1LCS51.96950.000ug/L72.7B030643-BS1LCS36.34850.000ug/L99.4B030643-BS1LCS36.88350.000ug/L76.2B030643-BS1LCS38.08350.000ug/L86.2B030643-BS1LCS56.42850.000ug/L113B030643-BS1LCS56.42850.000ug/L63.7B030643-BS1LCS31.86050.000ug/L61.3B030643-BS1LCS35.75050.000ug/L61.3B030643-BS1LCS30.63550.000ug/L61.3B030643-BS1LCS30.02740.000ug/L26.1B030643-BS1LCS37.03450.000ug/L75.1B030643-BS1LCS37.03450.000ug/L26.4B030643-BS1LCS37.03450.000ug/L74.1B030643-BS1LCS33.16340.000ug/L29.6B030643-BS1LCS33.16340.000ug/L71.1B030643-BS1LCS33.16340.000ug/L71.1<td>QC Sample IDTypeResultLevelUnitsRecoveryRPDB030643-BS1LCS37.42650.000ug/L74.950.000ug/L87.1B030643-BS1LCS43.53250.000ug/L11050.000100100B030643-BS1LCS54.80250.000ug/L11350.00010010050.00010010050.00010010050.000&lt;</td><td>QC Sample ID         Type         Result         Spike Level         Units         Percent Recovery         Percent Recovery           B030643-BS1         LCS         37.426         50.000         ug/L         74.9         58-118           B030643-BS1         LCS         43.532         50.000         ug/L         87.1         55-109           B030643-BS1         LCS         45.041         40.000         ug/L         110         53-122           B030643-BS1         LCS         51.969         50.000         ug/L         113         32-77           B030643-BS1         LCS         51.969         50.000         ug/L         104         39-101           B030643-BS1         LCS         36.348         50.000         ug/L         72.7         48-110           B030643-BS1         LCS         36.348         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         38.083         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         56.428         50.000         ug/L         61.3         35-167           B030643-BS1         LCS         37.50         50.000         ug/L         61.3         39-104</td><td>QC Sample IDTypeResultSpike LevelPercent UnitsPercent RecoveryB030643-BS1LCS51.46050.000ug/L71.748.11053.11053.11053.11053.11053.11053.11053.11053.11053.11753.11753.11753.11753.11053.11650.000ug/L63.714.12111.153.11753.11753.11753.11053.11650.000ug/L63.714.</br></br></br></td></td>	QC Sample IDTypeResultLevelUnitsRecoveryB030643-BS1LCS37.42650.000ug/L74.9B030643-BS1LCS43.53250.000ug/L87.1B030643-BS1LCS54.80250.000ug/L110B030643-BS1LCS51.96950.000ug/L104B030643-BS1LCS51.96950.000ug/L72.7B030643-BS1LCS36.34850.000ug/L99.4B030643-BS1LCS36.88350.000ug/L76.2B030643-BS1LCS38.08350.000ug/L86.2B030643-BS1LCS56.42850.000ug/L113B030643-BS1LCS56.42850.000ug/L63.7B030643-BS1LCS31.86050.000ug/L61.3B030643-BS1LCS35.75050.000ug/L61.3B030643-BS1LCS30.63550.000ug/L61.3B030643-BS1LCS30.02740.000ug/L26.1B030643-BS1LCS37.03450.000ug/L75.1B030643-BS1LCS37.03450.000ug/L26.4B030643-BS1LCS37.03450.000ug/L74.1B030643-BS1LCS33.16340.000ug/L29.6B030643-BS1LCS33.16340.000ug/L71.1B030643-BS1LCS33.16340.000ug/L71.1 <td>QC Sample IDTypeResultLevelUnitsRecoveryRPDB030643-BS1LCS37.42650.000ug/L74.950.000ug/L87.1B030643-BS1LCS43.53250.000ug/L11050.000100100B030643-BS1LCS54.80250.000ug/L11350.00010010050.00010010050.00010010050.000&lt;</td> <td>QC Sample ID         Type         Result         Spike Level         Units         Percent Recovery         Percent Recovery           B030643-BS1         LCS         37.426         50.000         ug/L         74.9         58-118           B030643-BS1         LCS         43.532         50.000         ug/L         87.1         55-109           B030643-BS1         LCS         45.041         40.000         ug/L         110         53-122           B030643-BS1         LCS         51.969         50.000         ug/L         113         32-77           B030643-BS1         LCS         51.969         50.000         ug/L         104         39-101           B030643-BS1         LCS         36.348         50.000         ug/L         72.7         48-110           B030643-BS1         LCS         36.348         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         38.083         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         56.428         50.000         ug/L         61.3         35-167           B030643-BS1         LCS         37.50         50.000         ug/L         61.3         39-104</td> <td>QC Sample IDTypeResultSpike LevelPercent UnitsPercent RecoveryB030643-BS1LCS51.46050.000ug/L71.748.11053.11053.11053.11053.11053.11053.11053.11053.11053.11753.11753.11753.11753.11053.11650.000ug/L63.714.12111.153.11753.11753.11753.11053.11650.000ug/L63.714.</br></br></br></td>	QC Sample IDTypeResultLevelUnitsRecoveryRPDB030643-BS1LCS37.42650.000ug/L74.950.000ug/L87.1B030643-BS1LCS43.53250.000ug/L11050.000100100B030643-BS1LCS54.80250.000ug/L11350.00010010050.00010010050.00010010050.000<	QC Sample ID         Type         Result         Spike Level         Units         Percent Recovery         Percent Recovery           B030643-BS1         LCS         37.426         50.000         ug/L         74.9         58-118           B030643-BS1         LCS         43.532         50.000         ug/L         87.1         55-109           B030643-BS1         LCS         45.041         40.000         ug/L         110         53-122           B030643-BS1         LCS         51.969         50.000         ug/L         113         32-77           B030643-BS1         LCS         51.969         50.000         ug/L         104         39-101           B030643-BS1         LCS         36.348         50.000         ug/L         72.7         48-110           B030643-BS1         LCS         36.348         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         38.083         50.000         ug/L         76.2         48-133           B030643-BS1         LCS         56.428         50.000         ug/L         61.3         35-167           B030643-BS1         LCS         37.50         50.000         ug/L         61.3         39-104	QC Sample IDTypeResultSpike LevelPercent UnitsPercent RecoveryPercent RecoveryPercent RecoveryPercent RecoveryPercent RecoveryPercent RecoveryPercent RecoveryPercent 



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

## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

									Control Limits		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
OC Botoh ID: B020642	Use	d client samp	le <sup>.</sup> N								
QC Batch ID: B030643         Acenaphthene         1,4-Dichlorobenzene         2,4-Dinitrotoluene		1833163-08	ND	28.512	50.000	ug/L		57.0		53 - 124	
	MSD	1833163-08	ND	34.416	50.000	ug/L	18.8	68.8	24	53 - 124	
						-					
	MS	1833163-08	ND ND	29.433	50.000	ug/L	27.1	58.9 77.2	20	52 - 114 52 - 114	
	MSD	1833163-08		38.640	50.000	ug/L	27.1	77.3	28		
	MS	1833163-08	ND	41.125	50.000	ug/L		82.2		53 - 125	
	MSD	1833163-08	ND	48.672	50.000	ug/L	16.8	97.3	23	53 - 125	
Hexachlorobenzene	MS	1833163-08	ND	31.432	40.000	ug/L		78.6		32 - 78	Q03
	MSD	1833163-08	ND	42.134	40.000	ug/L	29.1	105	21	32 - 78	Q02,Q 03
Hexachlorobutadiene	MS	1833163-08	ND	31.116	50.000	ug/L		62.2		35 - 106	
	MSD	1833163-08	ND	49.104	50.000	ug/L	44.8	98.2	30	35 - 106	Q02
Hexachloroethane	MS	1833163-08	ND	23.077	50.000	ug/L		46.2		49 - 111	Q03
	MSD	1833163-08	ND	34.493	50.000	ug/L	39.7	69.0	30	49 - 111	Q02
Nitrobenzene	MS	1833163-08	ND	38.402	50.000	ug/L		76.8		46 - 125	
	MSD	1833163-08	ND	39.437	50.000	ug/L	2.7	78.9	26	46 - 125	
N-Nitrosodi-N-propylamine		1833163-08	ND	28.700	50.000			57.4	-	55 - 124	
N-Nitrosodi-N-propylamine	MS MSD	1833163-08	ND	35.539	50.000	ug/L ug/L	21.3	71.1	30	55 - 124 55 - 124	
						-	21.0		50		
Pyrene	MS	1833163-08	ND	31.967	50.000	ug/L	45.0	63.9	20	28 - 170	
	MSD	1833163-08	ND	37.373	50.000	ug/L	15.6	74.7	29	28 - 170	
1,2,4-Trichlorobenzene	MS	1833163-08	ND	38.808	50.000	ug/L		77.6		49 - 115	
	MSD	1833163-08	ND	50.400	50.000	ug/L	26.0	101	27	49 - 115	
4-Chloro-3-methylphenol	MS	1833163-08	ND	20.681	50.000	ug/L		41.4		46 - 120	Q03
	MSD	1833163-08	ND	34.598	50.000	ug/L	50.4	69.2	25	46 - 120	Q02
2-Chlorophenol	MS	1833163-08	ND	23.532	50.000	ug/L		47.1		51 - 103	Q03
	MSD	1833163-08	ND	37.114	50.000	ug/L	44.8	74.2	27	51 - 103	Q02
2-Methylphenol	MS	1833163-08	ND	20.671	50.000	ug/L		41.3		39 - 105	
	MSD	1833163-08	ND	30.317	50.000	ug/L	37.8	60.6	27	39 - 105	Q02
3- & 4-Methylphenol	MS	1833163-08	ND	36.135	100.00	ug/L		36.1		30 - 96	
	MSD	1833163-08	ND	54.720	100.00	ug/L	40.9	54.7	29	30 - 96	Q02
4 Nitzenhanel											
4-Nitrophenol	MS	1833163-08 1833163-08	ND ND	9.6525 13.728	50.000 50.000	ug/L	34.9	19.3 27.5	26	11 - 55 11 - 55	Q02
	MSD					ug/L	34.9	27.5	26		QUZ
Pentachlorophenol	MS	1833163-08	ND	22.136	40.000	ug/L	oc -	55.3		41 - 120	
	MSD	1833163-08	ND	29.568	40.000	ug/L	28.7	73.9	23	41 - 120	Q02
Phenol	MS	1833163-08	ND	11.068	50.000	ug/L		22.1		14 - 65	
	MSD	1833163-08	ND	15.590	50.000	ug/L	33.9	31.2	29	14 - 65	Q02
2,4,6-Trichlorophenol	MS	1833163-08	ND	26.473	50.000	ug/L		52.9		52 - 120	
	MSD	1833163-08	ND	42.720	50.000	ug/L	47.0	85.4	20	52 - 120	Q02

#### **Quality Control Report - Precision & Accuracy**

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000824750



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

# Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

								Control Limits			
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B030643	Use	d client samp	ole: N								
2-Fluorophenol (Surrogate)	MS	1833163-08	ND	15.127	40.000	ug/L		37.8		34 - 108	
	MSD	1833163-08	ND	20.458	40.000	ug/L	30.0	51.1		34 - 108	
Phenol-d5 (Surrogate)	MS	1833163-08	ND	7.9893	40.000	ug/L		20.0		14 - 76	
	MSD	1833163-08	ND	11.453	40.000	ug/L	35.6	28.6		14 - 76	
Nitrobenzene-d5 (Surrogate)	MS	1833163-08	ND	25.374	40.000	ug/L		63.4		54 - 138	
	MSD	1833163-08	ND	28.915	40.000	ug/L	13.0	72.3		54 - 138	
2-Fluorobiphenyl (Surrogate)	MS	1833163-08	ND	21.483	40.000	ug/L		53.7		52 - 134	
	MSD	1833163-08	ND	28.368	40.000	ug/L	27.6	70.9		52 - 134	
2,4,6-Tribromophenol (Surrogate)	MS	1833163-08	ND	31.423	40.000	ug/L		78.6		57 - 162	
	MSD	1833163-08	ND	41.213	40.000	ug/L	27.0	103		57 - 162	
p-Terphenyl-d14 (Surrogate)	MS	1833163-08	ND	7.2369	20.000	ug/L		36.2		38 - 181	S09
	MSD	1833163-08	ND	12.470	20.000	ug/L	53.1	62.4		38 - 181	

#### **Quality Control Report - Precision & Accuracy**

Environmental Testing Laboratory Since 1949

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

## Reported:11/30/201816:15Project:CH2MHILLProject Number:N032999Project Manager:Marlon Cartin

#### **Notes And Definitions**

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
U	Analyte Not Detected at or above the reporting limit (CLP Flag)
L01	The Laboratory Control Sample Water (LCSW) recovery is not within laboratory established control limits.
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) was(were) not within the control limits.
S09	The surrogate recovery for this compound was not within the control limits.



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#### **Report Prepared for:**

Marlon Cartin Asset Laboratories 3151 West Post Road Las Vegas NV 89118

## REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:** 

December 5, 2018

Pace Analytical Services, LLC. 1700 Elm Street Minneapolis, MN 55414 Phone: 612.607.1700 Fax: 612.607.6444

#### **Report Information:**

Pace Project #: 10456176 Sample Receipt Date: 11/20/2018 Client Project #: N032999 Client Sub PO #: N32999D State Cert #: 2929

#### **Invoicing & Reporting Options:**

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Joanne Richardson, your Pace Project Manager.

#### This report has been reviewed by:

ichardson dance December 05, 2018

Joanne Richardson, (612) 607-6453 (612) 607-6444 (fax)



#### **Report of Laboratory Analysis**

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The results relate only to the samples included in this report.



### **DISCUSSION**

This report presents the results from the analyses performed on two samples submitted by a representative of Asset Laboratories. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The reporting limits were based on signal-to-noise measurements. Estimated Maximum Possible Concentration (EMPC) values were treated as positives in the toxic equivalence calculations.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 52-80%. All of the labeled internal standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

Values were flagged "I" where incorrect isotope ratios were obtained. Concentrations below the calibration range were flagged "J" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show that PCDDs and PCDFs were not detected.

Laboratory spike samples were also prepared using clean reference matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 85-112% with relative percent differences of 0.0-14.4%. These results were within the target ranges for the method. Matrix spikes were not prepared with the sample batch.

### **REPORT OF LABORATORY ANALYSIS**

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## Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Minnesota - Pet	1240
Alabama	40770	Mississippi	MN00064
Alaska - DW	MN00064	Missouri - DW	10100
Alaska - UST	17-009	Montana	CERT0092
Arizona	AZ0014	Nebraska	NE-OS-18-06
Arkansas - DW	MN00064	Nevada	MN00064
Arkansas - WW	88-0680	New Hampshire	2081
CNMI Saipan	MP0003	New Jersey (NE	MN002
California	2929	New York	11647
Colorado	MN00064	North Carolina	27700
Connecticut	PH-0256	North Carolina -	27700
EPA Region 8+	via MN 027-053	North Carolina -	530
Florida (NELAP	E87605	North Dakota	R-036
Georgia	959	Ohio - DW	41244
Guam	17-001r	Ohio - VAP	CL101
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon - Primar	MN300001
Illinois	200011	Oregon - Secon	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
lowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky - DW	90062	South Dakota	NA
Kentucky - WW	90062	Tennessee	TN02818
Louisiana - DE	03086	Texas	T104704192
Louisiana - DW	MN00064	Utah (NELAP)	MN00064
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Massachusetts	M-MN064	West Virginia -	382
Michigan	9909	West Virginia -	9952C
Minnesota	027-053-137	Wisconsin	999407970
Minnesota - De	via MN 027-053	Wyoming - UST	2926.01

## **REPORT OF LABORATORY ANALYSIS**

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Report No.....10456176\_8290FC\_DFR

# Appendix A

Sample Management

ASSET I 3151-3153 WF	ASSET Laboratories 3151-3153 W Post Rd., Las Vegas, NV 89118	/ 89118	2	HAIN-O	-CUST	<b>CHAIN-OF-CUSTODY RECORD</b>	Page 1 of 1
TEL: 7023072659	и 559 FAX: 7023072691	3072691		·	QC Level:	: RTNE	
Subcontractor: Pace Analytical Services, Inc. 1700 Elm Street, Suite 200 Minneapolis, MN 55414	ü	TEL: (612) 6 FAX: (612) 6 Acct #:	(612) 607-1700 (612) 607-6444		Field Sampler.	ar. SIGNED	19-Nov-18
						Requested Tests	
Sample ID		Matrix	Date Collected	Bottle Type	EPA 8290		
N032999-0010 / EFF-11-15		Wastewater Wastewater	11/15/2018 11:00:00 AM 11/15/2018 1:45:00 PM	320ZA 320ZA			007
			WO# : 10456176	s176			
EDD Requirement CH2MHILL Labspec7 edata	2MHILL Labspec	:7 edata. Pleas	. Please report "J" flagged down to MDL format.	down to MDL	format.		
Please cc Report to Lucille Golosinda at lucille.	ucille Golosinda a	tt lucille.golosir	.golosinda@assetlaboratories.com	ies.com	·		
General Comments: Pleas Pleas Mark	Please email sample receipt acknowledgement to the PM. Please use PO#:N32999D Please email Invoices and Account Rece Marton at (702)-307-2659. Please e-mail results to reports.lv@assett Please analyze for 2,3,7,8-TCDD and TCDD equivalents by SW8290.	tcknowledgement to t Please email Invoice ease e-mail results to CDD and TCDD equiv	Please email sample receipt acknowledgement to the PM. Please use PO#N32999D Please email Invoices and Account Receivable Statements to elvira@assettaboratories.com. For questions, call Marton at (702)-307-2659. Please e-mail results to reports.lv@assettaboratories.com by. Normal TAT. Please analyze for 2,3,7,8-TCDD and TCDD equivalents by SW8290.	tatements to elvira( es.com by: Normal	ĝassetlaboratori¢ ⊺AT.	s.com. For questions, call	
			Date	Fedex #: 773761146537	761146537		Date/Time
Relinquished by: Relinquished by:	M	11/19/2018	16:00	Received by: $\bigwedge_{-}$	sulla	PIACE	3/12/11/28/11
						7-3.4	

Pace Analytical*	Document Nan Sample Condition Upon I Document No F-MN-L-213-rev	Receipt Form	Document Revised: 310ct2018 Page 1 of 2 Issuing Authority: Pace Minnesota Quality Office
Sample Condition       Client Name:         Upon Receipt       ASSEL         Courier:       ASSEL         Commercial       Pace         Tracking Number:       ASSEL		ject #:	WO#: 10456176 PM: JMR Due Date: 12/06/18 CLIENT: Asset Labs
Custody Seal on Cooler/Box Present?	Seals Intact?	Yes	Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap	Bags 🔲 None 🗍 Other	<i>e</i> r 11	Temp Blank? Yes No
Temp should be above freezing to 6°C Correction USDA Regulated Soil ( N/A, water sample)	np Corrected (°C): $3, 4$ on Factor: $TTUe$	Date and Initial	None Dry Melted Biological Tissue Frozen? Yes No AN/A s of Person Examining Contents: AS 11/2018
Did samples originate in a quarantine zone within the L NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?	T Yes	. 🗍 No i	Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No
The stoes to earlier question, fill ou	t a Regulated Soil Checklist (F-	MN-Q-338) and	include with SCUR/COC paperwork.
Chain of Custody Present?		·	COMMENTS:
Chain of Custody Filled Out?	Yes No	1.	
Chain of Custody Relinguished?	Yes No	2.	·
		3.	
Sampler Name and/or Signature on COC?			
Samples Arrived within Hold Time?	Yes No	5	
Short Hold Time Analysis (<72 hr)?	Yes No	6.	
Rush Turn Around Time Requested?	Yes No	7.	
Sufficient Volume?	Yes No	8.	
Correct Containers Used?	Yes No	9.	
-Pace Containers Used?	Yes No		·
Containers Intact?	Yes No	10.	·
Filtered Volume Received for Dissolved Tests?	Yes No	VA 11. Note	if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samp the COC? Matrix:		12.	
All containers needing acid/base preservation have bee checked? All containers needing preservation are found to be in compliance with EPA recommendation?	n □Yes □No	I/A 13. Sample #	☐HNO <sub>3</sub> ☐H <sub>2</sub> SO <sub>4</sub> ☐NaOH Positive for Res. Chlorine? Y N
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, NaOH >9 Sulfide, NaOH>12 Cyanic Exceptions: VOA, Coliform, TOC/DOC Oil and Grease,	le) 🛛 Yes 🗋 No 📈 N	/A Initial when	Lot # of added
DRO/8015 (water) and Dioxin/PFAS	Yes No		Lot in of oddeed
Headspace in VOA Vials ( >6mm)?	Yes No	/A 14.	
Trip Blank Present?	Yes No	/A 15.	
Trip Blank Custody Seals Present? Pace Trip Blank Lot # (if purchased):	□Yes □No 🔽	/A	
CLIENT NOTIFICATION/RESOLUTION			Field Data Required?
Person Contacted:Comments/Resolution:		Date/Time	
Project Manager Review: Note: Whenever there is a discrepancy affecting North Caro hold, incorrect preservative, out of temp, incorrect container	Richardson lina compliance samples, a copy of 's).	this form will be s	ate: 11-20-18 Into the North Carolina DEHNR Certification Office ( i.e. out of abeled by: HAS



> Tel: 612-607-1700 Fax: 612-607-6444

## **Reporting Flags**

- A = Reporting Limit based on signal to noise
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interferencepresent
- J = Estimated value
- L = Suppressive interference, analyte may be biased low
- Nn = Value obtained from additional analysis
- P = PCDEInterference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs
- \* = SeeDiscussion

## **REPORT OF LABORATORY ANALYSIS**

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# Appendix B

Sample Analysis Summary



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#### Method 8290 Sample Analysis Results

Client - Asset Laboratories

Client's Sample ID Lab Sample ID Filename Injected By Total Amount Extracted % Moisture Dry Weight Extracted ICAL ID CCal Filename(s) Method Blank ID	1045 U181 JRH 928 r NA NA U181 U181	6176001 201A_07 mL 015	' EFF-11-15 U181201A_^	Dilution I Collected Received 15 Extracted	Water NA 11/15/2018 11:00 11/20/2018 11:35 11/28/2018 13:00 12/01/2018 03:49	5 )
Native Isomers	<b>Conc</b> pg/L	EMPC pg/L	<b>EDL</b> pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF Total TCDF	ND ND		2.1 2.1	2,3,7,8-TCDF-13C 2,3,7,8-TCDD-13C 1,2,3,7,8-PeCDF-130	2.00 2.00 C 2.00	70 68 77
2,3,7,8-TCDD Total TCDD	ND ND		2.6 2.6	2,3,4,7,8-PeCDF-130 1,2,3,7,8-PeCDD-130 1,2,3,4,7,8-HxCDF-1	C 2.00 C 2.00	74 79 75
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF Total PeCDF	ND ND ND	 	3.2 1.3 2.3	1,2,3,6,7,8-HxCDF-1 2,3,4,6,7,8-HxCDF-1 1,2,3,7,8,9-HxCDF-1	3C2.003C2.003C2.00	77 78 74
1,2,3,7,8-PeCDD Total PeCDD	ND ND		3.9 3.9	1,2,3,4,7,8-HxCDD-1 1,2,3,6,7,8-HxCDD-1 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF	3C2.00-13C2.00	73 68 65 64
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	ND ND ND	 	3.5 3.1 2.8	1,2,3,4,6,7,8-HpCDD OCDD-13C		68 55
1,2,3,7,8,9-HxCDF Total HxCDF	ND ND		3.6 3.3	1,2,3,4-TCDD-13C 1,2,3,7,8,9-HxCDD-1	2.00 3C 2.00	NA NA
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD	ND ND ND ND	  	4.0 3.1 3.7 3.6	2,3,7,8-TCDD-37Cl4	0.20	76
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF Total HpCDF	ND ND ND		3.5 4.3 3.9	Total 2,3,7,8-TCDD Equivalence: 0.00 pg (Lower-bound - Using		
1,2,3,4,6,7,8-HpCDD Total HpCDD	ND ND		5.2 5.2			
OCDF OCDD	ND ND		12 13			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).

