



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

February 15, 2018

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 2017  
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 2017 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 15<sup>th</sup> day of February 2018.  
at 1:49 p.m.

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

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

Stephen T. Defibaugh (printed name)

Remediation Project Manager (title)



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

February 15, 2018

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

**Re: Effluent Monitoring Report**  
January through December 2017  
SFPP, L.P. Norwalk Pump Station  
15306 Norwalk Boulevard, Norwalk, California  
(NPDES No. CA0063509, CI No. 7497)

Attention: Information Technology Unit

This letter is to inform the Regional Water Quality Control Board (Water Board) that the annual report for the subject site required by the subject National Pollutant Discharge Elimination System (NPDES) permit Attachment E Table E-5, to be submitted on February 15, is included with the Fourth Quarter 2017 Effluent Monitoring Report. Based on a telephone conversation with Mr. Vladimir Carino of CH2M and Ms. Kristie Kao of the Water Board on January 22, 2018, a letter stating that the annual report is included in the Fourth Quarter 2017 Effluent Monitoring Report will meet the annual report requirement for 2017. This letter will also be uploaded to the Annual 2017 page in the California Integrated Water Quality System website for the SFPP, L.P. Norwalk Pump Station site. Furthermore, future annual reports can be included in the Fourth Quarter Effluent Monitoring Report without the requirement of this letter.

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 15<sup>th</sup> day of February 2018.  
at 1:45 p.m.

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

Stephen T. Defibaugh (printed name)

Remediation Project Manager (title)



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

February 15, 2018

**Subject:** Effluent Monitoring Report, October 1 to December 31, 2017 (Fourth Quarter 2017)  
SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California  
(NPDES No. CA0063509, CI No. 7497, Order No. R4-2016-0309)

Dear Mr. Defibaugh,

This report has been prepared by CH2M HILL Engineers, Inc. (CH2M), on behalf of Kinder Morgan Energy Partners, L.P. (Kinder Morgan), to summarize National Pollutant Discharge Elimination System (NPDES) monitoring related to the discharge of treated groundwater from 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, 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, 2017. Kinder Morgan performed operations, maintenance, and monitoring tasks on the product recovery and GWE systems. Kinder Morgan retained CH2M to prepare this report based on the NPDES monitoring performed by Kinder Morgan.

## Remediation Systems

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

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

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

- South-Central Area
  - 20 TFE wells
  - 24 onsite and 6 offsite SVE wells (most collocated with TFE wells)
  - 2 horizontal SVE wells
  - 1 horizontal biosparge well
- Southeastern Area (24-inch Block Valve Area)
  - 4 TFE wells (GMW-O-15, GMW-O-18, GMW-36, and GMW-SF-9)
  - 3 SVE wells (collocated with TFE wells)
  - 1 GWE well (GMW-SF-10)

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

## SVE System

SVE is performed using a blower to remove soil vapors from the south-central and southeastern areas. The extracted vapors are conveyed to a knock-out tank that separates entrained moisture from the soil vapors. Accumulated moisture in the knock-out tank is treated by the main groundwater treatment system (GWTS) described below. The soil vapors are then treated in a regenerative thermal oxidizer (RTO) where VOCs are converted to carbon dioxide and water prior to being discharged to the atmosphere. Operation of the GWTS and SVE system is conducted in accordance with Permits to Operate (Permit Numbers [Nos.] G46188 A/N 578779 and G46187 A/N 578777, respectively; ID 110835) issued by the South Coast Air Quality Management District.

## Groundwater Treatment System

The main GWTS handles free product and groundwater recovered from the south-central and southeastern parts of the site. Free product and groundwater recovered by pneumatically operated, top-loading total fluid pumps and bottom-loading groundwater pumps are piped to a dissolved air floatation oil-water separator (DAF/OWS). Free product, if any, from the DAF/OWS is collected in a storage tank and recycled at an offsite location. Water from the OWS is treated using liquid-phase granular activated carbon (LGAC). Treated water is routed through an onsite 3,000-gallon equalization tank. Two fluidized bed bioreactors installed downstream of the equalization tank treat fuel oxygenates such as tertiary butyl alcohol and methyl tertiary butyl ether. The treated groundwater then passes through polishing LGAC units prior to discharge to a storm drain that leads to Coyote Creek. Discharge to Coyote Creek is performed in accordance with the NPDES permit (Permit No. CA0063509; Order No. R4-2016-0309), which was adopted on September 7, 2016, and became effective on November 1, 2016.