EMPC = Estimated Maximum Possible Concentration

EDL = Estimated Detection Limit

ND = Not Detected

NA = Not Applicable

#### NC = Not Calculated

### **REPORT OF LABORATORY ANALYSIS**



> Tel: 612-607-1700 Fax: 612-607-6444

#### Method 8290 Sample Analysis Results

**Client - Asset Laboratories** 

Client's Sample ID Lab Sample ID Filename Injected By Total Amount Extracted % Moisture Dry Weight Extracted ICAL ID CCal Filename(s) Method Blank ID	1045 U181 JRH 938 I NA NA U181 U181	6176002  201A_08 mL  015	<sup>7</sup> RSW-001-1 U181201A_	Matrix Dilution Collected Received	11/20/20 11/28/20	018 01:45 018 11:35 018 13:00 018 04:34	
Native Isomers	Conc pg/L	EMPC pg/L	<b>EDL</b> pg/L	Internal Standards		ng's Added	Percent Recovery
2,3,7,8-TCDF Total TCDF	ND ND		1.5 1.5	2,3,7,8-TCDF-13C 2,3,7,8-TCDD-13C 1,2,3,7,8-PeCDF-1	20	2.00 2.00 2.00	71 69 80
2,3,7,8-TCDD Total TCDD	ND ND		1.9 1.9	2,3,4,7,8-PeCDF-1 1,2,3,7,8-PeCDD-1	3C  3C	2.00 2.00	74 80
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF Total PeCDF	ND ND ND	 	2.0 1.1 1.5	1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF	-13C -13C -13C	2.00 2.00 2.00 2.00	75 78 79 78
1,2,3,7,8-PeCDD Total PeCDD	ND ND		1.7 1.7	1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCD 1,2,3,4,6,7,8-HpCD	0-13C DF-13C	2.00 2.00 2.00 2.00	75 71 68
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	ND ND ND	 	1.6 1.7 1.5	1,2,3,4,7,8,9-HpCE 1,2,3,4,6,7,8-HpCE OCDD-13C		2.00 2.00 4.00	64 71 52
1,2,3,7,8,9-HxCDF Total HxCDF	ND ND		1.6 1.6	1,2,3,4-TCDD-13C 1,2,3,7,8,9-HxCDD	0-13C	2.00 2.00	NA NA
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD	ND ND ND ND	  	2.0 2.1 2.1 2.1	2,3,7,8-TCDD-37C	14	0.20	87
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF Total HpCDF	ND ND ND	 	2.2 3.0 2.6	Total 2,3,7,8-TCD Equivalence: 0.07( (Lower-bound - Us	) pg/L	actors)	
1,2,3,4,6,7,8-HpCDD Total HpCDD	4.2 4.2		3.3 J 3.3 J				
OCDF OCDD	ND 	 27	6.4 7.5 IJ				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers). EMPC = Estimated Maximum Possible Concentration EDL = Estimated Detection Limit

ND = Not Detected

NA = Not Applicable

NC = Not Calculated

J = Estimated value

I = Interference present

## **REPORT OF LABORATORY ANALYSIS**



> Tel: 612-607-1700 Fax: 612- 607-6444

#### Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKBX		
Lab Sample ID	BLANK-66569	Matrix	Water
Filename	U181130B_07	Dilution	NA
Total Amount Extracted	1060 mL	Extracted	11/28/2018 13:00
ICAL ID	U181015	Analyzed	11/30/2018 14:16
CCal Filename(s)	U181130A_09 & U181130B_18	Injected By	ZMS

Native Isomers	<b>Conc</b> pg/L	EMPC pg/L	<b>EDL</b> pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF Total TCDF	ND ND		1.4 1.4	2,3,7,8-TCDF-13C 2,3,7,8-TCDD-13C 1,2,3,7,8-PeCDF-13C	2.00 2.00 2.00	81 81 87
2,3,7,8-TCDD Total TCDD	ND ND		1.6 1.6	2,3,4,7,8-PeCDF-13C 1,2,3,7,8-PeCDD-13C 1,2,3,4,7,8-HxCDF-13C	2.00 2.00 2.00 2.00	79 90 75
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF Total PeCDF	ND ND ND	 	1.6 0.97 1.3	1,2,3,6,7,8-HxCDF-13C 2,3,4,6,7,8-HxCDF-13C 1,2,3,7,8,9-HxCDF-13C	2.00 2.00 2.00	78 86 88
1,2,3,7,8-PeCDD Total PeCDD	ND ND		1.6 1.6	1,2,3,4,7,8-HxCDD-13C 1,2,3,6,7,8-HxCDD-13C 1,2,3,4,6,7,8-HpCDF-13C 1,2,3,4,7,8,9-HpCDF-13C	2.00 2.00 2.00 2.00	78 82 76 79
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	ND ND ND	 	0.96 0.89 0.76	1,2,3,4,6,7,8-HpCDD-13C OCDD-13C	2.00 2.00 4.00	88 69
1,2,3,7,8,9-HxCDF Total HxCDF	ND ND		1.4 1.00	1,2,3,4-TCDD-13C 1,2,3,7,8,9-HxCDD-13C	2.00 2.00	NA NA
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD	ND ND ND ND	  	1.3 1.1 1.1 1.2	2,3,7,8-TCDD-37Cl4	0.20	95
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF Total HpCDF	ND ND ND	 	2.4 3.6 3.0	Total 2,3,7,8-TCDD Equivalence: 0.00 pg/L (Lower-bound - Using ITE F	actors)	
1,2,3,4,6,7,8-HpCDD Total HpCDD	ND ND		2.2 2.2			
OCDF OCDD	ND ND		5.0 6.4			

Conc = Concentration (Totals include 2, 3, 7, 8-substituted isomers).

EMPC = Estimated Maximum Possible Concentration

EDL = Estimated Detection Limit

## **REPORT OF LABORATORY ANALYSIS**



> Tel: 612-607-1700 Fax: 612-607-6444

## Method 8290 Laboratory Control Spike Results

Lab Sample ID Filename Total Amount Extracted ICAL ID CCal Filename(s) Method Blank ID	U18 104 U18 U18	6-66570 1130B_04 0 mL 1015 1130A_09 & NK-66569	U181130B_	Matrix Dilution Extracted 18 Analyzed Injected By	Water NA 11/28/2018 13 11/30/2018 12 ZMS	
Native Isomers	<b>Qs</b> (ng)	<b>Qm</b> (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF Total TCDF	0.20	0.21	103	2,3,7,8-TCDF-13C 2,3,7,8-TCDD-13C 1,2,3,7,8-PeCDF-13C	2.0 2.0 2.0	51 52 55
2,3,7,8-TCDD Total TCDD	0.20	0.19	94	2,3,4,7,8-PeCDF-13C 1,2,3,7,8-PeCDD-13C	2.0 2.0 2.0 2.0	53 58
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF Total PeCDF	1.0 1.0	1.00 1.00	100 100	1,2,3,4,7,8-HxCDF-13C 1,2,3,6,7,8-HxCDF-13C 2,3,4,6,7,8-HxCDF-13C 1,2,3,7,8,9-HxCDF-13C	2.0 2.0 2.0	49 53 54 54
1,2,3,7,8-PeCDD Total PeCDD	1.0	0.92	92	1,2,3,4,7,8-HxCDD-13C 1,2,3,6,7,8-HxCDD-13C 1,2,3,4,6,7,8-HpCDF-13C		51 49 50
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	1.0 1.0 1.0	1.1 1.0 0.95	110 103 95	1,2,3,4,7,8,9-HpCDF-13C 1,2,3,4,6,7,8-HpCDD-13C OCDD-13C		51 57 50
1,2,3,7,8,9-HxCDF Total HxCDF	1.0	0.93	93	1,2,3,4-TCDD-13C 1,2,3,7,8,9-HxCDD-13C	2.0 2.0	NA NA
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD	1.0 1.0 1.0	1.0 1.1 1.1	104 111 112	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF Total HpCDF	1.0 1.0	0.99 1.0	99 101			
1,2,3,4,6,7,8-HpCDD Total HpCDD	1.0	0.94	94			
OCDF OCDD	2.0 2.0	2.1 2.1	103 105			

Qs = Quantity Spiked

Qm = Quantity Measured

Rec. = Recovery (Expressed as Percent) R = Recovery outside of target range

Y = RF averaging used in calculations Nn = Value obtained from additional analysis

NA = Not Applicable

#### \* = See Discussion

#### **REPORT OF LABORATORY ANALYSIS**



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414

> Tel: 612-607-1700 Fax: 612-607-6444

## Method 8290 Laboratory Control Spike Results

Lab Sample ID Filename Total Amount Extracted ICAL ID CCal Filename(s) Method Blank ID	U18 1030 U18 U18	D-66571 1130B_05 0 mL 1015 1130A_09 & NK-66569	U181130B_	Matrix Dilution Extracted 18 Analyzed Injected By	Water NA 11/28/2018 13 11/30/2018 12 ZMS	
Native Isomers	<b>Qs</b> (ng)	<b>Qm</b> (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF Total TCDF	0.20	0.19	93	2,3,7,8-TCDF-13C 2,3,7,8-TCDD-13C 1,2,3,7,8-PeCDF-13C	2.0 2.0 2.0	73 73 73
2,3,7,8-TCDD Total TCDD	0.20	0.18	90	2,3,4,7,8-PeCDF-13C 1,2,3,7,8-PeCDD-13C	2.0 2.0	67 75
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF Total PeCDF	1.0 1.0	0.92 0.96	92 96	1,2,3,4,7,8-HxCDF-13C 1,2,3,6,7,8-HxCDF-13C 2,3,4,6,7,8-HxCDF-13C 1,2,3,7,8,9-HxCDF-13C	2.0 2.0 2.0 2.0	82 89 85 78 82
1,2,3,7,8-PeCDD Total PeCDD	1.0	0.85	85	1,2,3,4,7,8-HxCDD-13C 1,2,3,6,7,8-HxCDD-13C 1,2,3,4,6,7,8-HpCDF-13C 1,2,3,4,6,7,8-HpCDF-13C		82 75 69 65
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	1.0 1.0 1.0	0.97 0.92 0.91	97 92 91	1,2,3,4,7,8,9-HpCDF-13C 1,2,3,4,6,7,8-HpCDD-13C OCDD-13C		65 73 55
1,2,3,7,8,9-HxCDF Total HxCDF	1.0	0.93	93	1,2,3,4-TCDD-13C 1,2,3,7,8,9-HxCDD-13C	2.0 2.0	NA NA
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD	1.0 1.0 1.0	0.92 1.1 0.97	92 109 97	2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF Total HpCDF	1.0 1.0	0.94 0.91	94 91			
1,2,3,4,6,7,8-HpCDD Total HpCDD	1.0	0.87	87			
OCDF OCDD	2.0 2.0	1.9 1.8	95 91			

Qs = Quantity Spiked

Qm = Quantity Measured

Rec. = Recovery (Expressed as Percent) R = Recovery outside of target range

Nn = Value obtained from additional analysis NA = Not Applicable

Y = RF averaging used in calculations

\* = See Discussion

## **REPORT OF LABORATORY ANALYSIS**



Client

Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414

> Tel: 612-607-1700 Fax: 612- 607-6444

#### **Method 8290**

#### Spike Recovery Relative Percent Difference (RPD) Results

oike 1 ID oike 1 Filename	LCS-66570 U181130B_04		ke 2 ID ke 2 Filename	LCSD-66571 U181130B_05	
Compound		Spike 1 %REC	Spike 2 %REC	%RPD	
2,3,7,8-TCDF		103	93	10.2	
2,3,7,8-TCDD		94	90	4.3	
1,2,3,7,8-PeC		100	92	8.3 4.1	
2,3,4,7,8-PeC 1,2,3,7,8-PeC		100 92	96 85	7.9	
1,2,3,4,7,8-Hx		110	97	12.6	
1,2,3,6,7,8-Hx		103	92	11.3	
2,3,4,6,7,8-Hx		95	91	4.3	
1,2,3,7,8,9-Hx		93	93	0.0	
1,2,3,4,7,8-Hx		104	92	12.2	
1,2,3,6,7,8-Hx	ČDD	111	109	1.8	
1,2,3,7,8,9-Hx		112	97	14.4	
1,2,3,4,6,7,8-		99	94	5.2	
1,2,3,4,7,8,9-	IpCDF	101	91	10.4	
1,2,3,4,6,7,8-		94	87	7.7	
OCDF	-	103	95	8.1	
OCDD		105	91	14.3	

%REC = Percent Recovered

RPD = The difference between the two values divided by the mean value

Asset Laboratories

### **REPORT OF LABORATORY ANALYSIS**



Eric Davis CH2M 1000 Wilshire Boulevard, Suite 2100 Los Angeles, CA 90017 February 1, 2019

Eric,

I have enclosed our *Supplemental* report "NPDES Compliance Chronic Toxicity Testing of the SFPP Norwalk Pump Station Effluent" for the effluent samples collected on November 12, 14, and 16, 2018. The originally submitted report was revised to replace an incorrectly included COC. This revision does not affect the test results nor interpretation as originally reported. 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 Larval Fathead Minnows

As the receiving water sample arrived with a pH >9.0, which per the test method can negatively influence the organism response, the receiving water was tested with and without a pH adjustment. The results of the unadjusted testing are summarized below, and indicated that the effluent was *not* toxic, but a significant reduction in survival and growth was observed for the unadjusted receiving water. However, note that Pathogen Related Mortality (PRM) was observed corresponding to mortalities in the receiving water.

Test Species	Test Material	Test Endpoint	Percent (%) Effect	TST Analysis
Fathead Minnows	Effluent	Survival	No Effect	"Pass" (= non-toxic)
ratileau Willinows	Elligent	Growth	No Effect	"Pass" (= non-toxic)
Fathead Minnows	Unadjusted Receiving Water	Survival	40%	"Fail" (= toxic)
Fathead Minnows	Survival Growth	Growth	29%	"Fail" (= toxic)

The results of the adjusted receiving water testing are summarized below, and indicated that a significant reduction in survival and growth was observed for the adjusted sample. However, note that PRM was observed corresponding to mortalities in the receiving water.

Test Species	Test Material	Test Endpoint	Percent (%) Effect	TST Analysis
	Adjusted	Survival	52%	"Fail" (= toxic)
Fathead Minnows	Receiving Water	Growth	47%	"Fail" (= 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 29469.

Supplemental Report

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

Samples collected November 12, 14, and 16, 2018

Prepared For

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

Prepared By

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

February 2019



Раде

## Supplemental Report

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

Samples collected November 12, 14, and 16, 2018

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# Appendices

- Appendix A Chain-of-Custody Records for the Collection and Delivery of the SFPP Norwalk Pump Station Effluent and Receiving Water Samples
- Appendix B Test Data and Summary of Statistical Analyses for the Evaluation of the Chronic Toxicity of SFPP Norwalk Effluent and Unadjusted Receiving Water to *Fathead Minnows*
- Appendix C Test Data and Summary of Statistical Analyses for the Evaluation of the Chronic Toxicity of SFPP Norwalk pH Adjusted Receiving Water to *Fathead Minnows*
- Appendix D Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the *Fathead Minnows*

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#### **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 larval fathead minnows (Pimephales promelas).

This test was performed using effluent samples collected November 12, 14, and 16, 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 and Receiving Water Samples

On November 12, 14, and 16, 2018, samples of SFPP Norwalk effluent and receiving water 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)	pН	D.O. (mg/L)	Salinity (ppt)	Alkalinity (mg/L)	Hardness (mg/L)	Chlorine (mg/L)	Conductivity (µS/cm)	Total Ammonia (mg/L N)
11/13/18	EFF-11- 12	0.0	6.97	6.0	1.3	258	800	0.05	2507	<1.0
11/13/18	RSW-02- 11-12	0.0	9.31	18.2	0.8	195	327	_a	1553	<1.0
11/15/18	EFF-11- 14	0.0	6.79	6.1	1.3	234	790	0.01	2404	<1.0
11/15/18	RSW-02- 11-14	0.0	8.88	17.1	0.8	235	362	_ <sup>a</sup>	1599	<1.0
11/17/18	EFF-11- 16	0.0	7.13	6.5	1.3	247	740	0.06	2401	<1.0
11/17/18	RSW-02- 11-16	0.0	8.52	12.2	0.9	263	392	_ <sup>a</sup>	1772	<1.0

a – Chlorine is not measured from Receiving water samples

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#### 2.1.1 Adjustment of Test Solutions to pH7

In response to the observation of pH > 9.0 which could potentially interfere with the receiving water test, the test solution and an accompanying Lab Water Control medium were adjusted to pH7 via manual drop-wise addition of ACS reagent-grade HCl and NaOH.

#### 2.2 Survival and Growth Toxicity Testing with Larval Fathead Minnows

The chronic toxicity test with fathead minnows consists of exposing larval 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 Lab Water Control medium for this test consisted of EPA synthetic moderately hard water. The effluent and receiving water were tested at the 100% concentration only. "New" water quality characteristics (pH, D.O., and conductivity) 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 media in a 600-mL glass beaker. This test was initiated by randomly allocating 10 larval fathead minnows (<48 hours old) into each replicate. The replicate beakers were placed in a temperature-controlled room at 25°C, under cool-white fluorescent lighting on a 16L:8D photoperiod. The test fish were fed brine shrimp nauplii twice daily.

Each day of the test, fresh test solutions were prepared and characterized as before. The beakers containing the fathead minnows were examined, with any dead animals, uneaten food, wastes, and other detritus being removed. The number of live fish in each replicate was determined and then approximately 80% of the old test solution in each beaker was carefully poured out and replaced with fresh test solution. "Old" water quality characteristics (pH, D.O., and conductivity) were measured on the old test solution 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  $\geq$ 24 hours 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 to determine the biomass value. The resulting survival and biomass value (i.e., growth) data were analyzed to evaluate any impairment caused by the effluent. All statistical analyses were performed using the CETIS statistical software (TidePool Scientific Software, McKinleyville, CA).

#### 2.2.1 Reference Toxicant Testing of the Larval Fathead Minnows

The reference toxicant test was performed similarly to the effluent test except that test solutions consisted of Lab Water Control medium spiked with NaCl at test concentrations of 0.75, 1.5, 3, 6, and 9 g/L. The resulting test response data were statistically analyzed to determine key dose-



response point estimates. All statistical analyses were performed 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 and Unadjusted Receiving Water on Fathead Minnows**

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. The receiving water "failed" the TST analysis for both survival and growth, indicating that the receiving water was toxic. However, Pathogen Related Mortality (PRM) was observed corresponding to mortalities in the receiving water. The test data and summary of statistical analyses for this test are presented in Appendix B.

Table 2. Effects of SFPP Norwalk effluent on Fathead Minnows survival and growth: receiving water with unadjusted pH.							
Treatment	Mean Biomass Value (mg)						
Receiving Water	60 <sup>a</sup>	0.68					
Lab Water Control	100	0.95					
100% Effluent	100	1.17					
Sumr	nary of Key Statistics						
Receiving Water Percent (%) Effect =	40% reduction	29% reduction					
Receiving Water TST Analysis =	"Fail" (= toxic) <sup>a</sup>	"Fail" (= toxic) <sup>a</sup>					
Effluent Percent (%) Effect =	0% reduction	No reduction					
Effluent TST Analysis =	"Pass" (= non-toxic)	"Pass" (= non-toxic)					

a – Mortalities observed in the Receiving Water Control were associated with observations of Pathogen Related Mortality (PRM) via observation of fungal coronas around the affected fish and high inter-replicate variability.

#### 3.1.1 Effects of SFPP Norwalk pH Adjusted Receiving Water on Fathead Minnows

The results of this test are summarized below in Table 3. The receiving water "failed" the TST analysis for both survival and growth, indicating that the receiving water was toxic. However, PRM was observed corresponding to mortalities in the receiving water. The test data and summary of statistical analyses for this test are presented in Appendix C.

Table 3. Effects of SFPP Norwalk effluent on Fathead Minnows survival and growth: receiving							
water with adjusted pH.							
Treatment Mean % Survival Mean Biomass Value (							
Lab Water Control	100	0.95					
pH7 Lab Water Control	100	0.86					
pH7 100% Receiving Water	47.5 <sup>a</sup>	0.51					
Summ	nary of Key Statistics						
Receiving Water Percent (%) Effect =	52% reduction <sup>a</sup>	47% reduction <sup>a</sup>					
Receiving Water TST Analysis =	"Fail" (= toxic)	"Fail" (= toxic)					

a – Mortalities observed in the Receiving Water Control were associated with observations of PRM via observation of fungal coronas around the affected fish and high inter-replicate variability.



#### **3.1.2 Reference Toxicant Toxicity to Fathead Minnows**

The results of this test are summarized below in Table 4. The survival EC50 and growth IC50 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 D.

Table 4. Reference toxicant testing: effects of NaCl on Fathead Minnows survival and growth.									
NaCl Treatment (g/L)	Mean % Survival	Mean Biomass Value (mg)							
Lab Water Control	95	0.55							
0.75	95	0.68							
1.5	80	0.60*							
3	42.5*	0.28							
6	45*	0.20							
9	0*	-							
Sum	mary of Key Statistics								
Survival EC50 or Growth IC50 =	3.39 g/L NaCl	2.86 g/L NaCl							

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



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#### 4. SUMMARY AND CONCLUSIONS

As the receiving water sample arrived with a pH > 9.0, which per the test method can negatively influence the organism response, the receiving water was tested with and without a pH adjustment. The results of the unadjusted testing are summarized below, and indicated that the effluent was *not* toxic, but a significant reduction in survival and growth was observed for the unadjusted receiving water. However, note that PRM was observed corresponding to mortalities in the receiving water.

Test Species	Test Material	Test Endpoint	Percent (%) Effect	TST Analysis
Fathead Minnows	Effluent	Effluent Survival		"Pass" (= non-toxic)
rathead winnows	Ennuent	Growth	No Effect	"Pass" (= non-toxic)
Fathead Minnows	Unadjusted Receiving Water	Survival	40%	"Fail" (= toxic)
Fathead Minnows	Survival Growth	Growth	29%	"Fail" (= toxic)

The results of the adjusted receiving water testing are summarized below, and indicated that a significant reduction in survival and growth was observed for the adjusted sample. However, note that PRM was observed corresponding to mortalities in the receiving water.

Test Species	Test Material	Test Endpoint	Percent (%) Effect	TST Analysis
Fathead Minnows	Adjusted Receiving	Survival	52%	"Fail" (= toxic)
Tathcad Williows	Water	Growth	247%	"Fail" (= toxic)

#### 4.1 QA/QC Summary

**Test Conditions** – The fathead minnows for the Stillwater and reference toxicant tests arrived in solution at 20.2°C. These fish experienced a >3°C temperature change in <24 hours. As per guidance in the EPA testing manual, aeration was initiated for the chronic fathead minnow test during the course of testing due to observation of dissolved oxygen <4.0 mg/L. Otherwise 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.

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# Appendix A

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



#### 13/42

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

Tel: 707-207-7760 Fax: 707-207-7916 Kristin Worrell (kworrell@pacificecorisk.com

#### Section A Required Client Information: Section B Regulaed Project Information: Section C Section D Involce Information: Sampler Information: Company: Kinder Morgan Energy Partners Attention: Steve Defibuigh Report To: Eric Davis Attention: Steve Defibaugh - Ref. AFE# 81195 Sampler Nils Orliczky Name: Steve Defibaugh Address: 1100 Town & Country Road Сору То: Company Kinder Morgan Energy Partners Sampler mg Orange\_CA 92868 Name: Address: Stanature: Sample Email To: steve defibaught-kindermorcan.com Purchase Order No.: 1100 Town & Country Road 11/12/2018 Phone: 714-560-4802 Fax: 714-560-4801 Orange, CA 92868 Date: SFPP Norwalk Project Name: ATL Project Manager: Kristin Worrell

In	-		-	-	-				-		
Section	t E I Sample Information				0	CONTAINER	TYPE	_	P		
_			4		#	OF CONTA	INERS	-	2		
1.00				1	_	PRESERVA	TIVE		-		
					-	VOLUME (	mL)		10000	1.000	
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)		TIME	TOTAL # OF CONTAINERS		Analysis Test Intand Silverside (Menidia Beryllina) or Topsmelt (Atherinops affinis) (Survival and Growth Test Method 1006)	head Minnow) t Method 1000	Comments
-	EFF-11-12	EFFLUENT	ww		11/12/18		1		x	x	Comments
	RSW-02 - 11-12	50 Downstream Coyote Creek			11/12/18				x	x	
3						biene a	1	-	-		
4			1	1				-		-	
5		11	1	-					-		
6		11-12	1	1				-	-		
7		2016	40	-			1	-	-		
8		Inko	1	1				-	-		
		1,40	¥					-	-	-	
9			5	-		~		-	-	-	
10			1	-				-	-		
11	10		-	-			-	-	-	-	
12				1			1	- 1			

Relinquished by (Signature and Printed Name): which will be a state of the state o	Date / Time Date / Time Date / Time	Relinquiched by (Signature and Printed Name):	- Will 3/18 Ivana Jordjevic 1045 Relinquished by (Signature and Printed Name): Date / Time						Special Instruc	tion:		
			_			TAT Starts at 8 J	AM the followiing day 3:00 PM.	y if samples received aft	er			
			Matrix			Preservatives:			Container Typ	pe:		
			W = Water	WW = Wastewa	iter	H = HCl	N = HNO3	S = H2SO4	T = Tube	V=VOA	P = Pint	A = Amber
			O = Oil	P = Product	S = Soil	Z = Zn(AC)2	O = NaOH	T = Na2S2O3	J = Jar	B ≈ Tedlar	G = Glass	
			Others/Specify	:		Others/Specify	r:	1	M = Metal	P = Plastic	C = Can	-

#### Section A Section B Section C Section D Required Client Information: Required Project Information: Invoice Information: Sampler Information: Company: Kinder Morgan Energy Partners Eric Davis Report To: ttention: Steve Defibaugh - Ref. AFE# 81195 Sampler Nils Orliczky Attention: Steve Defibaugh Name: Address: 1100 Town & Country Road Сару То: Steve Defibaugh Company Kinder Morgan Energy Partners Sampler h Orange\_ CA 92858 Name: Signature: Email To: steve defibauch kindermorgan.com Purchase Order No.: Address: 1100 Town & Country Road Sample 11/14/2018 re daus Sch2m rom F60-4802 Fax: 714-560-4801 Oranije, CA 92868 ATL Project Manager: Kristin Worrell Date: Phone: 714-560-4802 SFPP Norwalk Project Name: Section E Ρ CONTAINER TYPE equired Sample Information 2 # OF CONTAINERS -PRESERVATIVE 10000 VOLUME (mL) Inland Silverside (Menidia Eeryilina) or Copmut (Adventions affitin) (Survival and Growth Trat Method J00) Fat head Minnow (Survival and Growth Test Method 1000) SAMPLING (G=GRAB C=COMP) SAMPLE ID LOCATION/ DESCRIPTION FOTAL # OF CONTAINERS Analysis Test SAMPLE TYPE MATRIX ITEM # DATE TIME Comments 1 EFF-11-14 EFFLUENT ww с 11/14/18 3905 1 х х RSW-02 - 11-14 х 50 Downstream Coyote Creek WW G 11/14/18 1005 2 х 1 3 4 5 6 0 1 7 10 6 9 10 11 12 Recorded

Relinquished by (Signature and Printed Name):	Date / Time	(Signature and Printed Name):	Date / 1	lime		Turn Around Tim	e (TAT):		Special Instruc	tion:		
		x - 1	,	1		□ A = Same	e Day					
There	11-14-18/4400	Dave Day DH	11/1	15/18 14	10	□ B = 24 Ho	ours					
elinquished by (Signature and Printed Name):	Date / Time	Relinquished by (Signature and Printed Name :	Date / 1	lime			Durs					
$\mathcal{O}$						D = 72 Ho	ours					
						□ E = 5 Wo	rkdays					
Relinquished by (Signature and Printed Name):	Date / Time Relinquished by (Signature and Printed Name): Date / Time					⊠E = 10 W	orkdays					
						TAT Starts at 8 /		if samples received after	,			
							3:00 PM.					
		1	Matrix:			Preservatives:			Container Ty	pe:		
			Matrix: W = Water	WW = Wastewa	er	Preservatives:		S ≈ H2SO4	Container Tyj T = Tube	V = VOA	P ⇔Pint	A = Amber
			-	WW = Wastewa P = Product	s = Soil			S ≈ H2SO4 T ≈ Na2S2O3	-	-	P⇔Pint G = Glass	A = Amber

Tel:707-207-7760 Fat: 707-207-7916 Kristin Worrell (kworrell@pacificecorisk.com

Pacific EcoRisk
2250 Cordelia Rd.
Fairfield, CA 94534

#### CHAIN OF CUSTODY RECORD

DATE: November 14, 2018
PAGE: \_\_\_\_\_\_ of \_\_\_\_\_

#### Pacific EcoRisk 2250 Cordelia Rd. Fairfield, CA 94534 <u>Tot707-207-7780 Fax. 707-207-7816</u> Kristin Worrell (kworrell@pacificecorisk.com

CHAIN OF CUSTODY RECORD 11-16-18 DATE: PAGE: of

Section A Regimed Client Information:	Section B Required Project Information:	Seption C Impic Information;	Section D Sansier Information:
Company: Ninder Diorgan Evergy Paraners Amenion: Steve Definests	Report To: Cric Davis	Attention: Steve Ophicaugh - Ref. AFC# 81195-	Sampler Nils Orliczky
Address: 1100 Town & Country Road	Copy To: Steve Delibaugh	Company Kinder Morgan Everyy Partners	ander not coo
Email To; starte defibilities file indermorates com	Purchase Order No.	Address: \$100 Town & Country Road	Simple 16-Nov-18
Phone. 714-560-4802 Fax: 714-560-4801	Project Name: SFPP Norwalk	ATL Project Manager: Bristin Worred	

etion.	E Sample Information		1		0	ONTAINER	TYPE					
_	-				JE C	OF CONTAL	NERS		2			
					-	PRESERVAT	IVE					
			1			VOLUME (n	nti		100	00		
ILDM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G-GRAB CACOMP)	SAAAP		TOTAL IL OF CONTAINERS		Antibuts Test and Stheride (Maxide Beryllins) or promet (Atherinoss affinis) (Survival and	Grewith Test Method 2006) Fat head Milinnow) (Survival and Growth		
	EFF-11 15	EFFLUENT		_	DATE 11/16/18	11ME	F.		A F	-	Сотолента	_
	R5W-02 11-16	50 Downstream Coyote Creek	_									_
3	-									-		-
4												-
						11	1	1				-
			-				1	Ь.	HZ	0>		-
7			1	2	24	2			-	0		1000 kr. 111 kr. 111 v
4			K	-	ZA	-		2	G	-		membe -
4			1	_		*		-	1	+		
0			-	-	-				K	Y		
11 I						(in				-		

Companying by Degrature and Provide Roman	flatter) väätä	(Sugaduar and Provided Harris)	(ANG)			Turn Around Th	me (TAT):		Special Instru	ction:		
200000	also so in 1	Trevor Fise	her			CIA = Sam	te Day					
moong	-/11-16-18/	1350 Trever Juscher	17f 1	1/17/18	1421	CI 8 = 24 F						
services by (spaces and rested to	ture Long .	with pre- in the (lapsature and Protect Name).	cude (	lans.		- D C = 48 F	tours					
						Q O = 72 P	lours					
						DE=5W	orkdays					
And by (Sectorium and Postod Hane).	Late 10-4	Antonio and the Constants of a Presided Hamer:	line/	<b>1</b> (1)		# E = 10 V	Vorkdays					
						TAT Starts at 8	AM the following day 3:00 PM.	y if samples received alt	taer			
			Belatria:			Preservatives:			Container Ty	pe:		
			W = Water	WW - Wastewal	er	HEHO	N= HNO3	5 * H2SD4	TaTube	V = VO4	P # Pint	A - Amber
			Q × OB	P * Product	5 × Soil	2 - 2n(AC)2	O + NaOH	T = Na25203	* Jar	8 + Tedia	G Glass	-
			Others/Specify	:		Others/Specify	-		M = Metal	P - Plastic	C e Can	-

# **Appendix B**

# Test Data and Summary of Statistical Analyses for the Evaluation of the Chronic Toxicity of SFPP Norwalk Effluent and Unadjusted Receiving Water to Fathead Minnows



CETIS Sun	nmary Rep	ort					•	ort Date: Code:	26		20 (p 1 of 1) 7-0898-5020
Chronic Larva	al Fish Surviva	l and Gro	wth Test							Pacif	ic EcoRisk
Batch ID: Start Date: Ending Date: Duration:	04-3837-3620 13 Nov-18 17:0 20 Nov-18 10:5 6d 18h	)6 I 57 S	Fest Type: Protocol: Species: Source:	Growth-Surviva EPA-821-R-02- Pimephales pro Aquatox, AR	-013 (2002)		Anal Dilu Brin Age:	ent: Not e: Not	stin Robertso Applicable Applicable	ิท	
	14-9823-4283 12 Nov-18 10:1 13 Nov-18 10:4 31h (0 °C)	5 I 15 S	Code: Material: Source: Station:	Effluent Effluent SFPP Norwalk Eff-11-12	Station		Clier Proj		2M Hill 169		
Single Compa	arison Summar	у									
09-6834-1436 01-5875-9360	Endpoint 7d Survival Rat 7d Survival Rat Mean Dry Biom Mean Dry Biom	e nass-mg	TST-V TST-V TST-V	varison Method Velch's t Test Velch's t Test Velch's t Test Velch's t Test			P-Value 0.8666 <0.25 0.6295 7.6E-05	Receiving 100% pas Receiving	son Result y Water faile ssed 7d surv y Water faile ssed mean d	d 7d surviva rival rate d mean dry	biomass-m
7d Survival R	ate Summary										
Conc-%	Code	Count		95% LCL	95% UCL		Max	Std Err	Std Dev	CV%	%Effect
0 0 100	LW R	4 4 4	1.000 0.600 1.000	1.000 0.282 1.000	1.000 0.918 1.000	1.000 0.500 1.000	1.000 0.900 1.000	0.000 0.100 0.000	0.000 0.200 0.000	0.00% 33.33% 0.00%	0.00% 40.00% 0.00%
Mean Dry Bio	mass-mg Sum	mary									
Conc-%	Code LW R	Count 4 4	0.951 0.677	<b>95% LCL</b> 0.843 0.369	<b>95% UCL</b> 1.06 0.985	Min 0.888 0.526	Max 1.04 0.959	<b>Std Err</b> 0.034 0.0967	<b>Std Dev</b> 0.0681 0.193	<b>CV%</b> 7.16% 28.55%	%Effect 0.00% 28.81%
100		4	1.17	1.05	1.29	1.09	1.25	0.0365	0.0729	6.24%	-22.92%
<b>7d Survival R</b> <b>Conc-%</b> 0 0 100	Code LW R	<b>Rep 1</b> 1.000 0.500 1.000	Rep 2 1.000 0.500 1.000	Rep 3 1.000 0.500 1.000	<b>Rep 4</b> 1.000 0.900 1.000						
Mean Dry Bio	mass-mg Detai	1									
Conc-% 0 0 100	Code LW R	Rep 1 0.909 0.526 1.13	Rep 2 1.04 0.636 1.09	Rep 3 0.967 0.587 1.25	<b>Rep 4</b> 0.888 0.959 1.2						
7d Survival Ra	ate Binomials										
Conc-% 0	Code LW	<b>Rep 1</b> 10/10	Rep 2	10/10	<b>Rep 4</b> 10/10						
0 100	R	5/10 10/10	5/10 10/10	5/10 10/10	9/10 10/10						

Analyst: 14 QA: SNV

<b>Chronic Larval Fi</b>	sh Surviva	and Grow	th Test					Code:		80393   0 Baci	fic EcoRis
									_		IIC ECORIS
-	-6834-1436 Nov-18 11		-	Survival Rat		T . O		S Version		1.9.2	
	1404-19 11	:08 AN	alysis: Par	ametric Bioe	equivalence	-Iwo Sampi	e Offic	ial Result	s: Yes		
Data Transform		Alt Hyp			TST_b		Comparis				
Angular (Corrected	1)	C*b < T			0.75		100% pas	sed 7d sur	vival rate		
TST-Welch's t Te	st										
Control vs	Control	1	Test Stat	Critical		P-Type	P-Value	Decision	n(α:25%)		
Lab Water Contr	100*	_	0.353	n/a			<0.25	Non-Sigr	nificant Effec	t	
ANOVA Table											
Source	Sum Sq	uares	Mean Squ	are	DF	F Stat	P-Value	Decisior	n(α:5%)		
Between	0		0		1	65500	<1.0E-37	Significa			
Error	0		0		6			Ū.			
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%
		-	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.0070	0.0070
Angular (Correcte	d) Transfo	_						1.000	0.000	0.0070	0.0078
Angular (Correcte Conc-%	d) Transfo Code	_		95% LCL	95% UCL		Min	Max			
Conc-%		rmed Sumn	nary						Std Err	CV%	%Effect
	Code	rmed Sumn Count	nary Mean	95% LCL	95% UCL	Median	Min	Max			%Effect 0.00% 0.00%
<b>Conc-%</b> 0	Code	rmed Sumn Count 4	nary Mean 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41	Median 1.41	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41	<b>Median</b> 1.41 1.41	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics	Code	rmed Sumn Count 4	nary Mean 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41	Median 1.41	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41	<b>Median</b> 1.41 1.41	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41	Median 1.41 1.41	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics <sup>10</sup> 09 0.8	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.0F+00 7.5E01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	<b>%Effect</b> 0.00%
Conc-% 0 100 Graphics <sup>10</sup> 09 0.8	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.0F+00 7.5E01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	<b>%Effect</b> 0.00%
Conc-% 0 100 Graphics	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41	Median 1.41 1.41 1.0E+00 7.5E-01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics 10 09 0.8 8 8 8 8 8 9 8 0.7	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.0F+00 7.5E01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	<b>%Effect</b> 0.00%
Conc-% 0 100 Graphics	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.0E+00 7.5E-01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	<b>%Effect</b> 0.00%
Conc-% 0 100 Graphics 10 09 0.8 98 0.7 0.6 0.5	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.00+00 7.50-01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics 10 09 0.8 09 0.8 0.7 10 0.6 0.5 0.5 0.4	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.0E+00 7.5E-01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	<b>%Effect</b> 0.00%
Conc-% 0 100 Graphics 10 09 08 09 08 09 08 09 08 09 08 09 09 08 09 09 08 09 09 08 09 09 08 09 09 08 09 09 09 09 09 09 09 09 09 09 09 09 09	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.00+00 7.50-01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	%Effect 0.00%
Conc-% 0 100 Graphics 1.0 0.9 0.8 99 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.00+00 7.50-01	Min 1.41	<b>Max</b> 1.41	Std Err 0	<b>CV%</b> 0.00%	<b>%Effect</b> 0.00%
Conc-% 0 100 Graphics 10 03 03 03 05 0.5 0.5 0.4 0.3 0.2	Code LW	rmed Sumn Count 4	nary Mean 1.41 1.41	<b>95% LCL</b> 1.41	<b>95% UCL</b> 1.41 1.41	Median 1.41 1.41 1.00+00 7.50-01	Min 1.41	<b>Max</b> 1.41	Std Err 0 0	<b>CV%</b> 0.00%	%Effect 0.00%

Analyst: <u>1</u>2 QA: <u>9</u>N

CETIS Analy							Repo Test	Code:		80393   0	7-0898-50
Chronic Larval F	Fish Surviv	al and Grow	/th Test							Pacif	fic EcoRis
	6-4272-010 1 Nov-18 11		•	Survival Ratarrametric Bio		-Two Samp		IS Version: cial Results		1.9.2	
Data Transform		Alt Hyp			TST_b		Comparis	son Result			
Angular (Correcte	ed)	C*b < T			0.75		Receiving	Water faile	ed 7d surviva	al rate	
TST-Welch's t Te	est										
Control vs	Contro		Test Stat	t Critical	DF	P-Type	P-Value	Decision	(a:25%)		
Lab Water Contr	Receivi	ing Water	-1.36	0.765	3		0.8666	Significar			
ANOVA Table											
Source	Sum Sq	wares	Mean Sq	uare	DF	F Stat	P-Value	Decision	(a·5%)		
Between	0.52164		0.521641		1	19.4	0.0045	Significar			
Error	0.16122		0.026871		6		0.0010	o.g.moar			
Total	0.68286				7	-					
Distributional Te	ests										
Attribute	Test				Test Stat	Critical	P-Value	Decision	(a:1%)		
Variances	Levene	Equality of V	ariance Test	t	9	13.7	0.0240	Equal Va			
Variances		•	of Variance		1	13.7	0.3559	Equal Va			
Distribution		Wilk W Nori			0.706	0.645	0.0027		nal Distributi	ion	
7d Survival Rate	Summary										
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0								TALOUN		0 4 70	70611000
v	LW	4	1.000	1.000	1 000	1 000	1 000	1 000	0.000	0.00%	0.00%
	LW R	4 4	1.000 0.600	1.000 0.282	1.000 0.918	1.000 0.500	1.000 0.500	1.000 0.900	0.000 0.100	0.00% 33.33%	0.00% 40.00%
0	R	4	0.600								
0 Angular (Correct	R ted) Transfo	4 ormed Sumi	0.600 mary	0.282	0.918	0.500	0.500	0.900	0.100	33.33%	40.00%
	R	4	0.600	0.282 95% LCL	0.918 95% UCL	0.500 Median	0.500 Min	0.900 Max	0.100 Std Err	33.33%	40.00%
0 Angular (Correct Conc-%	R ted) Transfo Code	4 ormed Sumi Count	0.600 nary Mean	0.282	0.918	0.500	0.500	0.900	0.100	33.33%	40.00%
) Angular (Correct Conc-% ) )	R ted) Transfo Code LW	4 ormed Sum Count 4	0.600 nary Mean 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41	0.500 Median 1.41	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary Mean 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41	0.500 Median 1.41 0.785	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
Conc-% Conc-% Conc-%	R ted) Transfo Code LW	4 ormed Sum Count 4	0.600 nary Mean 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41	0.500 Median 1.41 0.785	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary Mean 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41	0.500 Median 1.41 0.785	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
D Angular (Correct Conc-% D D Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary Mean 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41	0.500 Median 1.41 0.785	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.35 0.30 0.25 0.20	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.35 0.30 0.25 0.20	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41	0.500 Median 1.41 0.785 0.35 0.35 0.30 0.25 0.20	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.30 0.25 0.20 0.15	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.30 0.25 0.20 0.15 0.10	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
Angular (Correct Conc-% ) ) Graphics	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.30 0.25 0.20 0.15 0.10 0.05 0.00	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
D Angular (Correct Conc-% D D D Graphics 10 0.9 0.8 0.8 0.8 0.7 0.6 0.5 0.5	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00 -0.05	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) ) Graphics 10 0.9 0.8 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00 -0.05 -0.10	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
Conc-% Co	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00 -0.05	0.500 Min 1.41	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%
) Angular (Correct Conc-% ) ) ) Graphics 10 0.9 0.8 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2	R ted) Transfo Code LW R	4 ormed Sum Count 4	0.600 nary <u>Mean</u> 1.41	0.282 95% LCL 1.41 0.532	0.918 95% UCL 1.41 1.27	0.500 Median 1.41 0.785 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00 -0.05 -0.10	0.500 Min 1.41 0.785	0.900 Max 1.41	0.100 Std Err 0	33.33% CV% 0.00%	40.00%

Analyst: 74 QA: SVV

							Test	Code:		80393   0	1 0000 001
Chronic Larval Fi	sh Survival	and Grow	th Test							Paci	fic EcoRis
	-6695-6730 Nov-18 11:2		-	an Dry Biom rametric Bio	-	-Two Samp		IS Version: ial Results		.9.2	
Data Transform		Alt Hyp			TST_b		Comparis	son Result			
Untransformed		C*b < T		0.75			100% passed mean dry biomass-mg				
TST-Welch's t Tes	st										
Control vs	Control	II	Test Stat	Critical	DF	P-Type	P-Value	Decision	(α:25%)		
Lab Water Contr	100*		10.2	0.727	5	CDF	7.6E-05	Non-Sign	ificant Effec	t	
ANOVA Table											
Source	Sum Squ	ares	Mean Squ	lare	DF	F Stat	P-Value	Decision	(α:5%)		
Between	0.0950467		0.0950467		1	19.1	0.0047	Significan			
Error	0.02987		0.0049783	3	6			-			
Total	0.124917				7						
Distributional Tes	its										
Attribute	Test				Test Stat	Critical	P-Value	Decision	(α:1%)		
Variances	Variance I	Ratio F Tes	t		1.15	47.5	0.9127	Equal Var			
								•			
Distribution	Shapiro-W	Vilk W Norn	nality Test		0.92	0.645	0.4273	Normal D	istribution		
Distribution Mean Dry Biomas			nality Test		0.92	0.645	0.4273	Normal D	istribution		_
			Mean	95% LCL	0.92 95% UCL	0.645 Median	0.4273 Min	Normal D	istribution Std Err	CV%	%Effect
Mean Dry Biomas Conc-% )	s-mg Summ	nary		<b>95% LCL</b> 0.843						<b>CV%</b> 7.16%	%Effect 0.00%
Mean Dry Biomas Conc-% )	s-mg Sumn Code	nary Count	Mean		95% UCL	Median	Min	Max	Std Err		0.00%
Mean Dry Biomas Conc-% ) 100	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% D 100	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	<b>Median</b> 0.938 1.17	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938 1.17	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 1.4 1.2	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	
Mean Dry Biomas Conc-% 100 Graphics 1.4	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938 1.17 0.100 0.075 0.050	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050 0.025	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2 1.0 4G use	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050 0.025	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2 1.0 1.0 0.6	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050 0.025 0.000 -0.025	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2 1.0 0.6 0.6 0.4	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.000 0.005 0.005 0.000	<b>Min</b> 0.888	Max 1.04 1.25	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 100 Graphics	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050 0.025 0.000 -0.025	<b>Min</b> 0.888	Max 1.04 1.25	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2 1.0 0.6 0.6 0.4 0.2	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050 0.025 0.000 0.025 0.000 0.025	<b>Min</b> 0.888	Max 1.04 1.25	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.4 1.2 1.0 0.6 0.6 0.4	s-mg Sumn Code	nary Count 4	<b>Mean</b> 0.951	0.843	95% UCL 1.06 1.29	Median 0.938 1.17 0.100 0.075 0.050 0.025 0.000 -0.025 -0.050	<b>Min</b> 0.888	Max 1.04 1.25	<b>Std Err</b> 0.034	7.16%	0.00%

Analyst: 14 QA: SVV

0 LW 4 0.951 0.843 1.06 0.938 0.888 1.04 0.034 7.16% 0.00% R 4 0.677 0.369 0.985 0.612 0.526 0.959 0.0967 28.55% 28.81 Graphics	ish Surviva	I and Grow	th Test							Paci	fic EcoRis		
Analyzed:         21 Nov-18 11:22         Analysis:         Parametric Bioequivalence-Two Sample         Official Results:         Yes           Data Transform         Alt Hyp         TST_b         Comparison Result             Untransformed         C'b < T         0.75         Receiving Water failed mean dry biomass-mg            TST-Welch's t Test         Control I         Test Stat         Critical         DF P-Type         P-Value         Decision(a:25%)           Lab Water Contr         Receiving Water         -0.363         0.765         3         CDF         0.6295         Significant Effect           Source         Sum Squares         Mean Square         DF         F Stat         P-Value         Decision(a:5%)           Between         0.150153         0.150153         1         7.15         0.0368         Significant Effect           Cold         0.220027         6         7         0.12013         Equal Variances         Significant Effect            Stribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Startib	1-5875-9360	) En	dpoint: Me	an Dry Biom	nass-mg		CET	IS Version	: CETISV	1.9.2			
Untransformed         C'b < T	1 Nov-18 11	:22 An	alysis: Pa	rametric Bio	equivalence	-Two Sampl							
Untransformed         C*b < T         0.75         Receiving Water failed mean dry biomass-mg           TST-Welch*s t Test         5         Control II         Test Stat         Critical         DF         P.Yalue         Decision(a:25%)           Lab Water Contr         Receiving Water         -0.363         0.765         3         CDF         0.6295         Significant Effect           ANOVA Table         Source         Sum Squares         Mean Square         DF         F Stat         P.Value         Decision(a:5%)           Source         Sum Squares         Mean Square         DF         F Stat         P.Value         Decision(a:5%)           Between         0.150153         1         7.15         0.0368         Significant Effect		Alt Hyp			TST_b		Comparis	son Result					
Control         vs         Control II         Test Stat         Critical         DF         P-Type         P-Value         Decision(0:25%)           Lab Water Contr         Receiving Water         -0.363         0.765         3         CDF         0.6295         Significant Effect           ANOVA Table         Source         Sum Squares         Mean Square         DF         F Stat         P-Value         Decision(0:5%)           Between         0.150153         0.150153         1         7.15         0.0368         Significant Effect           Total         0.276169         0.0210027         6         -         -         Decision(0:1%)           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Variances         Variance Ratio F Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         Cv%         % Effect           0         LW         4         0.677         0.369         0.938         0.888         1.04         0.034         7.16%         0.00%		C*b < T					Receiving Water failed mean dry biomass-mg						
Lab Water Contr         Receiving Water         -0.363         0.765         3         CDF         0.6295         Significant Effect           ANOVA Table         Source         Sum Squares         Mean Square         DF         F Stat         P-Value         Decision(0:5%)           Between         0.150153         0.150153         1         7.15         0.0368         Significant Effect           Error         0.126016         0.0210027         6         7         0.41203         Equal Variances           Olstributional Tests         Test         Test Stat         Critical         P-Value         Decision(0:1%)           Variances         Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Ecolection (0:70, 0.699         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81           Ob         L         W         4         0.677         0.369         0.985         0.612         0.526         0.959         0.997         28.55%         28.81	st												
Lab Water Contr       Receiving Water       -0.363       0.765       3       CDF       0.6295       Significant Effect         ANOVA Table       Source       Sum Squares       Mean Square       DF       F Stat       P-Value       Decision(0:5%)         Between       0.150153       0.150153       1       7.15       0.0368       Significant Effect         Firor       0.126016       0.0210027       6       7       0.0425       Decision(0:1%)         Variances       Variance Ratio F Test       8.06       47.5       0.1203       Equal Variances         Distributional Tests       Mean Dry Biomass-mg Summary       0.877       0.645       0.1775       Normal Distribution         Mean Dry Biomass-mg Summary       Code       Count       Mean       95% LCL       95% UCL       Media       Min       Max       Std Err       CV%       %Effect         0.0       L       W       4       0.677       0.369       0.985       0.612       0.526       0.959       0.0967       28.55%       28.81         3raphics       Image: State			Test Stat	Critical	DE	P-Type	P.Value	Decision	a(a:250/)				
ANOVA Table         Source         Sum Squares         Mean Square         DF         F Stat         P-Value         Decision(a:5%)           Between         0.150153         0.150163         1         7.15         0.0368         Significant Effect           Error         0.126016         0.0210027         6         7         Distributional Tests         Test Stat         Critical         P-Value         Decision(a:1%)           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Obstribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effe           0         L/W         4         0.677         0.369         0.985         0.612         0.955         0.9959         0.0967         28.55%         28.81           Graphics         Image: State													
Source         Sum Squares         Mean Square         DF         F Stat         P-Value         Decision(cr.5%)           Between         0.150153         0.150153         1         7.15         0.0368         Significant Effect           Total         0.276169         7         7         5         5         5           Distributional Tests         Test         Test Stat         Critical         P-Value         Decision(cr.1%)           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effe           0         L/W         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         R         4         0.677         0.369         0.985         0.612         0.526         0.959         0.9967         28.55%         28.51           <		-							Linder				
Between         0.150153         0.150153         1         7.15         0.0368         Significant Effect           Total         0.278169         7         0.0368         Significant Effect         1	Sum Sa	10700	Maga Car										
Error         0.128016         0.0210027         6         7           Distributional Tests         Test         Critical         P-Value         Decision(c:1%)           Main construction         Shapiro-Wilk W Normality Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Blomass-mg Summary         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effect           Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effect           O         LW         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           O         LW         4         0.677         0.369         0.938         0.838         1.04         0.034         7.16%         0.00%           Graphics         Constant         Constant         Constant         Constant         Constant         Constant </td <td></td> <td></td> <td></td> <td>lare</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				lare									
Total         0.276169         7           Distributional Tests         Test Stat         Critical         P-Value         Decision(a:1%)           Attribute         Test         Test Stat         Critical         P-Value         Decision(a:1%)           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         % Effe           0         L/W         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         L/W         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81           0         a         a         a         a         a         a         a         a         a         a         a           0         a         a				,		7.15	0.0368	Significal	nt Effect				
Distributional Tests           Attribute         Test Stat         Critical         P-Value         Decision(a:1%)           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         Cv%         % Effe           0         LW         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         R         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81'           Graphics         Image: Graphic S         Image: Graphic S <t< td=""><td></td><td></td><td>0.0210027</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			0.0210027										
Attribute         Test         Test Stat         Critical         P-Value         Decision(c:1%)           Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effe           0         L/W         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         L/W         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81           Graphics         Image: state of the state													
Variances         Variance Ratio F Test         8.06         47.5         0.1203         Equal Variances           Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Mean Dry Biomass-mg Summary         Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         % Effet           0         LW         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         LW         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81           3raphics         Image: Control of the second seco													
Distribution         Shapiro-Wilk W Normality Test         0.877         0.645         0.1775         Normal Distribution           Wean Dry Biomass-mg Summary         Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effe           0         LW         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         R         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81           3raphics         Trinter Structure           12         a           0         a           0         a           0         a           0         a         a           0         a           0         a           0         a           0         a           0         a           0         a           0 <td <="" colspan="2" td=""><td></td><td>Datis E T</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td>	<td></td> <td>Datis E T</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			Datis E T	-								
Mean Dry Biomass-mg Summary         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effe           0         LW         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         LW         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81           Graphics								•					
Conc-%         Code         Count         Mean         95% LCL         95% UCL         Median         Min         Max         Std Err         CV%         %Effe           0         LW         4         0.951         0.843         1.06         0.938         0.888         1.04         0.034         7.16%         0.00%           0         R         4         0.677         0.369         0.985         0.612         0.526         0.959         0.0967         28.55%         28.81"           Graphics			nanty rest		0.077	0.045	0.1775	Normal L	Istribution				
0       LW       4       0.951       0.843       1.06       0.938       0.888       1.04       0.034       7.16%       0.00%         0       R       4       0.677       0.369       0.985       0.612       0.526       0.959       0.0967       28.55%       28.81         Graphics       12       12       13       14       0.034       7.16%       0.00%         12       13       14       0.677       0.369       0.985       0.612       0.526       0.959       0.0967       28.55%       28.81         Graphics       12       13       14       14       14       14       14       14       14       14       14       15       16       17         14       15       15       15       15       16       16       16       16       17       17       17       18       17         15       16       16       16       16       16       16       16       17       17       18       18       18       18       18       18       18       18       18       18       18       18       18       18       18       18       18       18	is-mg Sum	-											
D R 4 0.677 0.369 0.985 0.612 0.526 0.959 0.0967 28.55% 28.81 Graphics								Max	Std Err	CV%	%Effect		
Graphics         0.000         0.012         0.020         0.030         0.030         20.037 <td></td> <td>0.00%</td>											0.00%		
12 10 10 10 10 10 10 10 10 10 10	R	4	0.677	0.369	0.985	0.612	0.526	0.959	0.0967	28.55%	28.81%		
$\begin{bmatrix} 1.0 \\ 0.8 \\ 0.6 \\ 0.6 \\ 0.4 \\ 0.2 \\ 0.6 \\ 0.0 \\ 0.$													
1.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0						0.30							
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0.4		-5875-9360 I Nov-18 11 st Control Receivir 0.150153 0.126016 0.276169 sts Test Variance Shapiro-V s-mg Sumi Code LW R	-5875-9360 En Nov-18 11:22 An Alt Hyp C*b < T st Control II Receiving Water Sum Squares 0.150153 0.126016 0.276169 sts Test Variance Ratio F Tes Shapiro-Wilk W Norr s-mg Summary Code Count LW 4 R 4	-5875-9360       Endpoint:       Me         Nov-18 11:22       Analysis:       Paralysis:         Alt Hyp       C*b < T	-5875-9360         Endpoint:         Mean Dry Biom           Nov-18 11:22         Analysis:         Parametric Bio           Alt Hyp         C*b < T	-5875-9360         Endpoint:         Mean Dry Biomass-mg           Nov-18 11:22         Analysis:         Parametric Bioequivalence           Alt Hyp         TST_b           C*b < T	Sum Squares         Mean Square         DF         F Stat           0.150153         0.150153         1         7.15           0.150163         0.150153         1         7.15           St         Sum Squares         Mean Square         DF         F Stat           0.150153         0.150153         1         7.15           0.150164         0.0210027         6         0.276169         7           sts           Test         Test Stat         Critical           Variance Ratio F Test         8.06         47.5           Shapiro-Wilk W Normality Test         0.877         0.645           s-mg Summary         Code         Count         Mean         95% LCL         95% UCL         Median           LW         4         0.951         0.843         1.06         0.938         0.612	-5875-9360         Endpoint: Analysis:         Mean Dry Biomass-mg Parametric Bioequivalence-Two Sample         CET Offic           Alt Hyp         TST_b         Comparis           C*b < T	-5875-9360 Nov-18 11:22       Endpoint: Analysis:       Mean Dry Biomass-mg Parametric Bioequivalence-Two Sample       CETIS Version Official Result         Alt Hyp       TST_b       Comparison Result         C*b < T	-5875-9360 I Nov-18 11:22       Endpoint: Analysis:       Mean Dry Biomass-mg Parametric Bioequivalence-Two Sample       CETIS Version: Official Results:       Yes         Alt Hyp       TST_b       Comparison Result         C*b < T	Sar5-59360     Endpoint:     Mean Dry Biomass-mg     CETIS Version:     CETISV1.9.2       Nov-18 11:22     Analysis:     Parametric Bioequivalence-Two Sample     Official Results:     Yes       Alt Hyp     TST_b     Comparison Result       C*b < T		