## Horizontal Biosparge System

Kinder Morgan completed installation of a horizontal biosparge system in the south-central area of the site in 2014. The biosparge well is constructed of 4-inch-diameter, Schedule 80 polyvinyl chloride (PVC) casing and screen completed to a vertical depth of approximately 45 feet below ground surface. The lateral distance of the screen interval is 600 feet; the screen interval is situated below the central portion of the south-central area hydrocarbon plume. Further details regarding the construction of the biosparge well are documented in the report titled, *Horizontal Biosparge Well and Soil Vapor Monitoring*

*Probe Completion Report, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California (CH2M, 2015).*

Biosparging involves introducing air into the groundwater in situ to enhance biodegradation of VOCs present in the groundwater. The biosparge compressor delivers ambient air to the biosparge well at a maximum design rate of approximately 500 standard cubic feet per minute. Vapors generated by the biosparge well are captured by the SVE system. The SVE system has an interlock that ensures the biosparge system cannot operate unless the SVE system is operating. Operation of the SVE system reduces the potential for offgassing of VOCs during biosparge operations. Pilot testing of the biosparge system commenced in early January 2016, and continued through October 2016. Soil vapor data collected as part of the pilot testing have been submitted to the Regional Water Quality Control Board, Los Angeles Region (Water Board) and Restoration Advisory Board (RAB) under separate covers. A comprehensive pilot test evaluation report that incorporates soil vapor and groundwater data was submitted to the Water Board in August 2017 (CH2M, 2017b). The biosparge system was restarted on June 27, 2017, after installation and startup of the new RTO system.

Based on the results of the pilot study, 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 below ground surface. The lateral distance of the screen interval is 240 feet centered below the southeastern area hydrocarbon plume. A construction completion report documenting construction activities and specifications will be submitted to the Water Board during the first quarter of 2018. A second biosparge compressor will be installed in 2018 to deliver ambient air to the new biosparge well, which will be appropriately sized to allow for future system expansion.

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

## Summary of Quarterly GWTS Operations

A total of 812,187 gallons of groundwater was extracted from the south-central and southeastern areas, treated and discharged to Coyote Creek during the fourth quarter 2017. Wells that were in operation included MW-SF-3, MW-SF-15, GMW-9, GMW-10, GMW-O-11, GMW-O-20, and GMW-O-23 in the south-central area, and GMW-O-15, GMW-O-18, GMW-36, and GMW-SF-9 in the southeastern area. No groundwater was extracted from the WSB area during this period. Table 1 summarizes the average daily flow rate during the reporting period. The GWTS operated throughout the quarter, with the following exceptions:

- The GWTS was off from October 1 through October 9, 2017, to facilitate gauging and sampling activities for the second semiannual groundwater monitoring event. The GWTS was restarted on October 9, 2017.

No free product accumulated in the product holding tank of the GWTS during the fourth quarter 2017. In addition, hand bailing of free product (from wells not equipped for TFE) was not performed during this reporting period.

## Routine Effluent and Receiving Water Monitoring

During the fourth quarter 2017, 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 analyses. Asset Laboratories also sent samples to BC Laboratories, Inc. in Bakersfield, California; LA Testing Laboratories in Pasadena, California; and Pace Analytical in Minneapolis, Minnesota. Pacific EcoRisk, Asset Laboratories, BC Laboratories, LA Testing, and Pace Analytical are certified by the National Environmental Laboratory Accreditation Program and the California Department of Public Health Environmental Laboratory Accreditation Program. The samples were analyzed in accordance with current U.S. Environmental Protection Agency (EPA) guidelines or as specified in the WDRs for the site. The laboratory reports are included in Attachment A.