Analyst:\_\_\_\_\_\_QA:\_\_\_\_QA

-	LY8h	Age:	y natux	1128	anism Log#: sm Supplier:		-	tation	Norwalk S Effluent	SFPP		Client: Test Material:
-		epamh J	211	0	ntrol/Diluent:	Con	4.5.14	294 ndomization:	Project #:		803	Test ID#: Test Date:
	SIGN-OFF	D	rganisms C	# Live O	A	Conductivity (µs/cm)	mg/L) old	D.O. ( new	H	p) new	Temp (°C)	Treatment
-	Date: 1(/13/18	10	20	10	io	341		8.4		8.01	24.1	Lab Water Control
:	Sample ID (RW/Eff): S13/8/51317	10	10	10	10	1521		14.6		9.17	249	Receiving Water
1			10	[3	10	2437		9.0		7.08	25.1	100% Effluent
	New WQ:											
1	Initiation Time: 1706											
	Initiation Signoff:					ECII		RPII		PH25	93A	Meter ID
1	Date: 11/14/18	10	10	10	10	328	7.8	9.8	7.64	7.43	25.7	Lab Water Control
:	Sample ID (RW/Eff): 51318/51317	10	10	10	10	1518	8.1	14.9	8.64	0.31	25,6	
	Test Solution Prep:	10	(0	10	10	2430	7.7	9.7	7.84	6.96	25.7	
	New WQ:											
	Renewal Time: 1346											
	Renewal Signoff:											
	Old WQ:					EU	RDIO	RDII	PHIA	Phzs	109.PK	Meter ID
1	Date:	10	10	10	ÍD	320	8.3	9.2	7.70	7.71	24.0	Lab Water Control
\$1357/513	11/15/18 Sample ID (RW/Eff): 51352/51353	(0)	10	10	10	1589	7.3	16.6	8.61	8.91	23.9	Receiving Water
	Test Solution Prep: NB	10	10	D	10	2380	7.4	8.5	8.04	le.86	24.0	100% Effluent
	New WQ:											
	Renewal Time:											
	Renewal Signoff											
	Old WQ GR					ECI	Fd 11	RDII	Rh 19	PHIS	SAN	Meter ID
	Date: 11/16/18	10	10	10	10	330	8.6	8.9	8.24	8.04	24.0	Lab Water Control
51352	Sample ID (RW/EII)	10	6	7	5	1568	8.5	14.7	8.79	8.95	24,2	Receiving Water
TE AVIG	Test Solution Prep:	10	10	10	10	2441	8.6	9.2	8,57		24.0	00% Effluent
	STB											
	1116											
	Renewal Signoff:											
	Old WQ:					E613	ROU	2113	PHUY	PH25	SIA	Meter ID

## 7 Day Chronic Fathead Minnow Toxicity Test Data

Client:		SFPP	Norwalk S	Station		Or	ganism Log#:		84		Z48hr
Test Material:			Effluent				ism Supplier:		Agua		
Test ID#:	11/13/	393	Project #:		469 469	• · · · · · · · · · · · · · · · · · · ·	ntrol/Diluent:		2119	EPAMH	
Test Date:	((1))	10	Ra	ndomization:	(01)	Control	Water Batch:		247		
Treatment	Temp (°C)		н	1	(mg/L)	Conductivity (µs/cm)			rganisms		SIGN-OFF
Lab Water	(0)	new	old	new	old	0.0	A	В	С	D	Date:
Control	24.3	7.91	7.68	7.3	7.3	314	10	10	10	10	แม่าว/เธ
Receiving Water	24.4	8.72	8.34	12.4	7.7	1761	5	5	65	10	Sample ID (RW/Eff): 51362/5136
100% Effluent	24.1	7.06	8.07	6.6	7.4	2391	10	10	10	10	Test Solution Prep:
											New WQ: FR
											Renewal Time: 1626
											Renewal Signoff:
Meter ID	(.ooA	PHZY	PH15	RD13	RDII	EC13					old wo TP
Lab Water	24.0	7.94	7.92	9.2	7.8	297	10	10	10	10	Date:
Control Receiving	24.1	8.75	8.46	13.8	8.0	1735	5	5	5	10	Sample ID (RW/Eff):
Water 100% Effluent	24.0	7.01	8,15	8.0	8.1	2350	10	10	10	10	SI36Z SI36( Test Solution Prep:
											New WQ:
											TP Renewal Time:
											1700 Renewal Signoff:
											KL Old WQ:
Meter ID	108A	PHau	PH19	AD12	RD13	EC12					TP Date:
Lab Water Control	24.0	7.93	7.48	9.0	7.7	300	10	10	10	10	nhahr
Receiving Water	24.1	8.74	8.20	13.7	0.8	1749	5	5	5	9	Sample ID (RW/Eff): 51362 51361
100% Effluent	24.1	6.99	7.91	8.6	8.1	2377	10	10	10	10	Test Solution Prep:
											New WQKL
											Renewal Time 1315
											Renewal Signoff
Meter ID	16.01	PH19	PHZY	RDI	RD13	ECI					old wo AR
Lab Water	108A 24.4		-		7.8	328	10	( )	()	10	Termination Date:
Receiving	24.2		7.78			1875	5	5	5	9	Termination Time:
Water 100% Effluent			8.44		8.0				-	/	Termination Signoff:
	24, 2		8.10		7.9	2492	(0	0)	10	6	Old WQ:
											UZ-
						6					
Meter ID	100 A		PH24		2011	Em					

#### 7 Day Chronic Fathead Minnow Toxicity Test Data

Client:	SFPP Norwalk St	ation	Test ID #: 8039	B Project #:	29469
Fest Material:			eight Date: 11118/1		AR
Test Date:	11/13/18	Final W	eight Date: 11-21-18	Sign-off:	W
Pan ID	Treatment/ Replicate	Initial Weight (mg)	Final Weight (mg)	# of Organisms at Test Initiation	Biomass Value (mg)
1	Lab Water Control A	417.85	426.94	10	0.909
2	В	409.01	419.41	10	1.04
3	С	408.84	418.51	10	0.967
4	D	407.99	416.87	10	0.888
5	Receiving Water A	403.48	408.74	10	0.526
6	В	414.39	420.75	10	0.636
7	С	412.55	418.42	10	0.587
8	D	409.59	419.18	10	0.959
9	100% A	407.39	418.74	10	1.13
10	В	413 98	424.85	10	1.09
11	С	413.50	426.03	10	1.25
12	D	407.20	419.21	10	1.20
QA1		415.58	415.55		
QA2		406.77	406.80		
		BAL 04	Bal 04		

#### Fathead Minnow Dry Weight Data Sheet

# **Appendix C**

# Test Data and Summary of Statistical Analyses for the Evaluation of the Chronic Toxicity of SFPP Norwalk pH Adjusted Receiving Water to Fathead Minnows



CETIS Sur	nmary Rep	ort						ort Date: Code:		Nov-18 15:2 80393Ph   14	
Chronic Larva	al Fish Surviva	l and Gr	owth Test							Pacif	ic EcoRisk
Batch ID: Start Date: Ending Date: Duration:	21-1782-4762 13 Nov-18 17:0 20 Nov-18 10:5 6d 18h	06 57	Test Type: Protocol: Species: Source:	Growth-Surviva EPA-821-R-02 Pimephales pro Aquatox, AR	-013 (2002)		Anal Dilu Brin Age:	ent: N e: N	ristin Roberts ot Applicable ot Applicable		
	08-2721-5208 12 Nov-18 10:1 13 Nov-18 10:2 31h (0 °C)	15 I 15 I	Code: Material: Source: Station:	Effluent Effluent SFPP Norwalk Eff-11-12	Station		Clier Proje		H2M Hill 9469		
Comments: pH Adjusted R	w										
Analysis ID 08-8372-2006 15-2206-5871 05-2868-8434	arison Summar Endpoint 7d Survival Rat 7d Survival Rat Mean Dry Biom Mean Dry Biom	te te nass-mg	TST-V TST-V TST-V	parison Method Velch's t Test Velch's t Test Velch's t Test Velch's t Test			<b>P-Value</b> 0.9907 0.9907 0.8770 0.9408	100% fa 100% fa 100% fa	rison Resul ailed 7d survin ailed 7d survin ailed mean dr ailed mean dr	val rate val rate y biomass-n	0
7d Survival R	ate Summary										
Conc-% 0	Code LW	Count 4	1.000	95% LCL 1.000	1.000	<b>Min</b> 1.000	<b>Max</b> 1.000	<b>Std Err</b> 0.000	0.000	<b>CV%</b> 0.00%	%Effect 0.00%
0 100	р7	4 4	1.000 0.475	1.000 0.275	1.000 0.675	1.000 0.300	1.000 0.600	0.000 0.063	0.000 0.126	0.00% 26.49%	0.00% 52.50%
Mean Dry Bio	mass-mg Sumi	тагу									
<b>Conc-%</b> 0 0 100	Code LW p7	Count 4 4 4	Mean 0.951 0.857 0.507	95% LCL 0.843 0.762 0.216	<b>95% UCL</b> 1.06 0.952 0.798	Min 0.888 0.796 0.267	Max 1.04 0.938 0.702	<b>Std Err</b> 0.034 0.0299 0.0916	Std Dev 0.0681 0.0598 0.183	CV% 7.16% 6.98% 36.12%	%Effect 0.00% 9.91% 46.69%
7d Survival R	ate Detail										
<b>Conc-%</b> 0 0 100	Code LW p7	Rep 1 1.000 1.000 0.500	Rep 2 1.000 1.000 0.600	Rep 3 1.000 1.000 0.500	<b>Rep 4</b> 1.000 1.000 0.300						
Mean Dry Bio	mass-mg Detai	I									
Conc-% 0 0 100	Code LW p7	Rep 1 0.909 0.836 0.485	Rep 2 1.04 0.938 0.702	Rep 3 0.967 0.796 0.574	Rep 4 0.888 0.857 0.267						
7d Survival Ra	ate Binomials										
<b>Conc-%</b> 0 0 100	Code LW p7	Rep 1 10/10 10/10 5/10	Rep 2 10/10 10/10 6/10	Rep 3 10/10 10/10 5/10	<b>Rep 4</b> 10/10 10/10 3/10						

Analyst: AM QA: SNN

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							Test				4-1504-52
Chronic Larval Fi	ish Surviv	al and Grow	vth Test							Paci	fic EcoRis
	-2206-587 Nov-18 1		•	Survival Rat rametric Bio		-Two Samp		IS Version ial Result		1.9.2	
Data Transform		Alt Hyp			TST_b		Comparis	on Result			
Angular (Corrected	d)	C*b < T			0.75		100% faile	ed 7d survi	val rate		
TST-Welch's t Tes	st										
Control vs	Conc-9	/0	Test Stat	Critical	DF	P-Type	P-Value	Decisio	ı(α:25%)		
pH 7 Lab Control	100		-4.66	0.765	3	CDF	0.9907	Significa			
ANOVA Table											
Source	Sum So	wares	Mean Sq	laro	DF	F Stat	P-Value	Decisior	V(a:5%)		
Between	0.85252		0.852525		1	103	5.3E-05	Significa			
Error	0.04971		0.008285		6		0.02.00	eiginioa			
Total	0.90223				7						
Distributional Tes	sts										
Attribute	Test				Test Stat	Critical	P-Value	Decision	n(a:1%)		
Variances		Equality of V	ariance Test		5.52	13.7	0.0570	Equal Va			
Variances			y of Variance		2.43	13.7	0.1701	Equal Va			
Distribution		Wilk W Nori			0.791	0.645	0.0230		Distribution		
7d Survival Rate S	Summary										
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	p7	4	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.00%	0.00%
100	μ.	4	0.475	0.275	0.675	0.500	0.300	0.600	0.063	26.49%	52.50%
Angular (Correcte	d) Transfo	ormed Sum	mary								
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
		4	1.41	1.41	1.41	1.41	1.41	1.41	0	0.00%	0.00%
0	p7										
	р7	4	0.759	0.554	0.964	0.785	0.58	0.886	0.0644	16.96%	40.Z470
D 100	p7		0.759	0.554	0.964	0.785	0.58	0.886	0.0644	16.96%	46.24%
0 100 Graphics	p7		0.759	0.554	0.964		0.58	0.886	0.0644	16.96%	40.2470
D	p7 •		0.759	0.554	0.964	0.785 c.15	0.58	0.886	0.0644		
0 100 Graphics			0.759	0.554	0.964	C.15	0.58	0.886	0.0644		€ €
0 100 Graphics			0.759	0.554	0.964		0.58	0.886	0.0644		
0 100 Graphics 			0.759	0.554		C.15 0.10	0.58	0.886	0.0644		
0 100 Graphics .0 0.9 0.8			0.759	0.554		C.15 0.10	0.58	0.886	0.0644		
0 100 Graphics 			0.759	0.554	0.964	C.15 0.10	0.58	•	0.0644		
0) 100 Graphics 1.0 0.9 0.8 8 8 8 8 9 8 9 0.7			0.759			0.15 0.10	0.58	•	0.0644		
D 100 Graphics 1.0 0.9 0.8 488 0.7 1.0 0.5						0.15 0.10	- •	•	0.0644		
D 100 Graphics 1.0 0.9 0.8 40 0.7 1.0 0.5 0.5						0.15 0.10 0.05 0.00 -0.05	- •	•	•		
D 100 Graphics 1.0 0.9 0.8 90 0.8 90 0.5 0.5 0.5 0.5 0.4 0.3						0.15 0.10 0.05 0.00	- •	•	U.U644		
D 100 Graphics 1.0 0.9 0.8 90 0.7 0.5 0.5 0.4						0.15 0.10 0.05 0.00 -0.05	0.58	•	U.Ub44		
D 100 Graphics 1.0 0.9 0.8 90 0.8 0.7 1.0 0.9 0.8 0.5 0.5 0.5 0.5 0.4 0.3						0.15 0.10 0.05 0.00 -0.05 -0.10	0.58	•	0.0644		
D 100 Graphics 1.0 0.9 0.8 90 0.7 0.5 0.5 0.5 0.4 0.3 0.2						0.15 0.10 0.05 0.00 -0.05 -0.10	- 8	•	0.0044		

Analyst: 2 QA: GNV

CETIS Anal							Test	Code:	8	0393Ph   1	4-1504-524
Chronic Larva	I Fish Surviv	al and Grow	/th Test							Paci	fic EcoRis
Analysis ID: Analyzed:	08-8372-200 21 Nov-18 1			d Survival Rat arametric Bio		-Two Samp		IS Version cial Result		1.9.2	
Data Transform	n	Alt Hyp			TST_b		Comparis	son Result			
Angular (Correc	cted)	C*b < T			0.75		100% faile	ed 7d survi	val rate		
TST-Welch's t	Test										
Control v	s Conc-	6	Test Sta	t Critical	DF	P-Type	P-Value	Decisior	(α:25%)		
Lab Water Cont	tr 100		-4.66	0.765	3		0.9907	Significa			
ANOVA Table											
Source	6.um 6.		Mann C.		DE	E 0444	D Malua	Desision	( 50/)		
Between	Sum Sc 0.85252		Mean Se 0.85252	-	<b>DF</b>	F Stat 103	P-Value 5.3E-05	Decision Significar			_
Error	0.03232		0.00828		6	105	0.00-00	Significal	n Enect		
Total	0.90223		0.00020		7						
Distributional <sup>*</sup>	Tasts										
					Test Of 1	0.44	D V-1	Decisi	4.01		
Attribute Variances	Test	Equality of V	arianco Tor	•+	Test Stat		P-Value	Decision			
variances Variances		ene Equality of V			5.52 2.43	13.7 13.7	0.0570 0.1701	Equal Va Equal Va			
Distribution		-Wilk W Nor		5 1631	2.43 0.791	0.645	0.0230		nances istribution		
							0.0200	- Honniar E			_
7d Survival Ra	-	0		050/ 1 01							
Conc-%	Code	Count	Mean	95% LCL			Min	Max	Std Err	CV%	%Effect
100	LW	4 4	1.000 0.475	1.000 0.275	1.000 0.675	1.000 0.500	1.000 0.300	1.000 0.600	0.000 0.063	0.00% 26.49%	0.00% 52.50%
	-4				0.010	0.000	0.000	0.000	0.000	20.4070	02.0070
Angular (Corre											
Conc-%	Code LW	Count 4	Mean 1.41	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
100	LVV	4	0.759	1.41 0.554	1.41 0.964	1.41 0.785	1.41 0.58	1.41 0.886	0 0.0644	0.00%	0.00%
			0.759	0.004	0.904	0.765	0.56	0.000	0.0644	16.96%	46.24%
Graphics											
1.0						0.15					
0.9											•
0.8						0.10 -				1	
						0.05				-	
0.7 2.0 Vivial Bate 0.6					par	9005					
0.6					Centered	.00 D.00					
			7774	see.							
R 0.5						-0.05					
0.5 0.4						-0.10					
0.5											
0.4 0.3						-0.10					
0.4 0.3 0.2						-0.10					
0.5 0.4 0.3											
0.4 0.3 0.2	0 LW		10	a			-1.0	-0.5 0.0	0.5	1.0	1.5

Analyst: 192 QA: GNV

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							Test	Code:	8	0393Ph   1	4-1504-524
Chronic Larval Fi	sh Survival	and Grow	th Test								fic EcoRis
•	-2868-8434 Nov-18 11:1		-	an Dry Biom rametric Bio	nass-mg equivalence	Two Sample		S Version: al Results:	CETISv1 Yes	1.9.2	
Data Transform		Alt Hyp			TST_b		Comparis	on Result			
Untransformed		C*b < T			0.75		100% faile	ed mean dry	biomass-m	ng	
TST-Welch's t Tes	st										
Control vs	Conc-%		Test Stat	Critical	DF	P-Type	P-Value	Decision(	a:25%)		
pH 7 Lab Control	100		-1.44	0.765	3	CDF	0.8770	Significant			
ANOVA Table											
Source	Sum Squ	ares	Mean Squ	Jare	DF	F Stat	P-Value	Decision(	a:5%)		
Between	0.24465		0.24465		1	13.2	0.0109	Significant			
Error	0.11132		0.0185534	1	6			0			
Total	0.35597				7						
Distributional Tes	its										
Attribute	Test				Test Stat	Critical	P-Value	Decision(	α:1%)		
Variances	Variance F	Ratio F Tes	t		9.38	47.5	0.0985	Equal Vari			
								•			
Distribution	Shapiro-W	ilk W Norn	nality Test		0.948	0.645	0.6929	Normal Dis	stribution		
Distribution Mean Dry Biomas			nality Test		0.948	0.645	0.6929	Normal Di	stribution		
			Mean	95% LCL		0.645 Median	0.6929 Min	Normal Dis		CV%	%Effect
Mean Dry Biomas	s-mg Summ	iary		<b>95% LCL</b> 0.762					Std Err 0.0299	<b>CV%</b> 6.98%	%Effect 0.00%
Mean Dry Biomas Conc-%	s-mg Summ Code	iary Count	Mean		95% UCL	Median	Min	Max	Std Err		
Mean Dry Biomas Conc-% 0	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952	<b>Median</b> 0.846	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% 0 100	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952	<b>Median</b> 0.846 0.529	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% D 100 Graphics	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952	Median 0.846 0.529	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% D 100 Graphics	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952	Median 0.846 0.529 0.25 0.20	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.20 0.15	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.20 0.15	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.20 0.15	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics	s-mg Summ Code	iary Count 4	<b>Mean</b> 0.857	0.762 0.216	<b>95% UCL</b> 0.952	Median 0.846 0.529 0.25 0.20 0.15	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics	s-mg Summ Code	iary Count 4	Mean 0.857 0.507	0.762 0.216	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.25 0.20 0.15 0.10 0.05	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics	s-mg Summ Code	iary Count 4	Mean 0.857 0.507	0.762 0.216	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.20 0.15 0.10 0.05 0.00	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.0 0.8 0.8	s-mg Summ Code	iary Count 4	Mean 0.857 0.507	0.762 0.216	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.20 0.15 0.10 0.05 0.00 0.05 0.00	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 1.0 0.8 0.6 0.6	s-mg Summ Code	iary Count 4	Mean 0.857 0.507	0.762 0.216	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.25 0.20 0.15 0.00 0.05 0.00 -0.05 -0.10 0.15	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 1.0 0.8 0.6 0.4 0.4	s-mg Summ Code	iary Count 4	Mean 0.857 0.507	0.762 0.216	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.20 0.15 0.00 0.05 0.00 0.05 0.00 -0.05 -0.10 -0.15	<b>Min</b> 0.796	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%
Mean Dry Biomas Conc-% ) 100 Graphics 1.0 0.8 0.6 0.6	s-mg Summ Code	iary Count 4	Mean 0.857 0.507	0.762 0.216	<b>95% UCL</b> 0.952 0.798	Median 0.846 0.529 0.25 0.25 0.20 0.15 0.00 0.05 0.00 -0.05 -0.10 0.15	Min 0.796 0.267	<b>Max</b> 0.938	<b>Std Err</b> 0.0299	6.98%	0.00%

Analyst: MA QA: SNV

Chronic Larval Fi	sh Survival	and Grow	th Test		-					Pacif	fic EcoRis
Analysis ID: 05	-7785-4733	En	dpoint: Me	an Dry Biom	ass-ma		CET	IS Version:	CETISv1	9.2	
•	Nov-18 11:1		-	-	equivalence-	Two Samp	le Offic	cial Results			
Data Transform		Alt Hyp			TST_b		Comparis	son Result			
Untransformed		C*b < T			0.75		100% fail	ed mean dr	y biomass-m	ng	
TST-Welch's t Tes	st										
Control vs	Conc-%		Test Stat	Critical	DF	P-Type	P-Value	Decision	(α:25%)		
Lab Water Contr	100		-2.17	0.765	3	CDF	0.9408	Significar	nt Effect		
ANOVA Table											
Source	Sum Squa	ares	Mean Squ	iare	DF	F Stat	P-Value	Decision	(a:5%)		
Between	0.394272		0.394272		1	20.7	0.0039	Significar			
Error	0.114507		0.0190845	5	6			•			
Total	0.50878				7						
Distributional Tes	ts										
Attribute	Test				Test Stat	Critical	P-Value	Decision	(α:1%)		
Variances	Variance F	Ratio F Tes	it		7.23	47.5	0.1384	Equal Va			
Distribution	Shapiro-W	ilk W Norr	nality Test		0.966	0.645	0.8611	Normal D	istribution		
Distribution Mean Dry Biomas			nality Test		0.966	0.645	0.8611	Normal D	istribution		
Distribution Mean Dry Biomas Conc-%			Mean	95% LCL						CV%	%Effect
Mean Dry Biomas	s-mg Summ	ary		<b>95% LCL</b> 0.843			0.8611 Min 0.888	Normal D Max 1.04	istribution Std Err 0.034	<b>CV%</b> 7.16%	%Effect 0.00%
Mean Dry Biomas Conc-% )	s-mg Summ Code	ary Count	Mean		95% UCL	Median	Min	Max	Std Err	<b>CV%</b> 7.16% 36.12%	
Mean Dry Biomas Conc-%	s-mg Summ Code	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics	s-mg Summ Code	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	<b>Median</b> 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100	s-mg Summ Code	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% D 100 Graphics	s-mg Summ Code LW	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 12	s-mg Summ Code	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529 0.25 0.25 0.20 0.15	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 12	s-mg Summ Code LW	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529 0.25 0.25 0.20 0.15	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 12	s-mg Summ Code LW	ary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529 0.25 0.25 0.20 0.15	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% D 100 Graphics	s-mg Summ Code LW	ary Count 4	Mean 0.951 0.507	0.843 0.216	<b>95% UCL</b> 1.06	Median 0.938 0.529 0.25 0.25 0.20 0.15	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 1000 Graphics	s-mg Summ Code LW	ary Count 4	<b>Mean</b> 0.951	0.843 0.216	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics	s-mg Summ Code LW	ary Count 4	Mean 0.951 0.507	0.843 0.216	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 1000 Graphics	s-mg Summ Code LW	ary Count 4	Mean 0.951 0.507	0.843 0.216	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) 1000 Graphics 12 10 0.8 0.8 0.6 0.6	s-mg Summ Code LW	ary Count 4	Mean 0.951 0.507	0.843 0.216	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% 0 100 Graphics 12 10 10 10 10 0.8 4 4 0.6 0.4	s-mg Summ Code LW	ary Count 4	Mean 0.951 0.507	0.843 0.216	<b>95% UCL</b> 1.06 0.798	Median 0.938 0.529 0.25 0.20 0.15 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	Min 0.888 0.267	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%

Analyst: MA QA: SNV

CETIS	6 Analyti	cal Rep	ort					-	ort Date: Code:			26 (p 1 of 4-1504-524
Chroni	c Larval Fis	h Surviva	and Grow	th Test							Paci	ific EcoRis
Analysi Analyze		0098-6616 Nov-18 11:		<b>dpoint:</b> 7d <b>alysis:</b> Par	Survival Rat ametric Bioe		Two Sampl		S Version		1.9.2	
Data Tr	ansform		Alt Hyp			TST_b		Comparis	on Result			
Angular	(Corrected)	)	C*b < T			0.75				ssed 7d surv	ival rate	
TST-We	elch's t Tes	t										
Contro	l vs	Control	11	Test Stat	Critical		P-Type	P-Value	Decisior	n(a:25%)		
Lab Wa	ter Contr	pH 7 Lab	o Control	0.353	n/a			<0.25		nificant Effec	t	
ANOVA	Table											
Source		Sum Squ	lares	Mean Squ	are	DF	F Stat	P-Value	Decisior	ı(α:5%)		
Betwee		0		0		1	65500	<1.0E-37	Significa			
Error		0		0		6			-			
Total		0				7						
7d Surv	vival Rate S	ummary										
Conc-%	, o	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%
0		р7	4	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.00%	0.00%
Angula	r (Corrected	d) Transfor	rmed Sumr	nary								
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%
0		p7	4	1.41	1.41	1.41	1.41	1.41	1.41	0	0.00%	0.00%
Graphic	s											
	1.0	0					1.0E+00					
	0.9			0								
							-					
	8.0						7.5E-01					
7d Survival Rate	0,7					e	9 5					
Surviv	0.6					Centered						
PL	0.5						5.0E-01					
	0.4											
	0.3											
	0.2						2.5E-01		ł			
	0.1											
	0.0	0 LW		0 p7			0.0E+00 • -1.5	-1.0		0.5	1.0	
									014			

Analyst: MAC QA: SVV

Chronic Larval Fi	ish Surviva	and Grow	th Test							Paci	fic EcoRis
	7-1050-8712 I Nov-18 11:			an Dry Biom rametric Bio	nass-mg equivalence	-Two Samp		IS Version		1.9.2	
Data Transform		Alt Hyp			TST_b		Comparis	son Result	t		
Untransformed	_	C*b < T			0.75				ssed mean c	lry biomass	3-
TST-Welch's t Te	st										
Control vs	Control	II	Test Stat	Critical	DF	P-Type	P-Value	Decision	n(α:25%)		
Lab Water Contr	pH 7 Lat	o Control	3.65	0.727	5	CDF	0.0074	Non-Sigr	nificant Effec	t	
ANOVA Table											
Source	Sum Squ	ares	Mean Squ	lare	DF	F Stat	P-Value	Decisior	n(α:5%)		
Between	0.017766		0.0177663	3	1	4.33	0.0827	Non-Sigr	nificant Effec	t	
Error	0.024632		0.0041055	5	6						
Total	0.042399	2			7						
Distributional Tes	sts										
Attribute	Test				Test Stat	Critical	P-Value	Decision	η(α:1%)		
Variances	Variance	Ratio F Tes	t		1.3	47.5	0.8357	Equal Va	riances		
Distribution	Shapiro-V	Vilk W Norn	nality Test		0.892	0.645	0.2440	Normal E	Distribution		
Distribution Mean Dry Biomas			nality Test		0.892	0.645	0.2440	Normal E	Distribution		
Mean Dry Biomas			Mean	95% LCL	0.892		0.2440	Normal E		CV%	%Effect
	s-mg Sumr	nary		<b>95% LCL</b> 0.843					Oistribution Std Err 0.034	<b>CV%</b> 7.16%	%Effect 0.00%
Mean Dry Biomas Conc-% )	s-mg Sumr Code	nary Count	Mean		95% UCL	Median	Min	Max	Std Err		
Mean Dry Biomas Conc-%	s-mg Sumr Code LW	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) )	s-mg Sumr Code LW	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938 0.846	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	<b>Median</b> 0.938 0.846	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.100	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.100	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06	Median 0.938 0.846 0.100 0.100 0.075 0.050 0.225	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.100	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.100 0.075 0.050 0.225	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Graphics 12 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.075 0.050 0.025 0.000	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-%	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.075 0.025 0.000 -0.025	<b>Min</b> 0.888	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-% ) ) Sraphics 12 10 Fereing 0.8 Fereing 0.6 0.6 0.4	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846 0.100 0.075 0.025 0.000 -0.025	Min 0.888 0.796	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%
Mean Dry Biomas Conc-%	s-mg Sumr Code LW p7	nary Count 4	<b>Mean</b> 0.951	0.843	<b>95% UCL</b> 1.06 0.952	Median 0.938 0.846	Min 0.888 0.796	<b>Max</b> 1.04	<b>Std Err</b> 0.034	7.16%	0.00%

Analyst: <u>AA</u>QA: <u>GIN</u>

Client: Test Material:	Receivin	SFPP Water @	Norwalk S	Station Tesi Date:	1113/13	Organis	mism Log#: m Supplier:	112 - Ag	.84 notax	O1 R:	rganism Age: 278m andomization 4.5.14
Test ID#:	80	393	Project #:	29	469	Co	ntrol Water:	EPAMH	@ pH 7.00	Control	Water Batch: 2119
Test Treatment	Temp (°C)	p new	H old	D.O. new	(mg/l.) old	Conductivity (µS/cm)	A	# Live C B	)rganisms C	D	SIGN-OFF
Lab Water Control @ pH 7.00	25.6	7.00		8-7		335	10	(0	(0	13	Date: 11/13/18 Test Solution Prep: AMF-
Receiving Water @ pH 7.00	258	7.00		12.6		1606	10	10	10	10	Initiation Time: (706 Initiation Signoff R.G
Meter ID	53A	PH-19		RDII		ECIL	New WQ:	TA			
Lab Water Control @ pH 7.00	26.0	7.00	7.60	8.7	7.9	340	10	10	10	10	Date: 11/14/18 Test Solution Prep: ER
Receiving Water @ pH 7.00	25,5	7.00	7.90	15.9	7.2	1604	io	10	(0	(0)	Renewal Time: 1546 Renewal Signoff:
Meter ID	109A	Phzs	PHIS	RAII	2010	ECIL	New WQ:	TA	Old WQ:	u	
Lab Water Control @ pH 7.00	23.9	7.00	7.78	9.0	7.9	33le	10	10	01	10	Date: W15/CE Test Solution Prep: NB
Receiving Water @ pH 7.00	23.8	7,00	7.92	13.1	7.8	2121	7	9	7	6	Renewal Time: 1616 Renewal Signoff: 000
Meter ID	SAA	PH25	phia	RDII	RAIL	ELII	New WQ:	TP	Old WQ:	GP-	
Lab Water Control @ pH 7.00	24.1	7.00	8.14	8.5	8.5	345	10	10	10	10	Date: 11/16/18 Test Solution Prep: TF
Receiving Water @ pH 7.00	240	7.00	8.57	11.8	8.5	1712	5	8	6	5	Renewal Time: 1116 Renewal Signoff: R6
Meter ID	81A	P1+24	PH24	RD13	ROU	E613	New WQ:	TB	Old WQ:5	P	
Lab Water Control @ pH 7.00	24.0	7.00	7.78	7.7	4.1	336	10	10	10	10	Date: 
Receiving Water @ pH 7.00	24.1	7.00	8.15	9.3	8.1	1825	5	6	5	4	Renewal Time: 1626 Renewal Signoff: 52
Meter ID	1001	PHIS	PHIS	RD13	RDI	EC13	New WQ:	R	Old WQ:	P	
Lab Water Control @ pH 7.00	24.0	00.F	7.79	9.2	8.0	322	10	10	10	10	Date: 1115117 Test Solution Prep:
Receiving Water @ pH 7.00	24.1	7.00	8.25	13.0	7.8	1803	5	6	5	3	Renewal Time: 1200 Renewal Signoff: KL
Meter ID	108A	PH24	PHIS	RPIZ	RD13	EC12	New WQ:	TP	Old WQ:	P	
Lab Water Control @ pH 7.00	24.2	7.00	1.53	8.9	8.0	325	10	10	10	10	Date: 1114119 Test Solution Prep: TK
Receiving Water @ pH 7.00	24.3	7.00	8.14	12.9	8.1	1819	3	6	5	3	Renewal Signoff
Meter ID	1084	PHZS	PH24	RDII	RD13	ECII	New WQ:	KL	Old WQ:	AR.	
Lab Water Control @ pH 7.00	24.2		7.79		8.2	352	(0	10	10	10	Date: 11/20/18 Termination Time: 1057
Receiving Water @ pH 7.00	24.1		8.24		8.2	1907	5	6	5	3	Termination Signoff.
Meter ID	100A		pmy		ROH	EUI			Old WQ:	记	

# 7 Day Chronic Fathead Minnow Toxicity Test Data

Client:	SF	PP Norv	walk Station	Test ID #:	80393	Project # 29469
Test Material:	Recei	ving Wa	nter @ pH 7.00	Tare Weight Date:	11/18/18	Sign-off: AR
Test Date:	11-le-1	8		Final Weight Date:	11-21-18	Sign-off: M
<b></b>						
Pan ID	Concentration	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
13	Lab Water Control @ pH	А	407.95	416 31	D	0.836
14	7.00	В	413.94	423.32	10	0.938
15		с	407.22	415.18	10	0.796
16		D	411.59	420.16	10	0.857
17	Receiving Wate @ pH 7.00	er A	412.23	417.08	10	0.485
18		в	410.14	417.16	10	0.702
19		С	411.90	417.64	10	0.574
20		D	411.36	414.03	0	0.267
QA1			415-58	415.55		-

# Fathead Minnow Dry Weight Data Sheet

# Appendix D

# Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the Fathead Minnows

	nmary Rep	oort						port Date st Code:	e: 17	Nov-18 16:0 80513   12		
Chronic Larva	al Fish Surviv	al and G	rowth Test							Pacifi	c Eco	Risk
Batch ID: Start Date: Ending Date: Duration:	10-6998-5253 06 Nov-18 16: 13 Nov-18 10: 6d 18h	:10	Test Type: Protocol: Species: Source:	Growth-Surviv EPA-821-R-02 Pimephales p Aquatox, AR	2-013 (2002)		Dil	alyst: uent: ne: e:	Jessica Okutsu Laboratory Wat Not Applicable 1			
Sample ID: Sample Date: Receipt Date: Sample Age:	06 Nov-18 16:	10	Code: Material: Source: Station:	NaCl Sodium chlori Reference Tox In House				ent: oject:	Pacific Ecorisk 29528			
Multiple Comp	parison Sumn	пагу										
Analysis ID 08-9523-1980 08-7217-9654			Dunne	arison Metho att Multiple Con att Multiple Con	nparison Tes		NOEL 0.75 1.5	LOEL 1.5 3	- TOEL 1.061 2.121	TU	PMS	
Point Estimate												_
	Endpoint	4.		Estimate Meth			Level	g/L	95% LCL	95% UCL	τu	/
03-0653-9513	70 Survival Ra	ate	Regre	ssion: Log-Nor	mai (Prodit)		EC5 EC10 EC15 EC20 EC25 EC40	0.891 1.2 1.46 1.71 1.96 2.76	0.459 0.636 0.823 1.02 1.74	1.49 1.86 2.17 2.45 2.74 3.68		
20-7772-3373	Mean Dry Bior	nass-mg	Linear	Interpolation (i	icpin)		EC50 IC5 IC10 IC15 IC20 IC25 IC40 IC50	3.39 1.54 1.69 1.84 1.98 2.13 2.57 2.86	2.34 0.764 1.17 1.46 1.63 1.8 2.21 2.48	4.49 1.73 1.9 2.07 2.24 2.42 2.97 4.17		
7d Survival Ra	ite Summary											_
Conc-g/L 0 0.75 1.5 3 6	Code LW	Coun 4 4 4 4 4	t Mean 0.950 0.950 0.800 0.425 0.450	0.950         0.791         1.000         0.800           0.950         0.791         1.000         0.800           0.800         0.670         0.930         0.700				Std E 0.050 0.050 0.041 0.048	0.100 0.100 0.082 0.096	CV% 10.53% 10.53% 10.21% 22.53%	%Eff 0.00% 0.00% 15.79 55.26	% % }% }%
9 Mean Dry Biom	nass-ma Sum	4	0.450	0.245 0.000	0.655 0.000	0.300 0.000	0.600	0.065	0.129 0.000	28.69%	52.63 100.0	1
Conc-g/L	Code	Coun	t Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	%Effe	ect
0 0.75 1.5 3 6	LW 4 0.552 0.475 0.629 0.511 75 4 0.682 0.573 0.791 0.582 5 4 0.595 0.508 0.681 0.55 4 0.28 0.162 0.398 0.174					0.511 0.582 0.55	0.622 0.736 0.672 0.336 0.258	0.024 0.034 0.027 0.027 0.037	2 0.0483 4 0.0687 2 0.0544 0.074	8.75% 10.08% 9.14% 26.42% 20.28%	0.00% -23.55 -7.74 49.28	6 5% % %
Ð		4	0.100	0	0.204	0	0.230	0.020	0.0404	20.2070	63.90 100.0	

Analyst: Jo QA: JL

Chronic I	Larval Fish	Survival and	Growth Test

Report Date: Test Code:

Chronic Larva	I Fish Surviva	al and Grow	rth Test			Pacific EcoRisk
7d Survival Ra	ite Detail					
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	1.000	1.000	0.800	1.000	
0.75		1.000	1.000	0.800	1.000	
1.5		0.800	0.900	0.700	0.800	
3		0.500	0.300	0.500	0.400	
6		0.300	0.600	0.500	0.400	
9		0.000	0.000	0.000	0.000	
Mean Dry Bion	nass-mg Deta	ě.				
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	0.511	0.539	0.536	0.622	
0.75		0.582	0.695	0.715	0.736	
1.5		0.672	0.55	0.592	0.565	
3		0.336	0.285	0.325	0.174	
6		0.169	0.258	0.193	0.177	
9		0	0	0	0	
7d Survival Ra	te Binomials					
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	10/10	10/10	8/10	10/10	
0.75		10/10	10/10	8/10	10/10	
1.5		8/10	9/10	7/10	8/10	
3		5/10	3/10	5/10	4/10	
6		3/10	6/10	5/10	4/10	
9		0/10	0/10	0/10	0/10	

#### **CETIS QC Plot**

Chronic La	rval Fish Surv	vival and (	Growth Te	est						Pacific EcoRis
Test Type:	Growth-Surviv	val (7d)		Organism:	Pimephales p	oromelas (Fa	athead Minn	Material:	Sodium chlor	ide
Protocol:	EPA-821-R-0	2-013 (200	)2)	Endpoint:	7d Survival F	late		Source:	Reference To	xicant-REF
	7-			Chron	ic Larval Fish Su	rvival and Gro	owth Test			
	6-									+35
ide	5-			•		-			•	+2s
EC50-g/L Sodium chloride	4	00	-							Mean
EC50-g/L S	3-	* 				este de dé				-25
-	2									
	1									
	0 1 2	3 4	5 6	7 B	9 10	11 12	13 14 :	15 16	17 18 19	20 21

**Quality Control Data** 

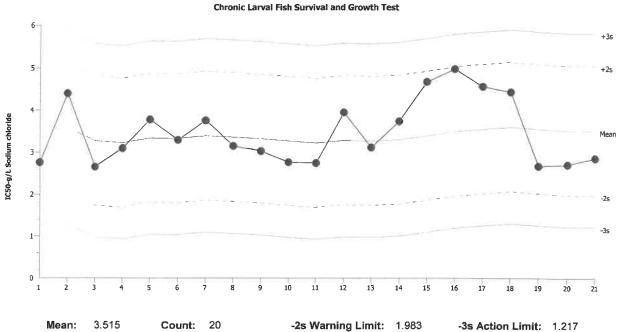
oint	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
	2018	Jul	10	12:04	4.12	-0.1704	-0.3097			19-2170-8163	05-3847-6939
2			18	16:58	4.367	0.07657	0.1392			07-4419-8970	09-2083-0510
1			19	16:14	3.661	-0.6289	-1.143			16-5107-0781	21-0013-8333
			24	14:46	3.825	-0.4653	-0.8456			21-0185-1379	13-9425-4482
		Aug	8	16:17	3.84	-0.4503	-0.8184			12-5185-9493	17-6034-0583
			11	15:18	4.611	0.321	0.5834			16-6110-1850	03-0954-4740
			14	15:32	4.787	0.4968	0.903			04-9928-7400	04-4698-1164
			21	15:07	3.351	-0.939	-1.707			17-8676-2686	10-1524-9046
			28	15:35	4.405	0.1149	0.2088			06-1769-7714	11-1267-1942
0		Sep	11	16:30	3.823	-0.4669	-0.8486			07-8474-4906	13-5238-3833
1			18	15: <b>45</b>	4.698	0.4079	0.7413			01-1427-3865	05-1514-4365
2			25	17:30	4.814	0.5237	0.9518			04-0313-8586	13-9080-2740
3		Oct	2	16:24	4.377	0.08656	0.1573			20-1212-0023	19-6135-0804
4			9	16:00	4.172	-0.1179	-0.2143			20-5332-1329	05-3293-2465
5			11	15:15	5.352	1.062	1.929			19-2873-5652	05-2720-9406
6			16	15:35	4.989	0.6991	1.271			13-4570-5393	18-2103-2582
7			18	16:38	4.781	0.4909	0.8922			02-1330-7298	13-1935-5149
8			19	16:22	4.619	0.3295	0.5989			07-1347-0013	10-7278-7280
9			23	13:50	3.417	-0.8725	-1.586			12-0873-4729	15-0690-5413
0			30	15:22	3.789	-0.5013	-0.9111			01-0648-8193	05-1179-1405
1		Nov	6	16:10	3.394	-0.8959	-1.628			12-9855-6809	03-6853-9513

CETIS™ v1.9.2.6

5.813

## **CETIS QC Plot**

Chronic La	rval Fish Survival and Growt	n Test			Pacific EcoRisk
Test Type:	Growth-Survival (7d)	Organism:	Pimephales promelas (Fathead Minn	Material:	Sodium chloride
Protocol:	EPA-821-R-02-013 (2002)	Endpoint:	Mean Dry Biomass-mg	Source:	Reference Toxicant-REF



Sigma: 0.7661 CV: 21.80% +2s Warning Limit: 5.047 +3s Act		
Mean: 3.515 Count: 20 -2s Warning Limit: 1.983 -3s Act	on Limit:	

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2018	Jul	10	12:04	2.764	-0.7515	-0.9809			19-2170-8163	04-0002-0210
2			18	16:58	4.401	0.8859	1.156			07-4419-8970	06-4266-7790
3			19	16:14	2.656	-0.8591	-1.121			16-5107-0781	02-7529-5487
1			24	14:46	3.095	-0.4196	-0.5477			21-0185-1379	10-1686-9781
5		Aug	8	16:17	3.78	0.2651	0.346			12-5185-9493	19-1777-4607
5			11	15:18	3.293	-0.2215	-0.2892			16-6110-1850	20-2228-3757
7			14	15:32	3.759	0.2436	0.3179			04-9928-7400	07-4736-8387
3			21	15:07	3.151	-0.3635	-0.4745			17-8676-2686	14-2592-9303
)			28	15:35	3.031	-0.4843	-0.6322			06-1769-7714	17-9100-0066
0		Sep	11	16:30	2.768	-0.7474	-0.9755			07-8474-4906	09-1807-8105
1			18	15:45	2.75	-0.7654	-0.9991			01-1427-3865	08-1466-2963
2			25	17:30	3.951	0.4358	0.5689			04-0313-8586	07-0057-8821
3		Oct	2	16:24	3.118	-0.3974	-0.5187			20-1212-0023	10-4087-1940
4			9	16:00	3.743	0.228	0.2977			20-5332-1329	09-8654-5777
5			11	15:15	4.676	1.161	1.516			19-2873-5652	12-0848-0436
6			16	15:35	4.978	1.463	1.909			13-4570-5393	20-9929-2964
7			18	16:38	4.567	1.052	1.373			02-1330-7298	03-3996-6914
8			19	16:22	4.437	0.9222	1.204			07-1347-0013	17-9320-6067
9			23	13:50	2.677	-0.838	-1.094			12-0873-4729	07-2686-4319
20			30	15:22	2.709	-0.8062	-1.052			01-0648-8193	04-4246-0928
!1		Nov	6	16:10	2.864	-0.6508	-0.8495			12-9855-6809	20-7772-3373

Client:			ference Toxic odium Chlori					ganism Log#: ism Supplier:		¥	-	Age: 248hrs
Test Material: Test ID#:		513	Project #:	29	528		Co	ntrol/Diluent:			EPAM	Н
Test Date:	11/6/1	8	_ R	andomization	4.6.3	<	Control	Water Batch:	2/1	7		
Treatment (g/L)	Temp (°C)	New	Old	D.O. New	(mg/L) Old	Conductiv	ity (µs/cm) Old	A	# Live O B	rganisms C	D	SIGN-OFF
Control	24.9	8.03		9.1		303		10	10	10	10	Date: 11/10/18
0.75	24.6	7.96		8.6		1736		10	10	10	10	Test Solution Prep: MB
1.5	24.8	7.93		8.7		3145		10	10	10	10	New WQ:
3	24.9	7.89		8.7		5865		10	10	10	10	Initiation Time: 1610
6	24.9	7.83		8.9		11090		10	10	)0	10	Initiation Signoff: KL
9	25.0	7.77		10.D		16330		10	10	10	10	RT Stock Batch #: 405
Meter ID	54	pH25		RDIO		ECIO						
Control	26.9	7.86	7.78	8.8	8.3	300	312	10	10	8	10	Date: 117113 Test Solution Prep:
0.75	26.5	7.94	7.78	8-8	8.1	1783	1775	10	10	9	10	K(2
1.5	26.2	7.93	779	8.9	8.2	3213	3169	10	10	10	10	New WQ: TA
3	26.3	7.90	7.76	9-2	8.2	6048	5984	10	10	10	9	Renewal Time: 1105
6	26.6	7.84	7.74	9.9	8.4	11230	11460	10	10	10	10	Renewal Signoff: KL
9	26.5	7.77	7.69	10.0	8,3	16440	16410	Ó	0	0	0	OIG MG: CD
Meter ID	81A	PHIM	PHIQ	RDIO	RD10	ECID	ECIO					RT Stock Batch #: 405
Control	26.2	7.72	7.89	8.6	7.6	327	326	10	(0	8	10	Date: 118/18
0.75	26.1	7.78	7.79	8.6	7.6	1780	1794	10	10	9	10	Test Solution Prep: TK New WQ:
1.5	26.2	7.77	7.64	8.7	7.7	32:23	3230	10	10	9	10	TA
3	25.9	7.74	7.60	8.7	7.6	5921	6210	10	10	10	9	Renewal Time: 220 Renewal Signoff:
6	26.0	7.72	7.57	8.9	7.7	11180	11440	10	10	10	10	R 6 Old WQ:
9	-	-	-	-	-	~	~					TP RT Stock Batch #:
Meter ID	57	PH25	PH25	ROII	RD13	ECI	EC13					HOG Date
Control	24.5	8.38	773	8-8	4.0	308	353	10	10	8	10	1/9/12 Test Solution Prep:
0.75	24.9	8.22	7.74	8.9	6.1	1804	1968	10	10	9	10	New WQ:
1.5	24.9	8.15	7.69	9.0	6.2	3207	3549	10	10	9	10	TA Renewal Time:
3	14.8	\$.06	7.63	9.0	6.3	5943	6450	10	18	10	7	133/ Renewal Signoff
6	25.0	7.95	7.62	9.2	6.5	11280	11700	6	4	7	7	Old WQ:
9	C		-			-	~					SD RT Stock Batch #:
Meter ID	5	PH 25	PH19	RDII	PD13	ECIL	EC13					404