The analysis of cyanide in samples collected from RSW-001 and RSW-002 (Laboratory Method E335.4) was performed past the cyanide holding time criterion of 14 days (samples were collected on November 7, 2017 and were analyzed on February 14, 2018). Data validation criteria sometimes designate rejecting non-detect data more than two times past the analytical holding time. However, because data are available to show 2017 concentrations are within historical ranges (non-detect from 2010 to 2015 and a low-level detection of 0.002 mg/L in 2016), the 2017 data are qualified as “estimated with a low bias” and flagged “UJ”, which indicates an estimated non-detect value. A data quality assurance/quality control evaluation conducted by CH2M is included in Attachment B.

The May 2017 chronic toxicity event used an alga (giant kelp, *Macrocystis pyrifera*), an invertebrate (purple urchin, *Strongylocentrotus purpuratus*), and a fish (inland silverside, *Menidia beryllina*) to evaluate species sensitivity and inform selection of the most sensitive test organism for future compliance toxicity testing as required in in the NPDES permit Attachment E Section V.4. Inland silverside was used in lieu of topsmelt (*Atherinops affinis*) under this permit because of intermittent health issues of the topsmelt species from Aquatic Bio Systems of Fort Collins, Colorado, currently the only supplier of topsmelt for toxicity testing. A request to change the species for the toxicity test was submitted to the Water Board on March 22, 2017 (CH2M, 2017a). The Water Board approved the request in a letter dated April 14, 2017 (Water Board, 2017). The inland silverside was determined to be the most sensitive species and, therefore, was the only species used during the November 2017 chronic toxicity tests.

## Summary of Compliance Results

### Monthly, Quarterly, and Annual Sampling

Analytical results for the October, November, and December 2017 sampling events at the effluent are summarized in Table 2. The results were compared with the maximum daily and average monthly discharge limits under Order No. R4-2016-0309.

The maximum daily flow in Coyote Creek was collected by the Los Angeles County Department of Public Works at their Coyote Creek Gauge Station below Spring Street (F-354-R). The flow is reported in Table 3. Based on these data, it has been determined that all sampling events conducted during the fourth quarter 2017 occurred during dry weather conditions, which is flow less than 156 cubic feet per second.

Analytical results for remaining priority pollutants at the effluent are summarized in Table 4. Results for priority pollutants at sample point RSW-001 and RSW-002 are summarized in Table 5 and Table 6, respectively. The tetrachlorodibenzo-p-dioxins (TCDD) equivalents for the effluent and the receiving water samples (RSW-001 and RSW-002) are summarized in Table 7.

On October 12, 2017, copper in the effluent sample (210 micrograms per liter [ $\mu\text{g/L}$ ]) exceeded the dry weather monthly average effluent limitation of  $9.7 \mu\text{g/L}$  and daily maximum effluent limitation of  $32 \mu\text{g/L}$ . On October 12, 2017, zinc ( $150 \mu\text{g/L}$ ) also exceeded the dry weather monthly average effluent limitation of  $64 \mu\text{g/L}$  but was less than the daily maximum effluent limitation ( $220 \mu\text{g/L}$ ). There are no receiving water discharge limitations under the WDRs.

Ms. Kristie Kao of the Water Board was notified regarding the potential exceedance for copper and zinc on October 17, 2017, which is within 24 hours after receipt of preliminary results of the October 12, 2017 sampling event. Four additional samples were collected on October 17, 20, 25, and 31, 2017, and analyzed for copper and zinc, which is consistent with Section VIII, Compliance Determination, of the NPDES permit. Copper was detected in one sample ( $8.4 \mu\text{g/L}$ ), a concentration below the monthly average limit, but was not detected ( $\text{ND} < 0.26 \mu\text{g/L}$ ) in the other three follow-up samples collected. Zinc was detected in two samples ( $7.6 \mu\text{g/L}$  and  $0.28 \text{ J } \mu\text{g/L}$  [J indicates an estimated value]) at concentrations below the monthly average limit but was not detected ( $\text{ND} < 0.27 \mu\text{g/L}$ ) in the two remaining samples collected.