#### 7 Day Chronic Fathead Minnow Reference Toxicant Test Data

Client: Test Material:			ference Toxic			-		ganism Log#: ism Supplier:	A.	-	-	Age: 21/8hrs
Test ID#:		513	Project #:	29	528	-	Co	ntrol/Diluent:			EPAMI	ł
Test Date:	11/6/	8	R	andomization:	4.63	-	Control	Water Batch:	-211	1		
Treatment	Temp		Н		(mg/L)	-	ity (µs/cm)		-	rganisms		SIGN-OFF
(g/L)	(°C)	new	old	new	old	New	Old	A	В	с 8	D	Date:
Control	25.5	7.97	7.64	7.3	8.1	315	342	10	10	-	10	N 10 18 Test Solution Prep:
0.75	25.2	7.93	7.60	7-3	7.9	1803	1925	10	10	8	10	New WQ:
1.5	25.0	7.91	7.62	7.4	7.9	3189	3552	10	10	9	10	TA Renewal Time:
3	24.9	7.86	7.59	75	8.2	5982	6434	10	10	10	9	1031
6	25.7	7.78	7.50	7.7	8.0	11570	11570	5	7	7	6	Renewal Signoff:
9		-	-	-	-	~	-	~	-	-	-	Old WQ:
Meter ID	994	PH19	PH25	RDIZ	RDIO	EC12	ECIO					RT Stock Batch #: 406
Control	25.9	8.03	7.69	8,8	7.7	303	323	10	10	8	10	Date:
0.75	25.5	7.99	7.70	9.0	7.6	1763	1948	10	10	8	10	Test Solution Prep: K(7
1.5	25.0	7.95	7.65	9,0	7.3	3178	3600	10	9	9	10	New WQ: TP
3	24.8	7.88	7.66	9.2	7.5	5913	6463	10	8	9	9	Renewal Time:
6	25.0	7.82	7.62	9.6	7.8	11240	12120	4	7	4	5	R\/
9	-	-	-	-	-	~	-	-		~	-	old wo: TP
Meter ID	93A	PHIS	PHQS	RDIO	RD13	ECIO	ECI3					RT Stock Batch #: 40 U
Control	2518	7.86	7.53	8.2	7.5	300	322	10	10	8	10	Date: 11/12/18
0.75	25.8	7.92	7.61	8.4	7.5	1751	1869	10	10	8	10	Test Solution Prep:
1.5	25.1	7.92	7.54	8.5	7.3	3169	3647	8	9	9	9	New WQ: WC Renewal Time:
3	25.1	7.89	7.54	8.9	7.3	5966	6308	8	4	7	7	1019
6	25.5	7.81	רצ,ר	9.6	٦.٩	11290	11340	4	6	5	5	Renewal Signoff:
9	-		-	-	-	-	-	-	-	-	~	oid wQ: WC
Meter ID	BIA	PHZS	PHIQ	RD13	ROIO	EC13	6010					RT Stock Batch #: 406
Control	25.1		7.69		6.9		326	10	10	8	10	Date 11113/18
0.75	25.1		7.61		lei5		1990 200+ 1	10	(0)	8	10	Termination Time:
1.5	24.9		7.59		6.5		3532	8	9	7	8	Termination Signoff:
3	24.9		7.54		6.5		6442	5	3	5	4	old wo: BV
6	25.9		7.52		6.8		11620	HELPLANS	6	5	4	
9	-		-		-		<u> </u>	-	_	-		
Meter ID	81A		PH 25		2010		ECIO					

# 7 Day Chronic Fathead Minnow Reference Toxicant Test Data

# Fathead Minnow Dry Weight Data Sheet

Client:	Reference Toxicant	Test ID #:	80513	Project #: 29528	
Sample:	Sodium Chloride	Tare Weight Date:	11/12/18	Sign-off: 74	
Test Date:	11/6/18	Final Weight Date:	-17-18	Sign-off:	

Pan ID	Concentration (g/L) Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Control A	408.15	413.26	10	0.511
2	В	412.02	417.41	10	0.539
3	С	411.60	416.96	10	0.536
4	D	407.63	413.85	10	0.622
5	0.75 A	414.79	420.61	10	0.582
6	В	409.54	416.49	10	0.695
7	С	412.93	- 420.08	10	0.715
8	D	405.14	412.50	(0)	0:736
9	1.5 A	414.24	420.96	(0	0.672
10	В	407.1z	412.62	10	0.550
11	С	412.49	418.41	(0	0.592
12	D	411.33	416.98	10	0.565
13	3 A	410.05	413.41	10	0.336
14	В	415.20	418.05	10	6 185
15	С	410.61	413.86	10	0.325
16	D	416.13	417.87	10	0.174
17	6 A	413.43	415.12	10	0.169
18	В	409.03	411.61	10	0.258
19	С	413.48	415.41	10	0,193
20	D	411.17	412.94	10	0.177
21	9 A	411,62	-	10	0
22	В	408.88		10	0
23	С	408.46	-	10	0
24	D	413 09	-	10	0
QA1		408.12	408.13		
QA2		405.29	405.31		
QA3		417.69	417.70		
Balance ID:		BALOY	BALO4		

December 21, 2018

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

Workorder No.: N033443

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on December 14, 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,

mane umm

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 ASSET Laboratories - Las Vegas.



"Serving Clients with Passion and Professionalism"

 
 CALIFORNIA
 P:562.219.7435
 F:562.219.7436

 11110
 Artesia
 Blvd., Ste B, Cerritos, CA 90703
 NEVADA
 P:702.307.2659
 F:702.307.2691

 3151
 W. Post Rd., Las Vegas, NV 89118
 ELAP Cert 2921
 ELAP Cert 2676
 NV Cert NV00922
 EPA ID CA01638

**ORELAP/NELAP** Cert 4046

#### ASSET Laboratories

CLIENT:CH2MHillProject:SFPP NorwalkLab Order:N033443

## **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.

Subcontracted Analyses:

EPA 8015B for DRO, ORO and GRO was subcontracted to BC Laboratories, Bakersfield, CA. Total TPH was calculated and reported in the lab based on Subcon Lab's result.

Analytical Comment for EPA 200.8:

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



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

## **ASSET Laboratories**

CLIENT:CH2MHillProject:SFPP NorwalkLab Order:N033443Contract No:Contract No:

# Work Order Sample Summary

Lab Sample ID Client Sample ID	Matrix	<b>Collection Date</b>	Date Received	Date Reported
N033443-001A EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	12/14/2018	12/21/2018
N033443-001B EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	12/14/2018	12/21/2018
N033443-001C EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	12/14/2018	12/21/2018
N033443-001D EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	12/14/2018	12/21/2018
N033443-001E EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	12/14/2018	12/21/2018

CALIFORNIA | P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638 CH2MHill N033443 SFPP Norwalk N033443-001

# Client Sample ID: EFF-12-14 Collection Date: 12/14/2018 12:30:00 PM

# Matrix: WASTEWATER

1000010	MDL	PQL	Qual Unit	ts DF	Date Analyzed
POUNDS BY GC/I EPA 3510C	MS	EPA	A 8270C		
QC Batch: 71	826		PrepDate:	12/19/2018	Analyst: RRS
ND	0.34	1.0	µg/L	1	12/21/2018 08:36 AM
31.0	0	25-108		<b>)</b> 1	12/21/2018 08:36 AM
DS BY GC/MS					
		EPA	8260B		
QC Batch: CA	18VW044		PrepDate:		Analyst: GAC
ND	0.45	0.50	ug/L	1	12/18/2018 05:39 PM
ND	0.29	0.50	ug/L	1	12/18/2018 05:39 PM
ND	0.34	1.0	ug/L	1	12/18/2018 05:39 PM
ND	0.31	1.0	ug/L	1	12/18/2018 05:39 PM
ND	0.23	1.0	ug/L	1	12/18/2018 05:39 PM
ND	0.34	1.0	ug/L	1	12/18/2018 05:39 PM
ND	0.31	1.0	ug/L	1	12/18/2018 05:39 PM
ND	2.4	5.0	ug/L	1	12/18/2018 05:39 PM
ND	0.46	2.0	ug/L	1	12/18/2018 05:39 PM
ND	1.5	2.0	ug/L	1	12/18/2018 05:39 PM
98.4	0	72-119	-	<b>)</b> 1	12/18/2018 05:39 PM
85.8	0	76-119	%REC	<b>)</b> 1	12/18/2018 05:39 PM
109	0	85-115	%REC	<b>)</b> 1	12/18/2018 05:39 PM
96.2	0	81-120	%REC	<b>)</b> 1	12/18/2018 05:39 PM
CHNIQUE					
		EP	A 245.1		
QC Batch: 71	776		PrepDate:	12/17/2018	Analyst: CEI
ND	0.018	0.050	µg/L	1	12/20/2018 08:14 AM
		EP	A 200.8		
QC Batch: 71	775		PrepDate:	12/17/2018	Analyst: CEI
ND	0.26	0.50	µg/L	1	12/17/2018 06:57 PM
	0.40	0.50		4	40/47/0040 00 F7 DM
ND	0.13	0.50	µg/L	1	12/17/2018 06:57 PM
ND 4.8	0.13 0.27	0.50 1.0	μg/L μg/L	1	12/17/2018 06:57 PM 12/17/2018 06:57 PM
		1.0			
	QC Batch: 71: ND 31.0 DS BY GC/MS QC Batch: CA ND ND ND ND ND ND ND ND ND ND ND ND ND	QC Batch:       71826         ND       0.34         31.0       0         DS BY GC/MS       0         QC Batch:       CATSVM044         ND       0.45         ND       0.45         ND       0.34         ND       0.34         ND       0.34         ND       0.34         ND       0.31         ND       0.34         ND       0.34         ND       0.34         ND       0.34         ND       0.45         ND       0.34         ND       0.45         ND       0.45         ND       0.34         ND       0.46         ND       1.5         98.4       0         85.8       0         109       0         96.2       0         CHNIQUE       Y	QC Batch: <b>71826</b> ND       0.34       1.0         31.0       0       25-108         DS BY GC/MS             QC Batch:       CA18            QC Batch:       CA18       0.45       0.50         ND       0.45       0.50         ND       0.34       1.0         ND       0.31       1.0         ND       0.46       2.0         ND       0.46       2.0         ND       1.5       2.0         98.4       0       72-119         85.8       0       76-119         109       0       85-115         96.2       0       81-120         CC Batch: <b>71776</b> ND       0.018       0.050	QC Batch:       71826       PrepDate:         ND       0.34       1.0       µg/L         31.0       0       25-108       %REC         DS BY GC/MS         EPA 8260B         OC Batch:       CA18VW044       PrepDate:         ND       0.45       0.50       µg/L         ND       0.45       0.50       µg/L         ND       0.29       0.50       µg/L         ND       0.34       1.0       µg/L         ND       0.31       1.0       µg/L         ND       0.46       2.0       µg/L         ND       1.5       2.0       µg/L         ND       1.5       2.0       µg/L         ND       0.46       2.0       µg/L         0.6.2       0       85-115       %REC         0.6.2       0       81-120       %REC         0.6.2       0       81-120       %RE	QC Batch:       T1826       PrepDate:       12/19/2018         ND       0.34       1.0       µg/L       1         31.0       0       25-108       %REC       1         DED SUBSIONS         DEA 260B         QC Batch:       CA15       0.50       ug/L       1         ND       0.45       0.50       ug/L       1         ND       0.31       1.0       ug/L       1         ND       0.31       1.0       ug/L       1         ND       0.46       2.0       ug/L       1         ND       0.46       2.0       ug/L       1         ND       1.5       2.0       ug/L       1         ND       1.5       2.0       ug/L       1         ND       0       85.8       0       761

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# **ASSET Laboratories**

**CLIENT:** 

**Project:** 

Lab ID:

Lab Order:

ASSET La	boratories			Print Date: 21-Dec-18											
CLIENT:	CH2MHill	Client Sample ID: EFF-12-14													
Lab Order:	N033443			Collection	Date: 12/14	/2018 12:3	30:00 PM								
Project:	SFPP Norwalk			Μ	atrix: WAS	TEWATE	R								
Lab ID:	N033443-001														
Analyses		Result MDL	PQL	Qual	Units	DF	Date Analyzed								
TOTAL TPH															
			EP	A 8015B											
RunID: SUE	CONTRACT_181220B	QC Batch: R130707		PrepD	ate:		Analyst: admin								

100

ug/L

ND

22

## ANALYTICAL RESULTS

1

12/20/2018

Qualifiers:

В

Total TPH

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

ASSET LABORATORIES

- 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

CALIFORNIA | P:562.219.7435 F:562.219.7436

"Serving Clients with Passion and Professionalism"

 CALIFORNIA
 P:562.219.7435

 11110
 Artesia
 Blvd., Ste B, Cerritos, CA 90703

 ELAP Cert 2921
 ELAP Cart 2921

 "EPA ID CA01638
 EPA ID CA01638

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

#### **ASSET** Laboratories

CLIENT: CH2MHill Work Order: N033443

**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

#### TestCode: 200.8\_W\_SFPP

Sample ID: MB-71775	SampType: <b>MBLK</b>	TestCode: 200.8 W SFP Units: µg/L	Prep Date: 12/17/2018	RunNo: 130625
Client ID: PBW	Batch ID: <b>71775</b>	TestNo: EPA 200.8	Analysis Date: 12/17/2018	
Client ID: PBW	Batch ID: /1//3	Testino: EPA 200.8	Analysis Date: 12/1//2018	SeqNo: 3233898
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: LCS-71775	SampType: LCS	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 12/17/2018	RunNo: 130625
Client ID: LCSW	Batch ID: 71775	TestNo: EPA 200.8	Analysis Date: 12/17/2018	SeqNo: 3233899
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Copper	9.475	0.50 10.00 0	94.7 85 115	
Lead	10.161	0.50 10.00 0	102 85 115	
Zinc	9.879	1.0 10.00 0	98.8 85 115	
Sample ID: N033443-001C-DUF	SampType: DUP	TestCode: 200.8_W_SFP Units: µg/L	Prep Date: 12/17/2018	RunNo: 130625
Client ID: ZZZZZZ	Batch ID: 71775	TestNo: EPA 200.8	Analysis Date: 12/17/2018	SeqNo: 3233902
Analyte	Desult	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
	Result		%REC LOWLINNI HIGHLINNI RED REI Vai	76KFD KFDEIIIII Quai
-	ND	0.50	%REC LOWLINIT HIGHLINIT RED KEI VAI	0 20
Copper			C C	
Copper Lead	ND	0.50	0	0 20
Copper Lead Zinc	ND ND	0.50 0.50	0 0	0 20 0 20
Copper Lead	ND ND 4.635	0.50 0.50 1.0	0 0 4.839	0 20 0 20 4.30 20
Copper Lead Zinc Sample ID: N033443-001C-MS	ND ND 4.635 SampType: <b>MS</b>	0.50 0.50 1.0 TestCode: <b>200.8_W_SFP</b> Units: μg/L	0 0 4.839 Prep Date: 12/17/2018	0 20 0 20 4.30 20 RunNo: <b>130625</b>
Copper Lead Zinc Sample ID: N033443-001C-MS Client ID: ZZZZZZ	ND ND 4.635 SampType: <b>MS</b> Batch ID: <b>71775</b>	0.50 0.50 1.0 TestCode: <b>200.8_W_SFP</b> Units: μ <b>g/L</b> TestNo: <b>EPA 200.8</b>	0 0 4.839 Prep Date: 12/17/2018 Analysis Date: 12/17/2018	0 20 0 20 4.30 20 RunNo: <b>130625</b> SeqNo: <b>3233904</b>
Copper Lead Zinc Sample ID: N033443-001C-MS Client ID: ZZZZZZ Analyte	ND ND 4.635 SampType: <b>MS</b> Batch ID: <b>71775</b> Result	0.50 0.50 1.0 TestCode: <b>200.8_W_SFP</b> Units: <b>µg/L</b> TestNo: <b>EPA 200.8</b> PQL SPK value SPK Ref Val	0 0 4.839 Prep Date: 12/17/2018 Analysis Date: 12/17/2018 %REC LowLimit HighLimit RPD Ref Val	0 20 0 20 4.30 20 RunNo: 130€25 SeqNo: 3233904 %RPD RPDLimit Qual

#### Qualifiers:

J

- B Analyte detected in the associated Method Blank
  - Analyte detected below quantitation limits NI
- E Value above quantitation range
  - ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

ASSET LABORATORIES 11110 Artesia B

CALIFORNIA | P:562.219.7435 F:562.219.7436 1110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638 H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

<u>NEVADA</u> | 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

#### **CLIENT:** CH2MHill

Work Order: N033443 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_W\_SFPP

Sample ID: N033443-001C-MSD	SampType: <b>MSD</b>	TestCoo	de: 200.8_W_	SFP Units: µg/L		Prep Dat	te: 12/17/2	018	RunNo: 130625			
Client ID: ZZZZZZ	Batch ID: 71775	TestN	No: EPA 200.8	:		Analysis Dat	te: 12/17/2	018	SeqNo: 3233907			
Analyte	Result	PQL SPK value SPK Ref Val %				LowLimit	HighLimit	RPD Ref Val	al %RPD RPDLimit (			
Copper	6.841	0.50	10.00	0	68.4	75	125	6.832	0.136	20	S	
Lead	10.107	0.50	10.00	0	101	75	125	10.13	0.261	20		
Zinc	13.147	1.0	10.00	4.839	83.1	75	125	12.87	2.09	20		

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 DO Surrogate Diluted Out
- ASSET LABORATORIES "Serving Clients with Passion and Professionalism"
- CALIFORNIA P:562.219.7435 F:562.219.7436 11110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638

E Value above quantitation range

- ND Not Detected at the Reporting Limit
- - 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
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Calculations are based on raw values

#### CLIENT: CH2MHill

Work Order:N033443Project:SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1\_W\_LL

Sample ID: MB-71776	SampType: MBLK	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 12/17/2018	RunNo: <b>130706</b>
Client ID: PBW	Batch ID: 71776	TestNo: EPA 245.1	Analysis Date: 12/20/2018	SeqNo: 3237469
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	ND	0.050		
Sample ID: LCS-71776	SampType: LCS	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 12/17/2018	RunNo: 130706
Client ID: LCSW	Batch ID: 71776	TestNo: EPA 245.1	Analysis Date: 12/20/2018	SeqNo: 3237470
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.561	0.050 2.500 0	102 85 115	
Sample ID: N033443-001C-MS	SampType: <b>MS</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 12/17/2018	RunNo: <b>130706</b>
Client ID: ZZZZZZ	Batch ID: 71776	TestNo: EPA 245.1	Analysis Date: 12/20/2018	SeqNo: 3237471
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.595	0.050 2.500 0	104 75 125	
Sample ID: N033443-001C-MSD	SampType: <b>MSD</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 12/17/2018	RunNo: 130706
Client ID: ZZZZZZ	Batch ID: 71776	TestNo: EPA 245.1	Analysis Date: 12/20/2018	SeqNo: 3237472
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Mercury	2.512	0.050 2.500 0	100 75 125 2.595	3.26 20
Sample ID: N033443-001C-DUP	SampType: <b>DUP</b>	TestCode: 245.1_W_LL Units: µg/L	Prep Date: 12/17/2018	RunNo: <b>130706</b>
Client ID: ZZZZZZ	Batch ID: 71776	TestNo: EPA 245.1	Analysis Date: 12/20/2018	SeqNo: 3237474
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:

J

"Serving Clients with Passion and Professionalism"

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

<u>NEVADA</u> | 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

#### **CLIENT:** CH2MHill Work Order: N033443

**Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8015\_W\_SFPPTOT

Sample ID: MB-R130707	SampType: MBLK	TestCo	de: 8015_W_S	FP Units: ug/L		Prep Da	ate:	RunNo: <b>130707</b>			
Client ID: PBW	Batch ID: R130707	Test	No: EPA 8015E	3		Analysis Da	ate: 12/20/2018	SeqNo: 323			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual	
Total TPH	ND	100									

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - 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
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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

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: N033443 **Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: CA181218-LCS	SampType: LCS	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Da	ite:	RunNo: 130657				
Client ID: LCSW	Batch ID: CA18VW044	Test	No: EPA 8260	В		Analysis Da	te: 12/18/2	018	SeqNo: 323	5468		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethane	19.000	0.50	20.00	0	95.0	69	133					
1,2-Dichloroethane	18.710	0.50	20.00	0	93.6	69	132					
Benzene	18.900	1.0	20.00	0	94.5	81	122					
Ethylbenzene	18.530	1.0	20.00	0	92.6	73	127					
m,p-Xylene	37.860	1.0	40.00	0	94.6	76	128					
МТВЕ	17.700	1.0	20.00	0	88.5	65	123					
o-Xylene	17.820	1.0	20.00	0	89.1	80	121					
Tert-Butanol	114.130	5.0	100.0	0	114	70	130					
Toluene	19.090	2.0	20.00	0	95.4	77	122					
Xylenes, Total	55.680	2.0	60.00	0	92.8	75	125					
Surr: 1,2-Dichloroethane-d4	23.860		25.00		95.4	72	119					
Surr: 4-Bromofluorobenzene	23.060		25.00		92.2	76	119					
Surr: Dibromofluoromethane	25.580		25.00		102	85	115					
Surr: Toluene-d8	23.900		25.00		95.6	81	120					
Sample ID: CA181218-MB3	SampType: <b>MBLK</b>	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Da	ite:	RunNo: 130657				
Client ID: PBW	Batch ID: CA18VW044	Test	No: EPA 8260	В		Analysis Da	ite: 12/18/2	018	SeqNo: 323			
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										
	ND	1.0										
m,p-Xylene	ND	1.0										
m,p-Xylene MTBE	ND	1.0										
МТВЕ	ND	1.0										
MTBE o-Xylene	ND ND	1.0 1.0										
MTBE o-Xylene Tert-Butanol	ND ND ND	1.0 1.0 5.0										

#### Qualifiers:

J

В Analyte detected in the associated Method Blank

ASSET LABORATORIES

"Serving Clients with Passion and Professionalism"

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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

CALIFORNIA P:562.219.7435 F:562.219.7436

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EPA ID CA01638

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#### CLIENT: CH2MHill

Work Order: N033443

Project: SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: CA181218-MB3	SampType: MBLK	TestCo	de: 8260_WP	_SF Units: ug/L		Prep Da	te:		RunNo: <b>130657</b>				
Client ID: PBW	Batch ID: CA18VW044	Test	No: EPA 8260	В		Analysis Da	te: 12/18/2	2018	SeqNo: 323	35471			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Surr: 4-Bromofluorobenzene	23.690		25.00		94.8	76	119						
Surr: Dibromofluoromethane	27.350		25.00		109	85	115						
Surr: Toluene-d8	25.510		25.00		102	81	120						
Sample ID: N033443-001A-MS	SampType: <b>MS</b>	TestCo	de: 8260_WP	_SF Units: ug/L		Prep Da	te:		RunNo: 130	0657			
Client ID: ZZZZZZ	Batch ID: CA18VW044	Test	lo: EPA 8260	В		Analysis Da	te: 12/18/2	2018	SeqNo: 323	35484			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
1,1-Dichloroethane	19.280	0.50	20.00	0	96.4	69	133						
1,2-Dichloroethane	19.890	0.50	20.00	0	99.4	69	132						
Benzene	19.200	1.0	20.00	0	96.0	81	122						
Ethylbenzene	18.350	1.0	20.00	0	91.8	73	127						
m,p-Xylene	37.380	1.0	40.00	0	93.5	76	128						
MTBE	17.050	1.0	20.00	0	85.2	65	123						
o-Xylene	17.510	1.0	20.00	0	87.6	80	121						
Tert-Butanol	103.870	5.0	100.0	0	104	70	130						
Toluene	18.970	2.0	20.00	0	94.8	77	122						
Xylenes, Total	54.890	2.0	60.00	0	91.5	75	125						
Surr: 1,2-Dichloroethane-d4	23.000		25.00		92.0	72	119						
Surr: 4-Bromofluorobenzene	23.470		25.00		93.9	76	119						
Surr: Dibromofluoromethane	26.540		25.00		106	85	115						
Surr: Toluene-d8	24.830		25.00		99.3	81	120						
Sample ID: N033443-001A-MSD	SampType: MSD	TestCo	de: 8260_WP	_SF Units: ug/L		Prep Da	te:		RunNo: 130	0657			
Client ID: ZZZZZZ	Batch ID: CA18VW044	Test	No: EPA 8260	В		Analysis Da	te: 12/18/2	018	SeqNo: 323	35485			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
1,1-Dichloroethane	18.930	0.50	20.00	0	94.6	69	133	19.28	1.83	20			
1,2-Dichloroethane	19.910	0.50	20.00	0	99.6	69	132	19.89	0.101	20			
Benzene	19.190	1.0	20.00	0	96.0	81	122	19.20	0.0521	20			

Qualifiers:

J

B Analyte detected in the associated Method Blank

- Analyte detected below quantitation limits ND Not I
- E Value above quantitation range
  - ND Not Detected at the Reporting Limit

S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out

"Serving Clients with Passion and Professionalism"

ASSET LABORATORIES

CALIFORNIA P:562.219.7435 F:562.219.7436 1110 Artesia Blvd., Ste B, Cerritos, CA 90703 ELAP Cert 2921 EPA ID CA01638 H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

11 of 13

<u>NEVADA</u> | 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

#### **CLIENT:** CH2MHill

Work Order: N033443 **Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

#### TestCode: 8260\_WP\_SFPP

Sample ID: N033443-001A-MSD	SampType: <b>MSD</b>	TestCo	de: 8260_WP_	_SF Units: ug/L		Prep Da	te:		RunNo: 130657			
Client ID: ZZZZZZ	Batch ID: CA18VW044	TestNo: EPA 8260B				Analysis Da	te: 12/18/2	018	SeqNo: 3235485			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Ethylbenzene	18.550	1.0	20.00	0	92.8	73	127	18.35	1.08	20		
m,p-Xylene	38.410	1.0	40.00	0	96.0	76	128	37.38	2.72	20		
МТВЕ	17.540	1.0	20.00	0	87.7	65	123	17.05	2.83	20		
o-Xylene	18.440	1.0	20.00	0	92.2	80	121	17.51	5.17	20		
Tert-Butanol	114.030	5.0	100.0	0	114	70	130	103.9	9.33	20		
Toluene	19.190	2.0	20.00	0	96.0	77	122	18.97	1.15	20		
Xylenes, Total	56.850	2.0	60.00	0	94.8	75	125	54.89	3.51	20		
Surr: 1,2-Dichloroethane-d4	22.740		25.00		91.0	72	119		0			
Surr: 4-Bromofluorobenzene	23.410		25.00		93.6	76	119		0			
Surr: Dibromofluoromethane	24.760		25.00		99.0	85	115		0			
Surr: Toluene-d8	23.920		25.00		95.7	81	120		0			

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 DO Surrogate Diluted Out
  - 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
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

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

- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Calculations are based on raw values

"Serving Clients with Passion and Professionalism"

12 of 13

#### **CLIENT:** CH2MHill

Work Order: N033443 **Project:** SFPP Norwalk

### ANALYTICAL QC SUMMARY REPORT

#### TestCode: 8270WATER\_SIMEXT

Sample ID: LCS-71826	SampType: LCS	TestCode: 8270WATER_ Units: µg/L	Prep Date: 12/19/2018	RunNo: <b>130738</b>
Client ID: LCSW	Batch ID: 71826	TestNo: EPA 8270C EPA 3510C	Analysis Date: 12/21/2018	SeqNo: 3240191
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Phenol Surr: Phenol-d5	2.100 0.320	1.0 6.000 0 1.000	35.02412032.025108	
Sample ID: <b>MB-71826</b> Client ID: <b>PBW</b>	SampType: <b>MBLK</b> Batch ID: <b>71826</b>	TestCode: 8270WATER_ Units: µg/L TestNo: EPA 8270C EPA 3510C	Prep Date: 12/19/2018 Analysis Date: 12/21/2018	RunNo: <b>130738</b> SeqNo: <b>3240192</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Phenol Surr: Phenol-d5	ND 0.320	1.0	32.0 25 108	
Sample ID: N033443-001D-MS Client ID: ZZZZZZ	SampType: <b>MS</b> Batch ID: <b>71826</b>	TestCode: 8270WATER_ Units: µg/L TestNo: EPA 8270C EPA 3510C	Prep Date: 12/19/2018 Analysis Date: 12/21/2018	RunNo: <b>130738</b> SeqNo: <b>3240194</b>
		- 10		
Client ID: ZZZZZZ	Batch ID: <b>71826</b>	TestNo: EPA 8270C EPA 3510C	Analysis Date: 12/21/2018	SeqNo: 3240194
Client ID: ZZZZZZ Analyte Phenol	Batch ID: <b>71826</b> Result 2.316 0.337	TestNo:         EPA 8270C         EPA 3510C           PQL         SPK value         SPK Ref Val           1.0         6.122         0	Analysis Date: 12/21/2018 %REC LowLimit HighLimit RPD Ref Val 37.8 24 120	SeqNo: 3240194
Client ID: ZZZZZZ Analyte Phenol Surr: Phenol-d5 Sample ID: N033443-001D-MSD	Batch ID: <b>71826</b> Result 2.316 0.337 SampType: <b>MSD</b>	TestNo:         EPA 8270C         EPA 3510C           PQL         SPK value         SPK Ref Val           1.0         6.122         0           1.020         TestCode:         8270WATER_ Units: µg/L	Analysis Date:12/21/2018%RECLowLimitHighLimitRPD Ref Val37.82412033.025108	SeqNo: 3240194 %RPD RPDLimit Qual RunNo: 130738

Qualifiers:

- В Analyte detected in the associated Method Blank
- J Analyte detected below quantitation limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference DO Surrogate Diluted Out
  - 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

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

Calculations are based on raw values

13 of 13

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

# CH2HI03 C: 12/17/201 12:00 AM FOLDER R: 12/14/2018 N033443-002A 1 of 1

	CHAIN OF CUSTODY RECORD
DATE:	_12/14/18
PAGE:	of 1

Section	n A I Client Information:		Section B						Section	c												Sectia	n Di	
Compar			Required Project Report To:	t Informa Eric D					nvoice in	_							_					Sample		nation:
L	Attention: Steve Defibeugh		heport to.	ene p	4412			ľ	Attentio	n:	Stev	e Defib	angp -	Ref. A	AFE# 81	1195						Sampl		James Dyn
Address	<ul> <li>1100 Town &amp; Country Road</li> <li>Orange, CA 92868</li> </ul>		Сору То:	Steve	Defibau	ıgh –			Compan	v	Kind	er Moŋ	gan En	ergy P	Partner	rs						Name Sempl		
Ema© To	steve defibaugh@kindermo	rgall.com	Purchase Order	r No.:					Name: Address:		1100	Town	B.Com	nin ( Da								Signat	ure:	the second
Phone	eric davas@ch.2m.com	-560-4801	<u> </u>									uge, CA			080							Sampi Date:	•	19 12/14/18
e Jisrie.	714-360-4602 (Fax: 714		Project Name:		SFPP	Norwalk			ATL Proj		Mari	on Cart	tin				_					1	$\nearrow$	/
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ITEM &				MATRIX	SAMPLE.			TOTAL # OF CONTAINERS	Analuate Taet	ETEK, 1,1-DCA,	TPH-gas	TPH-d, TPH-oil, Yotal TPH (80158)	Cu. Pb. Zn (200.8): He (245.1)							ſ				
	EFF-12.14			+		DATE	TIME	₽ ₽		1 5	Ē	Ē	đ		£									Comments
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2		4		<u> </u>					_			1	_											Report metals, TPH and VOC preliminary data on 24-hr TAT
3		· · · ·					<u> </u>																	Report total Xylenes
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Alsenlla 12/14/18 1729	FEM Market Barres	14/18 1400 12/15/18 9:10 DeerTime	Turn Arolund Time (TAT): A = Same Dey B = 24 Hours C = 48 Hours D = 72 Hours E = 5 Workdays E = 10 Workdays TAT Starts at 8 AM the following day if samples received after S:00 PM.	Spacial instruction:	
in #2 0.9°C C	C> C/22	Mətrix:	Preservatives:	Container Type:	
popo orac 6	50 8573	W = Water WW = Wastewater H	H=HCI N=HNO3 S=H2SO4	T = Tube V = VOA P = Pint A = A	mber
		O = Oli P = Product S = Soli 2	2 = Zn(AC)2 0 = NaOH T = Na2S2O3	J=Jar B=Tediar G=Glass	
		Others/Specify:	Others/Specify:	M = Metał 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:	oler Received/Opened On: 12/14/2018				Workorder:	N033443		
Rep sample Temp (Deg C):	0.9				IR Gun ID:	2		
Temp Blank:	Yes	🗌 No						
Carrier name:	Golden St	ate Overnight						
Last 4 digits of Tracking No .:	8573			Packing N	Material Used:	Bubble Wrap		
Cooling process:	✓ Ice	Ice Pack	Dry Ice	Other	None None			
		Si	ample Receip	t Checklist				
1. Shipping container/cooler in g	jood conditic				res 🗹	No 🗌	Not Present	
2. Custody seals intact, signed,	dated on shi	ippping container/	cooler?	`	res	No 🗌	Not Present	$\checkmark$
3. Custody seals intact on samp	le bottles?			、	res 🗌	No 🗌	Not Present	$\checkmark$
4. Chain of custody present?				,	res 🗹	No 🗌		
5. Sampler's name present in Co	OC?			`	res 🗹	No 🗌		
6. Chain of custody signed when	n relinquishe	ed and received?			Yes 🗹	No 🗌		
7. Chain of custody agrees with	sample labe	els?			Yes 🗹	No 🗌		
8. Samples in proper container/k	oottle?				Yes 🗹	No 🗌		
9. Sample containers intact?					Yes 🗹	No 🗌		
10. Sufficient sample volume for	r indicated te	est?			Yes 🗹	No 🗌		
11. All samples received within h			Yes 🗹	No 🗌				
12. Temperature of rep sample or Temp Blank within acceptable limit?				Ň	res 🗹	No 🗌	NA	
13. Water - VOA vials have zero headspace?				Ň	res 🗹	No 🗌	NA	
14. Water - pH acceptable upon Example: pH > 12 for (CN			Yes 🗹	No 🗌	NA			
15. Did the bottle labels indicate		`	res 🗹	No 🗌	NA			
16. Were there Non-Conformance issues at login? Was Client notified?					Yes □ Yes □	No 🗌 No 🗌	NA NA	
Commontor								

Comments:

For: JAT 12/17/2018 FR

12/18/18 Reviewed By:

WORK ORDER Summary						17-Dec-18			
Client ID: CH2HI03						WorkOrder: N033443			
Project:	SFPP Norwalk QC Level: RTNE				Date Receive	ed: 12/14	4/2018		
Comments:	Report metals, TPH ar	nd VOC preliminary data o	on 24hr TAT. Re	port Total Xyle	enes.				
Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld MS	Sub Storage	
N033443-001A	EFF-12-14	12/14/2018 12:30:00 PM	12/18/2018	Wastewater	EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS		U VW	
N033443-001B			12/18/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS		SUB	
			12/18/2018		EPA 8015B	TPH EXTRACTABLE BY GC/FID		SUB	
			12/18/2018		EPA 8015B	Total TPH		SUB	
N033443-001C			12/18/2018			AQPREP TOTAL METALS: ICP, FLAA		WW	
			12/18/2018		EPA 200.8	TOTAL METALS BY ICPMS		WW	
			12/18/2018		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE		WW	
			12/18/2018			MERCURY PREP		WW	
N033443-001D			12/21/2018		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM		WW	
			12/21/2018		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS		WW WW	
N033443-001E			12/18/2018		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID		SUB	
N033443-002A	FOLDER	12/18/2018	12/18/2018		Folder	Folder		LAB	
			12/18/2018		Folder	Folder		LAB	



# **ASSET Laboratories**

3151-3153 W Post Rd., Las Vegas, NV 89118 www.atl-labs.com TEL: 7023072659 FAX: 7023072691

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: RTNE

Subcontractor:			
BC Labs	TEL: (661) 327-4911	Field Sampler: James Dye	
4100 Atlas Court	FAX: (661) 327-1918		
Bakersfield, CA 93308	Acct #:	17-Dec-18	;

				Requested Tests			
Sample ID	Matrix	Date Collected	Bottle Type	EPA 3510C	EPA 8015B		
N033443-001B / EFF-12-14	Maatawatar	12/14/2018 12:30:00 PM	32OZA	4	2		
N033443-001B / EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	320ZA		2		
N033443-001E / EFF-12-14	Wastewater	12/14/2018 12:30:00 PM	VOA		1		

Please cc Report to Lucille Golosinda at lucille.golosinda@assetlaboratories.com

#### General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N33443A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: 12/18/2018

Please analyze for TPH-gas (8015B), TPH-d, TPH-o, Total TPH (8015B). EDD Requirement CH2MHill Labspec7 edata. Please report "J" flagged down to MDL format.

	Date/Time		Date/Time
Relinquished by:	12/17/18 17:04	Received by:	
Relinquished by:		Received by:	

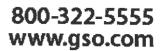


Ship From ASSET LABORATORIES MOLKY BRAR 11110 ARTESIA BLVD. SUITE B CERRITOS, CA 90703

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

COD: \$0.00 Weight: 0 lb(s) Reference:

**Delivery Instructions:** HOLD FOR PICK-UP **Signature Type:** STANDARD



Tracking #: 543138573

**ESS** 



LVS LAS VEGAS



95363153

Print Date: 12/14/2018 8:16 PM

Package 3 of 4

#### 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.

12 HZ 0.9°C



Date of Report: 12/31/2018

Marlon Cartin

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

Client Project:N033443BCL Project:CH2MHILLBCL Work Order:1839333Invoice ID:B325905, B326686

Enclosed are the results of analyses for samples received by the laboratory on 12/18/2018. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000832413

Sincerely,

Contact Person: Vanessa Sandoval Client Service Rep

Stuart Buttram Technical Director

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

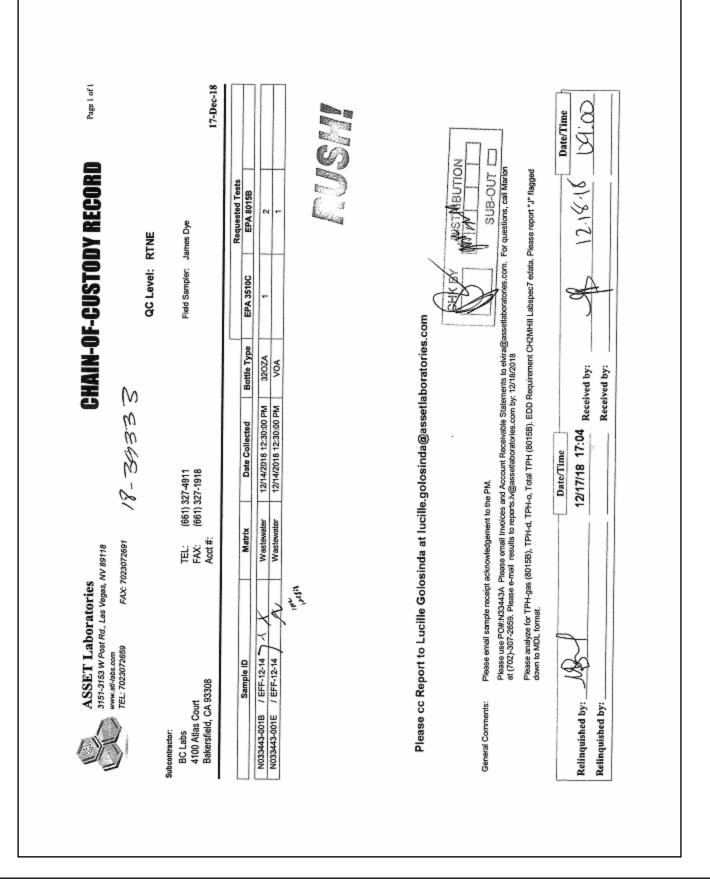


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Chain of Custody and Cooler Receipt Form for 1839333 Page 1 of 2



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



#### Chain of Custody and Cooler Receipt Form for 1839333 Page 2 of 2

BC LABORATORIES INC.	22		COOLER	RECEIPT	FORM			Pag	e(_	0f _/
Submission #: 11 - 595	27			1		1				
SHIPPING INF				S	HIPPING				FREE LIC	
	ther Suspec	and Deliver	50	ICE Ch	est D er D (Spe	None 🗆	BOX		YES	
			<u> </u>		7 - tope				W /	5
Refrigerant: Ide Blue Id	≫ No	ne 🗆	Other 🗆	Com	nents:					
Custody Seals Ice Chest	Conta	iners 🗆	None	Com	ments					
Lintact? Yes D No D	1.1.1.1.2.41	вПИОП	/	1- 001	/					
All samples received? Yes D No D	All sampl	es container	s intact? \	the I No		Descrip	tion(s) match	0002	Var I No	
COC Received	Emissivity:	A	Container:	<u>\</u>	Thermon				10.11	8.18
DES DNO		· · · ·	1.2		- P	101011D: 2		Date/Tir	Mar.	200
	Temperatu	re: (A) 4	1.0	°C /	1012	1.1	°C	Analyst		09.00
SAMPLE CONTAINERS					SAMPLE	NUMBERS			)	
	1	2	а	4	5	6	7	8	9	10
OT PE UNPRES										
402 / 802 / 1602 PE UNPRES 202 Cr**										-
OT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 402 / 802 /	1607									
PT CYANIDE	1001				-					
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
207. NITRATE / NITRITE			1							
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40mi VOA VIAL TRAVEL BLANK										
10ml VOA VIAL	Wb.									
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
i0 ml VOA VIAL- 504										
2T EPA 508/608/8080										
QT EPA 515.1/8150 QT EPA 525										
JT EPA 525 TRAVEL BLANK										
Omi EPA \$47										
Omi EPA 531.1										
oz EPA 548										
T EPA 549										
OT EPA 8015M										
7T EPA 8270										
02 / 1602 / \$202 MMBER	()	DAM	12111							
02/1602/3300 JAR	- V									
OIL SLEEVE										
CB VIAL										
LASTIC BAG										
EDLAR BAG										
ERROUS IRON										
NCORE		-								
MART KIT										
JMMA CANISTER										

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 1000835543
 4100 Atlas Court
 Bakersfield, CA 93308 (661) 327-4911
 FAX (661) 327-1918
 www.bclabs.com
 P.



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

#### 12/31/2018 9:36 Reported: Project: CH2MHILL Project Number: N033443 Project Manager: Marlon Cartin

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1839333-01	COC Number:		Receive Date:	12/18/2018 09:00
	Project Number:		Sampling Date:	12/14/2018 12:30
	Sampling Location:		Sample Depth:	
	Sampling Point:	EFF-12-14	Lab Matrix:	Water
	Sampled By:		Sample Type:	Wastewater

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

# Reported:12/31/20189:36Project:CH2MHILLProject Number:N033443Project Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	1839333-01	Client Sampl	e Name:	EFF-12-14	4, 12/14/20	018 12:30:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organ	nics (C4 - C12)	ND	ppm	0.050	0.022	EPA-8015B	ND	U	1
a,a,a-Trifluorotoluene	(FID Surrogate)	87.2	%	70 - 130 (LC	L - UCL)	EPA-8015B			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B	12/18/18 09:00	12/18/18 18:05	JBR	GC-V9	1	B033168	



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/31/20189:36Project:CH2MHILLProject Number:N033443Project Manager:Marlon Cartin

# Total Petroleum Hydrocarbons

BCL Sample ID:	1839333-01	Client Sampl	e Name:	EFF-12-1	4, 12/14/20	018 12:30:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C13 - C	22)	ND	ug/L	40	6.8	EPA-8015CC	ND	U	1
TPH - Motor Oil (C23	- C36)	ND	ug/L	100	13	EPA-8015CC	ND	U	1
Tetracosane (Surroga	te)	92.5	%	37 - 134 (LC	L - UCL)	EPA-8015CC			1

			Run					
Run #	∉ Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015CC	12/18/18 19:37	12/19/18 10:14	RSM	GC-13	0.960	B033349	



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/31/20189:36Project:CH2MHILLProject Number:N033443Project Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

## **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B033168						
Gasoline Range Organics (C4 - C12)	B033168-BLK1	ND	ppm	0.050	0.022	U
a,a,a-Trifluorotoluene (FID Surrogate)	B033168-BLK1	87.2	%	70 - 130 (LCL - UCL)		



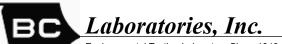
ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118

# Reported:12/31/20189:36Project:CH2MHILLProject Number:N033443Project Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

## **Quality Control Report - Laboratory Control Sample**

								<u>Control Limits</u> Percent Lab D Recovery RPD Quals			
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD		RPD		
QC Batch ID: B033168											
Gasoline Range Organics (C4 - C12)	B033168-BS1	LCS	1.0012	1.0000	ppm	100		85 - 115			
a,a,a-Trifluorotoluene (FID Surrogate)	B033168-BS1	LCS	0.037082	0.040000	ppm	92.7		70 - 130			



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

# Reported:12/31/20189:36Project:CH2MHILLProject Number:N033443Project Manager:Marlon Cartin

# Purgeable Aromatics and Total Petroleum Hydrocarbons

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B033168	Use	d client samp	le: N								
Gasoline Range Organics (C4 - C12)	MS	1836707-67	ND	1.0246	1.0000	ppm		102		70 - 130	
	MSD	1836707-67	ND	1.1432	1.0000	ppm	10.9	114	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1836707-67	ND	0.035482	0.040000	ppm		88.7		70 - 130	
	MSD	1836707-67	ND	0.034050	0.040000	ppm	4.1	85.1		70 - 130	

## **Quality Control Report - Precision & Accuracy**



ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118 Reported:12/31/20189:36Project:CH2MHILLProject Number:N033443Project Manager:Marlon Cartin

# **Total Petroleum Hydrocarbons**

### **Quality Control Report - Method Blank Analysis**

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B033349						
TPH - Diesel (C13 - C22)	B033349-BLK1	ND	ug/L	40	6.8	U
TPH - Motor Oil (C23 - C36)	B033349-BLK1	ND	ug/L	100	13	U
Tetracosane (Surrogate)	B033349-BLK1	97.3	%	37 - 13	4 (LCL - UCL)	



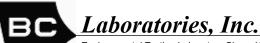
ASSET Laboratories- Las Vegas 3151-3153 W. Post Rd Las Vegas, NV 89118

Reported: 12/31/2018 9:36 Project: CH2MHILL Project Number: N033443 Project Manager: Marlon Cartin

# **Total Petroleum Hydrocarbons**

## **Quality Control Report - Laboratory Control Sample**

								Control L	<u>imits</u>		
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B033349											
TPH - Diesel (C13 - C22)	B033349-BS1	LCS	407.55	500.00	ug/L	81.5		52 - 128			
Tetracosane (Surrogate)	B033349-BS1	LCS	20.585	20.000	ug/L	103		37 - 134			



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

Reported: 12/31/2018 9:36 Project: CH2MHILL Project Number: N033443 Project Manager: Marlon Cartin

## **Total Petroleum Hydrocarbons**

## **Quality Control Report - Precision & Accuracy**

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B033349	Use	d client samp	le: N								
TPH - Diesel (C13 - C22)	MS	1836707-60	ND	351.26	500.00	ug/L		70.3		50 - 127	
	MSD	1836707-60	ND	358.48	500.00	ug/L	2.0	71.7	30	50 - 127	
Tetracosane (Surrogate)	MS	1836707-60	ND	17.670	20.000	ug/L		88.4		37 - 134	
	MSD	1836707-60	ND	18.906	20.000	ug/L	6.8	94.5		37 - 134	



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

#### Reported: 12/31/2018 9:36 Project: CH2MHILL Project Number: N033443 Project Manager: Marlon Cartin

#### **Notes And Definitions**

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

Analyte Not Detected at or above the reporting limit (CLP Flag) U

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 1000835543 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Pa

Site Name		Site Location	Project Manager		CH2M Personnel	Norwalk Effluent I SFPP Norwalk				
SFPP Norwa	alk Pump Station	Norwalk, CA	Steve De	fibaugh	Eric Davis, PM	Norwal Form Revis				
	Date	Time	S	AMPLE TYP	E (circle one):	Discharge Permit	Expiration Date			
1411-	218	0800	Grab, C	omposite, F	low-through, Other	R4-2016-0309	11/1/2021			
0&M T	echnician#1	O&M Technician#2								
Nils C	rliczky									
QUIPMENT			1. 18. 18. 18. 18. 18. 18. 18. 18. 18. 1							
	Make: He	oriba								
Multimeter	Model: U	-5000								
	Serial Number: NVMVV									
CALIBRATION	been stalling									
Date of Calibr	ation:	11/5	Time:	16:	55 (P.)	re Environ,	nerba ()			
Calibration St	andard:	Yes No	Standard		Expiration Date	Calibrated Within 0.2 pH units?				
	il Calibration Standard $7.00/7.00$		4,00 (4,00				~	(B)	No	
oH Calibration			Ð			Ø	No			
			10			Č	No			
Cond. Calibra	tion 0-718	Equipment Reading: 0	718	Calibrated	to or within 10%?	NO NO	No No			
FIELD PARAM	IETERS				FIELD ME	ASUREMENTS				
			Effiuent (E	FF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point			
TIME			092	0	0820	0810				
DH (DISCHAR	GE LIMIT 6.5 - 8.5)	(Quarterly, Annually)	6.9	3,	6.90	8.76				
FEMP (°F) (DI	SCHARGE LIMIT 86	5°F) (Quarterly, Annually)	19.77	167.6	18.69 65.6	18:65/65:6				
SALINITY (pp	t)		0.9	÷	0.4	0.4				
COND mS/cn Circle or Note	or uS/cm; Specifi Units Used	ic Cond.)	1.80	(	0.864	0.873				
OBSERVATIO	NS			1964 AN						
			11 -	2	10.1.711	22.51				
DE	Dimo /1		14.5	2	24.74	160.01				