Section VIII, Compliance Determination, of the NPDES permit states:

*“When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:*

- 1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.*
- 2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.”*

Therefore, the average monthly concentrations are  $\text{ND} < 0.26 \mu\text{g/L}$  for copper and  $0.28 \text{ J}$  for zinc during the October 2017 reporting period, which are below the dry weather average monthly permit limit of  $9.7 \mu\text{g/L}$  and  $64 \mu\text{g/L}$ , respectively.

There may be two possible causes for the elevated copper and zinc in the effluent sample collected on October 12, 2017, which are:

1. Extraction pump maintenance on October 12, 2017. Solids on the pump (soil, scale, etc.) were rinsed off into the GWTS sumps and entered the treatment system.
2. Trace metals from the galvanized steel piping on the polishing LGAC units.

Corrective action to remedy the current non-compliance and prevent recurrence include:

1. The GWTS sumps were drained and cleaned.
2. Future solids from the extraction pump maintenance will be containerized instead of draining into the GWTS sumps.
3. The galvanized steel parts on the polishing LGAC units were replaced with stainless steel parts.

In addition, during production of this report, it was discovered that Asset Laboratories did not analyze the annual receiving water samples (RSW-001 and RSW-002, collected from Coyote Creek on November 7, 2017) for cyanide. Ms. Kristie Kao was informed of the omission of the cyanide analysis in an email on February 7, 2017. As discussed above, the analysis of cyanide in those samples was performed past the holding time criterion, thus resulting in an estimated non-detect value with a low bias. To remedy the omission and to prevent a recurrence, two additional levels of internal data review will be implemented to confirm that there is a three-way match between the permit, sample chains-of-custody, and the laboratory report. Also, the laboratory has been apprised of the omission and has implemented an additional internal check to verify that all requested analyses are completed.

## Toxicity Sampling

Effluent samples from station EFF-001 and RSW-002 were collected for chronic toxicity testing on November 6, 8, and 10, 2017. These samples were used for the chronic toxicity tests using inland silverside as the test species. All tests were performed according to EPA (1995, 2002) methods in the receiving water and 100 percent effluent samples. Results were evaluated with EPA's (2010) Test of Significant Toxicity to determine a "Pass" or "Fail" and percent effect.

The inland silversides were not significantly affected by the effluent and the receiving water (that is, the results were "Pass") and demonstrated effluent compliance for toxicity (Table 8). Each of the toxicity tests met all test 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 quarter 2017 are included in Attachment A.

## Waste Hauling

On October 9, 2017, approximately 300 pounds of non-RCRA hazardous waste (spent bag filters), 500 pounds non-Department of Transportation (D.O.T.) regulated solid waste soil (treatment system sludge), and 200 pounds of non-D.O.T. regulated waste (spent pipeline filters, rags, and gloves) were removed from the site by Clean Harbors Environmental Service Inc. of 1737 E Denni Street, Wilmington, California 90744. The waste was transported to Clean Harbors Wilmington LLC. at 1737 E Denni Street, Wilmington, California 90744.

On November 2, 2017, approximately 540 gallons of non-hazardous liquid waste with trace arsenic and hydrocarbons (rinse water from the GWTS sumps) were removed from the site by Patriot Environmental Services of 508 East E. Street, Unit A, Wilmington, California 90744. The waste was transported to Crosby & Overton at 1630 West 17th Street, Long Beach, California 90813.

On November 15, 16, 17, and 21, 2017, approximately 21,100 gallons of non-hazardous waste liquid from the southeastern horizontal well installation, well development, and decontamination were removed from the site by Patriot Environmental Services of 508 East E. Street, Unit A, Wilmington, California 90744. The waste was transported to Crosby & Overton at 1630 West 17th Street, Long Beach, California 90813.

On December 19, 2017, approximately 350 pounds of non-RCRA hazardous waste (spent bag filters), 60 pounds non-D.O.T. regulated solid waste soil (treatment system sludge), and 180 pounds of non-D.O.T. regulated waste (spent pipeline filters, rags, and gloves) were removed from the site by Clean Harbors Environmental Service Inc. of 1737 E Denni Street, Wilmington, California 90744. The waste was transported to Clean Harbors Wilmington LLC. at 1737 E Denni Street, Wilmington, California 90744.