SFPP Norwalk Pump Station     Norwalk, CA     Steve Defibaugh     Eric Davis, PM       Date     Time     SAMPLE TYPE (circle one):     Discharge Per       11-14-13     08355     Grab, Composite, Flow-through, Other     R4-2016-03       0&M Technician#1     0&M Technician#2     Image: Composite of the second s								
II-IU-IS     0835     Grab, Composite, Flow-through, Other     R4-2016-03       0&M Technician#1     0&M Technician#2								
O&M Technician#1 O&M Technician#2	09 11/1/2021							
Nils Orliczky								
EQUIPMENT								
Make: Horiba								
Multimeter Model: U-5000								
Serial Number: NVMVVUOW								
CALIBRATION								
Date of Calibration: 1)-14-18 Time: 0835								
Calibration Standard: Yes No Standard Expiration Date Calibr	ated Within 0.2 pH units?							
4 May 2019 (1)	No							
pH Calibration Standard 3,76/4,00 7 Mary 2019 00	No							
10 Mary 2019 (B)	No							
Cond. Calibration Equipment Reading: 3, 60/4, 49 Calibrated to or within 10%?	No							
FIELD PARAMETERS FIELD MEASUREMENTS								
Effluent (EFF-001) Upstream (RSW-001) Downstream (RS	W-002) Mid-Point							
TIME 07345 0950 0945	-							
pH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually) 6.67 9.01 8.90								
TEMP (°F) (DISCHARGE LIMIT 86°F) (Quarterly, Annually) 17.08/ 16.67 16.73/								
SALINITY (ppt) 102 016 0.7								
COND (mS/cm or uS/cm; Specific Cond.) Circle or Note Units Used 2.25 1.13 1.40								
OBSERVATIONS	ration) and a state of the							
PO mell 3.76 17.03 11.41	Gil 276N							
	pt 3.76							
	Cond 3:00 M							
	Da Hog N							
PINBUR BRARALLI - O								
Signed: Was A. A. Date: 11-14-18								
Signed: Date: 11-14-18								

T

FIGURDA         Model:       U-S000         Serial Number:       NVM/VU/DW         CALIBRATION       Date of Calibration: $1/(-1)^{-1}$ Time: $134^{-1}$ Calibration: $1/(-1)^{-1}$ Time: $134^{-1}$ Calibrated Within 0.2 pH units?         Diff Calibration Standard:       Opin Calibration Standard       Opin Calibration Date       Calibrated Within 0.2 pH units?         DH Calibration Standard       Opin Calibration Standard       Opin Calibrated Within 0.2 pH units?       No         Cond. Calibration Standard       Opin Calibration Standard       Opin Calibration Standard       Opin Calibration Standard       No         Cond. Calibration Standard       Opin Calibration Standard       Opin Calibration Standard       Opin Calibration Standard       No         Opin Calibration Standard       Opin Calibration Standard       Opin Calibration Standard       No       No         Opin Calibration Standard       Opin Calibration Standard       Opin Calibration Standard       No       No         Cond. Calibration Standard       Equipment Reading:       Calibrated to or writhin 10%?       No       No         HELD PARAMETERS       Effluent (EFF-001)       Uperson (RSW-002)       Mcd-Point       No         TIME       ID S=D       I	Site Name Site Loc		Site Location	Project Manager		CH2M Personnel	Norwelk Effluent Monitoring Form SFPP Norwalk Pump Station Norw CA		
III         IOU         Grab. Composite, Flow-through, Other         R4-2016-0309         11/1/2021           OBM Technicianitz         OBM Technicianitz         OBM Technicianitz         OBM Technicianitz         International Control of the co	SFPP Norwall	Simt Treves		Steve D	efibaugh	Eric Davis, PM	- Fordi Art	1767 1767 176	
OBM Technicianit2         ObiM Technicianit2           Nills Orliczky         Mar.         Horiba           Mattimeter         Mar.         Horiba           Model:         U.5000         Serial Number: NVM/VU0W           CAUBRATION         Date of Calibration:         I/L/S/LE         Time:         1.24/S           Calibration Standard:         CB         No         Standard         Expiration Date         Calibrated Within 0.2 pH units?           pH Calibration Standard:         CB         No         Standard         Expiration Date         Calibrated Within 0.2 pH units?           pH Calibration Standard:         CB         No         Standard         Expiration Date         Calibrated Within 0.2 pH units?           pH Calibration Standard:         CB         No         Standard         Expiration Date         Calibrated Within 0.2 pH units?           pH Calibration Standard:         CB         No         Max/2019         Mo         No           Cond. Calibrated Q         U/O.D         Max/2019         Mo         No         No           Calibrated R         Eduant (EFF-001)         Uplemant (FFF-001)         Uplemant (FFM-001)         Modeleeee         Mo/P201         Mo           FIELD PARAMETERS         Eduant (EFF-001)         Uplemant (FSH-001)	Da	ite	Time		SAMPLE TYP	E (circle one):	Discharge Permit	Expiration Date	
Nils Orliczky           EQUIPMENT           Mattimeter         Mate         HOriba           Model:         U-5000           Senal Number:         NVM/VU/DW           CAUBRATION         Date of Calibration:         I/_/(//////////////////////////////////	11-15-1	8	1045	Grab, C	omposite, Fi	ow-through, Other	R4-2016-0309	11/1/2021	
EQUIPMENT Matimeter Material Horiba Model: U-5000 Setal Number: NVAVVUOW CALIBRATION Date of Calibration: $1/ 15 - 1\%$ Time: $1.5\%$ Calibration Standard: Tep in No Standard Expiration Date Calibrated Within 0.2 pH units? pH Calibration Standard Tep No Standard Expiration Date Calibrated Within 0.2 pH units? pH Calibration Standard Tep No Standard Tep No No Cond. Calibrated Within 0.2 pH units? pH Calibration Standard Tep No Standard Tep No No Cond. Calibrated Within 0.2 pH units? pH Calibration Standard Calibrated Conduction Date Calibrated Within 0.2 pH units? pH Calibration Standard Calibrated Conduction Date No No Cond. Calibrated View Calibrated Conduction Date No No Cond. Calibrated Standard Calibrated Conduction Date No No No Cond. Calibrated Standard Calibrated Conduction Date No No No No Conduction Date No No No No Conduction Date No	O&M Tech	nician#1	O&M Technician#2		a care the				
Multimeter       Her:       Horiba         Mode:       U-5000         Serial Number:       NVNVVUUW         CALIBRATION       II-(5-1%         Date of Calibration:       II-(5-1%         II-(5-1%       Time:         J04/2019       II-(5-1%         Calibration Standard:       III         (I)       III         (I)       IIII         (I)       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Nils Orl	iczky							
Nodel:       U-5000         Setal Number:       NVM/VUDW         CAUBRATION       1.1.5.7.1%         Date of Calibration:       11.1.5.7.1%         Calibration Standard:       169         Definition Standard:       169         DPI Calibration Standard:       169         DPI Calibration Standard:       169         DPI Calibration Standard:       10         DPI Calibration Standard:       10         DPI Calibration Standard:       0         DA: 9 % 1       7:0 D         10       10         Cond. Calibration Calibration Development Reading:       Calibrated to or within 10%?         TIME       10 5 D         INS       13 3 S         DH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annuality)       0.5 F         PH (DISCHARGE LIMIT 86*F) (Quarterly, Annuality)       2.5 F         SALINITY (ppt)       1.2       0.5         COND (m5/cm)or uS/cm; Specific Cond.)       2		Make: Hor	iba						
column        column       column       column       column       column       column       column       column       column       column       column       column       column       column       column       column       column       column		E QI							
CAUBRATION         Date of Calibration: $ 1 - (5 - 1)^2$ Time: $ 3 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1$		Model: U-5	000						
Date of Calibration: $\begin{array}{c c c c c c c c c c c c c c c c c c c $		Serial Number: N							
Calibration Standard:       Calibration Standard       Calibrated Within 0.2 pH units?         pN Calibration Standard $(1,01   /4,00   /4,00   0)   0   0   0   0   0   0   0   0 $	CALIBRATION	lon:			to a settle				
pH Calibration Standard $\begin{array}{c} (1,01   14.22) \\ (2,04   17.02) \\ (2,94   $				Time:	10	545			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Calibration Stan	dard:	No No	Standard	E	xpiration Date	Calibrated Within 0.2 pH units?		
101010Cond. CalibrationCond. CalibrationCollbrated to or within 10%?Calibrated to or within 10%?Collbrated to or within 10%?FIELD MEASUREMENTSEffluent (EFF-001)Upstream (RSW-001)Downstream (RSW-002)Mdd-PointIDS Colspan="2">IDS Colspan="2"IDS Colspan="2"IDS Colspan="2	pH Calibration S			0	O Nay 2019		Ø	No	
10101010Cond. CalibrationCond. CalibrationCollbrated to or within 10%7FieLD MEASUREMENTSFieLD Miesure (RSW-002)Mid-PointID STID STID MI (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually)Annually SALINITY (ppt)I. 2O. 5O. 5O. 5COND (mS/cm): specific Cond.)Cond.Circle or Note Units UsedS. 5 C2. 9(I. 3. 3/ Colsp				Ma		1204	Ø	No	
NO         HELD PARAMETERS         FIELD MEASUREMENTS         FIELD MEASUREMENTS         Effluent (EFF-001)       Upstream (RSW-002)       Mid-Point         TIME       ///////////////////////////////////		Qert					E	No	
FIELD MEASUREMENTSEffluent (EFF-001)Upstream (RSW-001)Downstream (RSW-002)Mid-PointTIME $1050$ $1335$ $1332$ ph (DISCHARGE LIMIT 6.5 · 8.5) (Quarterly, Annually) $6.57$ $9.20$ $9.11$ TEMP (*F) (DISCHARGE LIMIT 86*F) (Quarterly, Annually) $2.57$ $2926/6926$ $20.94/69.69$ SALINITY (ppt) $1.2$ $0.5$ $0.55$ COND (ms/cm)or uS/cm; Specific Cond.) $2.33$ $1.04$ $1.06$ Circle or Note Units Used $5.56$ $22.91$ $13.37$	Cond. Calibratio	94.49	Equipment Reading:	L	Calibrated to	o or within 10%?	(es	No	
TIME $105^{-2}$ $1335$ $1332$ pH (DISCHARGE LIMIT 6.5 - 8.5) (Quarterly, Annually) $6.57$ $9.20$ $9.11$ TEMP (*F) (DISCHARGE LIMIT 86*F) (Quarterly, Annually) $22.75/72.97$ $20.70/69.26$ $20.94/69.69$ SALINITY (ppt) $1.2$ $0.5$ $0.5$ $0.5$ COND (mS/cm)or uS/cm; Specific Cond.) $2.33$ $1.04$ $1.06$ DO (mg/L) $5.56$ $22.91$ $13.37$			and the state of the	Effmot (	5E-001)	FIELD ME			
TEMP (*F) (DISCHARGE LIMIT 86*F) (Quarterly, Annually)       22.75/72.97       20.70/69.26       20.94/69.69         SALINITY (ppt)       1.2       0.5       0.5         COND (ms/cm) or uS/cm; Specific Cond.)       2.33       1.04       1.06         Circle or Note Units Used       5.56       22.91       13.37	TIME							Mid-Point	
TEMP (*F) (DISCHARGE LIMIT 86*F) (Quarterly, Annually)       22.75/72.97       20.70/69.26       20.94/69.69         SALINITY (ppt)       1.2       0.5       0.5         COND (ms/cm) or uS/cm; Specific Cond.)       2.33       1.04       1.06         Circle or Note Units Used       5.56       22.91       13.37		GE LIMIT 6.5	- 8.5) (Quarterly,	1050	1				
Annually)       22.75/72.91       20.76/69.26       20.94/69.69         SALINITY (ppt)       1.2       0.5       0.5         COND (m5/cm)or u5/cm; Specific Cond.)       2.33       1.04       1.06         Circle or Note Units Used       5.56       22.91       13.37		SCHARGE LIN	MIT 86°F) (Quarterly,		7		1		
COND (ms/cm) or us/cm; Specific Cond.)         J:33         J.04         I.06           Circle or Note Units Used         5.56         22.91         13.37	Annually)			22.75	72.95	2020/6926	20.94 69.69		
Circle or Note Units Used         d:33         1.04         1.06           DO (mg/L)         5.56         22.91         13.37		•		1.2		0.5	0.5		
DO (mg/L) 5.56 22.91 13.37			specific Cond.)	2.3	3	1.04	1.06		
DESERVATIONS	DO (mg/L)			5.50	6	22.91			
	BSERVATIONS				_				
	<u>.                                    </u>								
			<u> </u>						
	The second s	ROAN	0 20						
REDER THORDAM	igned:	XX	. Val		Date:	11-15-12	S		
and: Date:		~	$\square$						

Site Name Site Location		Project Manager CH2M Person		CH2M Personnel	Morwell: Effluent Monitoring Form SFPP Norwell: Pump Station Norw CA Form Revised 1/8/18			
SFPP Norwa	Ik Pump Station	Norwalk, CA	Steve D	efibaugh	Eric Davis, PM		~~~ 444 80	
D	late	Time		SAMPLE TYP	E (circle one):	Discharge Permit	Expiration Date	
11/16	18	0905	Grab, C	11/1/2021				
	hnician#1	O&M Technician#2		- Installe				
Nils Or	liczky							
EQUIPMENT				- fit				
Multimeter	Mate: Hor	riba						
	Model: U-5	5000						
	Serial Number: N	WWWVU0W					<u></u>	
CAUBRATION				A STREET, STRE	The second s			
Date of Calibra	tion:	11/16/18	Time:	OH	75			
Calibration Sta	alibration Standard: Ve No		Standard	E	xpiration Date	Calibrated Wit	hin 0.2 pH units?	
pH Calibration	H Calibration Standard 3 + 92/4.01 6.96/699		0	May 2019 May 2019		Tes	No	
			O Ma		12019	Ð	No	
			10			Yes	No	
Cond. Calibrati	on 4,49	Equipment Reading: 4.53		Calibrated to	o or within 10%?	(Tes)	No	
FIELD PARAME	TERS		F 1987 1 1		FIELD ME	ASUREMENTS		
	1.00		Effluent (	EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point	
TIME			0815		0935	0430		
Annually)		- 8.5) (Quarterly,	6.83		0935 8.70	0930 8.58		
TEMP (*F) (0 Annually)	NSCHARGE LI	MIT 86°F) (Quarterly,	17.61/	63.70F	14.82/58,684	14.82 58.68		
SALINITY (p)			1.2		0.8	0.8		
COND(ImS/c Circle or Not	e Units Used	Specific Cond.)	2.47	2	1.67	1.68		
DO (mg/L)	DO (mg/L)			)	16.30	12.93		
OBSERVATIONS								
			2					
	·····							
							<u></u>	
Caliban (a)	POQAN /	016			11 11 1	2		
Signed:	and the	-		Date:	11-16-1	Y		
2		$\mathcal{O}$						

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 duplicates (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 six normal effluent samples and one receiving water sample. Samples were collected between October 16 and December 14, 2018. Analyses were performed by Asset Laboratories in Las Vegas, Nevada, BC Laboratories in Bakersfield, California, Pace Analytical in Minneapolis, Minnesota, TestAmerica in Irvine, California and LA Testing in South Pasadena, California. The sample results were reported as three sample delivery groups:

Sample Delivery Groups
N032525
N032999
N033443

Twenty-three 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 the other laboratories. Samples were analyzed for the following analytes/method:

Parameter	Method	Laboratory
Turbidity	SM2130B	Asset
Asbestos	EPA 600 94 134, 100.2	LA Testing
Total suspended solids	SM2540D	Asset
Calcium, Magnesium, Hardness	E200.7/SM2340B	Asset
Sulfide	SM4500S2-D	BC Laboratories
MBAS	SM5540C	BC Laboratories
Nitrite and Nitrate	E300.0	Asset
Cyanide	E335.4	BC Laboratories
Settleable solids	SM2540F	Asset
Biochemical oxygen demand	SM5210B	BC Laboratories
Oil and grease	E1664	Asset
pH and Temperature	SM4500-H+B	Asset
Metals	E200.8/E245.1	Asset
Hexavalent Chromium	SW7199	Asset
Ammonia	SM4500NH3G	BC Laboratories
Total petroleum hydrocarbons – gasoline, diesel and motor oil ranges	SW8015B	Asset/BC Laboratories

# **JACOBS**<sup>°</sup>

Parameter	Method	Laboratory
Polychlorinated Biphenyls	E608	BC Laboratories
Pesticides	SW8081A	BC Laboratories
Dioxins and Furans	SW8290	Pace
Volatile organic compounds	SW8260B	Asset/TestAmerica
Phenol and Semi-Volatile organic compounds	SW8270C	Asset/BC Laboratories

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 QC exceedance occurred.
- R = Data were unusable because of deficiencies in the ability to analyze the sample and meet QC 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 with one exception.

The holding time for pH and temperature was exceeded for sample EFF-11-15-18 for Method SM4500-H+B. The associated detected results were qualified as estimated and flagged "J".

#### **Method Blanks**

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

Phenol was detected less than the reporting limit in a method blank for Method SW8270C. One associated result was detected less than five times the blank concentration and was qualified as not detected and flagged "U" in sample EFF-11-15-18.

#### 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 the following exceptions:

The recovery of copper was less than the lower control limit in the MSs and MSDs of samples EFF-10-16, EFF-11-15-18 and EFF-12-14-18 for Method E200.8, indicating the associated parent sample results are possibly biased low. Three associated nondetected results were qualified as estimated and flagged "UJ".

#### Chain-of-Custody

Each sample was documented in a completed COC and received at the laboratory in good condition.

#### Miscellaneous

Samples EFF-11-15-18 and RSW-001-11-15-18 were analyzed for acrolein and acrylonitrile from sample vials with headspace, associated sample results are possibly biased low. Four associated nondetected results were qualified as estimated and flagged "UJ".

#### **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

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ase pr	int or type.			DW 1806	184191		SC PPW	7/12/3			m Approved	. OMB No.	2050-00
N	FORM HAZARDOUS IASTE MANIFEST		umber 0033962		2. Page 1 of	(800	ency Response )) 483-3	718		285	<sup>1umber</sup> 961	9	FLE
5	enerator's Name and Maili fpp, L.P. Norwal 100 Town And (	lk Station Country Roa	d			1530	)6 Norwa	lk Boule	an mailing addre vard	iss)			
	erator's Phone:		ATTN:Karin	a Hankins		Norw	ralk,CA 9	0651					
* est	ansporter 1 Company Nar Iean Harbors Er		Services Inc						U.S. EPA ID		3223	) E A	
Lange and the	ansporter 2 Company Nar					аран (114) Мария 1941			U.S. EPA ID		The Bra Bra B		
8. De	esignated Facility Name a	nd Site Address							U.S. EPA ID	Number			
17	ean Harbors W 737 East Denni ilmington, CA 9 ily's Phone:	Street							CAD	044	4298	35	
9a. HM	9b. U.S. DOT Descript and Packing Group (if		r Shipping Name, Hazai	rd Class, ID Number	i la séra		10. Contai No.	ners Type	11. Total Quantity	12. Unit Wt./Vol.	13.	Waste Code	es
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Ξ.						- 1 C	001	DM	175	P			
	2.												
	3.								19.54 C				
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	4.	<i>4</i>					27.2 2			s finalit			
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15.	GENERATOR'S/OFFERC marked and labeled/placa Exporter, I certify that the I certify that the waste min rator's/Offeror's Printed/Ty	DR'S CERTIFICATIO arded, and are in all in contents of this const nimization statement	<b>DN:</b> I hereby declare the respects in proper cond signment conform to the	at the contents of th ition for transport ac terms of the attach	is consignment a cording to applic ed EPA Acknowl rge quantity gene	are fully an able intern edgment o	d accurately de national and nati f Consent.	scribed above ional governm	by the proper sl ental regulations	nipping nam	e, and are cla	ssified, pack am the Prim	hary
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	ransporter Acknowledgmer		rials		0		Date leave	ng 0.0	A	ana la cara da cara da Cara da cara da			
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18. D	iscrepancy										<u>ik</u>		4
	Discrepancy Indication Sp	ace 🗌 Qua	ntity	Птуре			Residue		Partial Rej	jection		Full Rej	ection
18b. /	Alternate Facility (or Gene	rator)				Man	ifest Reference	Number:	U.S. EPA ID I	Number			
Faaili	bia Dhoney					-					Mo	onth Day	
	ty's Phone: Signature of Alternate Fac	ility (or Generator)										S. P	y Ye 
18c. \$			Codes (i.e., codes for h	azardous waste tre	atment, disposal	, and recyc	cling systems)					<u> </u>	y Y€
18c. \$ 19. H 1.	Signature of Alternate Fac		Codes (i.e., codes for h	azardous waste tre	atment, disposal 3.	, and recyc	cling systems)		4.				y Y∈ 
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18c. \$ 19. H 1. 20. D Printe	Signature of Alternate Fac azardous Waste Report N 1141	lanagement Method or Operator: Certifica	2. ation of receipt of hazard		3. red by the manif		er Statistic	n 18a	1. Alais	20	Mo	nth Day	

# NON-HAZARDOUS WASTE MANIFEST

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	typewriter) nerator's US EPA I		0618419	1		- 121) 12
WASTE MANIFEST		CAT0800335	62	Manifest Document No.	NH6184191	2. Page 1
3. Generator's Name and Mailing Address Sfoo. L.P. Norwalk Station				Site Add		01
1100 Town and Country Post	÷				walk Boulevard	
Oranse CA 92868 4. Generator's Phone ( 7714) 560-4887				Norwalk, C	a 90651	and the state of the
5. Transporter 1 Company Name		Karina Hankins US EPA ID Number	NAMES OF COLUMN AND ADDRESS OF COLUMN	<u> </u>		
Clean Harbors Environmental Serv		MAD0393222	50	A. State Trans B. Transporter		1 5000
7. Transporter 2 Company Name	8	The second se	00	C. State Trans	And support and the state of th	2-3000
				D. Transporter		and the second second
9. Designated Facility Name and Site Address	1	0. US EPA ID Number		E. State Facilit	y's ID	
Clean Harbors Wilmington LLC 1737 East Denni Street		CAD04442	9835			
Wilmington, CA 90744	1			F. Facility's Ph		
11. WASTE DESCRIPTION				(310) 83 Intainers		
-			No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON D.O.T. REGULATED, (DEBRIS	)				Gounny	VVL/VOI.
			002	DW	125	D
b. 🐲					e = U	7
с.		n an charachta an				
d. *		з.,			e	_
Д. Э.						
G. Additional Descriptions for Materials Listed Above				H. Handling Co	des for Wastes Listed Above	
11a.CH1401785						
				-		
15. Special Handling Instructions and Additional Information			E	MERGENCY	' PHONE #: (800) 4	83-3718
15. Special Handling Instructions and Additional Information <b>11a. Rubber Hose</b> $1 \times 55 D \mu$	11				/ PHONE #: (800) 4 1: Sfpp, L.P. Norwal	
	11					
	n					
11a. Rubber Hose 1X55 Da			G	ENERATOR		
11a. Rubber Hose 1X55 Da		hipment are fully and accurately descr not subject to federal hazardous was	G	ENERATOR		
		hipment are fully and accurately descr not subject to federal hazardous was	G	ENERATOR		k Station
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**NON-HAZARDOUS WASTE** 

ł	NON-HAZARDOUS 1. Generator ID Number WASTE MANIFEST	2. Page 1 of			4. Waste Tra	-			
	5. Generator's Name and Mailing Address	01	Generator's Site Address	(if different that	an mailing addres	<del>12-100;</del> ss)	348KMNVV		
	SFPP-LP 1100 TOWN & COUNTF ORANGE, CA 92868 Generator's Phone: 714-560-4400-4823	RY RD	NORWAL 15306 NC NORWAL	IK TANK I IRWALK I	-ARM BLVD				
	6. Transporter 1 Company Name				U.S. EPA ID N	lumber			
	PROMINENT SYSTEMS, INC 7. Transporter 2 Company Name				U.S. EPA ID N	lumber			
					[ .				
	8. Designated Facility Name and Site Address PROMINENT SYSTE 13095 E. TEMPLE AV CITY OF INDUSTRY	MS, INC VENUE , CA 91746			U.S. EPA ID N	lumber			
	Facility's Phone: 626-858-1888		10. Conta	inora	<u> </u>				
	9. Waste Shipping Name and Description		No.	Type	11. Total Quantity	12. Unit Wt./Vol.			
GENERATOR -	1. NON HAZARDOUS SPENT CARBON		4	BA	4000	P			化化学 医分子的 化化化学 化化化学 化化化学 化化学 化化学 化化学 化化学 化化学 化化合金 化化合金
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	4. 13. Special Handling Instructions and Additional Information				-		San Tribusa Inconstant de Part Inconstant de Part I		
	PROFILE # PSP190017L 14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the cont marked and labeled/placarded, and are in all respects in proper condition for tra	tents of this consignment ar	e fully and accurately desc	rib a above by	/ the proper ship;	ping name,	and are classified	l, package	ci, .
	Generator's/Offeror's Printed/Typed Name		nature		iai regulationor		Month	Day	Year
Y	JAMICS D'ITE		Jun 10				10	03	18
I'T'L	15. International Shipments II Import to U.S.	Export from L	L8. Port of en	try/exit:					
	Transporter Signature (for exports only): 16. Transporter Acknowledgment of Receipt of Materials	/	Date leavi	ng U.S.:					
TEF	Transporter 1 Printed/Typed Name	Sia	nature				Month	Day	Year
ЧO НO	Win protance.			<u></u>	<del>-</del> .		10	C3,	18
TRANSPORTER	Transporter 2 Printed/Typed Name	Sig	nature				Month	Day	Year
F	17. Discrepancy								
	17a. Discrepancy Indication Space Quantity	Туре	Residue Manifest Reference N	lumbor	Partial Reje	ction		Fuli Rejecti	lon .
FACILITY	17b. Alternate Facility (or Generator) Facility's Phone:				U.S. EPA ID N	umber			
DESIGNATED FACILITY	17c. Signature of Alternate Facility (or Generator)	and the second	New York of the State of the st	्रामाः का श्रीकार्युमे विद्यतिमाः विद्	1	an an istantic harm	Month	Day	Year
DESIC	18. Designated Facility Owner or Operator: Certification of receipt of materials cove	and the manifest except	as notari in Itam 17a						1000000000000000000000000000000000000
	Printed/Typed Name		nature	$\leq$			Month	Day	Year
¥	Chand Wick						10	03	18
169	-BLS-C 5 11979 (Rev. 9/09)	,	- Com	DE	SIGNATE	DEAC	ILITY TO G		

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DESIGNATED FACILITY TO GENERATOR