On December 22, 2017, approximately 8 cubic yards of non-hazardous waste solid soil cuttings from the southeastern horizontal well installation was removed from the site by Patriot Environmental Services of



508 East E. Street, Unit A, Wilmington, California 90744. The waste was transported to Soil Safe of California Inc. at 12328 Hibiscus Avenue, Adelanto, California 92301.

Copies of the waste manifests are included in Attachment C.

## 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; added removal of block valves in the south-central area, added installation of a new RTO, and added the installation of a second biosparge well (BS-02) in the southeastern area

The above changes are now reflected in the SWPPP/BMPP and SCP documents, which will be submitted to the Water Board in February 2018. A copy of these documents will be maintained onsite for reference.

Should you require any further information, please contact Vladimir Carino at (714) 435-6017.

Regards,  
CH2M HILL Engineers, Inc.



Vladimir Carino  
Project Engineer

### Attachments:

#### References

Table 1 – Effluent Flow Rate Measurements, Fourth Quarter 2017

Table 2 – NPDES Effluent Monitoring, Fourth Quarter 2017

Table 3 – Maximum Daily Flow in Coyote Creek, Fourth Quarter 2017

Table 4 – NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2017

Table 5 – NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2017

Table 6 – NPDES Receiving Water Monitoring, RSW-002 (50 feet downstream), Fourth Quarter 2017

Table 7 – NPDES TCDD Equivalent Calculation, Fourth Quarter 2017

Table 8 – NPDES Effluent and Receiving Water Acute and Chronic Toxicity Monitoring,  
Fourth Quarter 2017

Figure 1 – Site Location Map

Figure 2 – Remediation System Layout

Attachment A – Laboratory Analytical Reports and Chain-of-Custody Documents

Attachment B – Data Quality Assurance/Quality Control

Attachment C – Waste Manifests

# References

- CH2M HILL (CH2M). 2015. *Horizontal Biosparge Well and Soil Vapor Monitoring Probe Completion Report, SFPP Norwalk Pump Station, 15306 Norwalk Boulevard, Norwalk, California*. February 18.
- CH2M HILL (CH2M). 2017. Letter from Dan Jablonski and Cameron Irvine to Ching-Yin To of the Regional Water Quality Control Board. "Request for Toxicity Testing Species Substitution, National Pollutant Discharge Elimination System Permit No. CA0063509, Order No. R4-2016-0309 for the SFPP Norwalk Pump Station, Norwalk, California." March 22.
- CH2M HILL (CH2M). 2017. *Evaluation Report for the South-Central Area Horizontal Biosparge Pilot Test; SFPP Norwalk Pump Station, Norwalk, California*. August.
- Regional Water Quality Control Board (Water Board). 2017. Letter from Samuel Unger to Stephen Defibaugh of Kinder Morgan. "Approval of Using an Alternative Species for Chronic Toxicity Testing – SFPP, L.P., SFPP Norwalk Pump Station, Norwalk, California (NPDES No. CA0063509, CI No. 7497). April 14.
- U.S. Environmental Protection Agency (EPA). 1995. G. Chapman, D. Denton, and J. Lazorchak, eds. *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*. Washington, DC. EPA/600/R-95/136.
- U.S. Environmental Protection Agency (EPA). 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*. Third Edition. Office of Water. EPA-821-R-02-014.
- U.S. Environmental Protection Agency (EPA). 2010. *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*. June.

Tables

**Table 1. Effluent Flow Rate Measurements, Fourth Quarter 2017***SFPP Norwalk Pump Station, Norwalk, California*

Date	Average Flow Rate (gpd) (Maximum Daily Discharge Limit = 150,000 gpd <sup>a</sup> )
10/01/17	0
10/02/17	0
10/03/17	0
10/04/17	0
10/05/17	0
10/06/17	0
10/07/17	0
10/08/17	0
10/09/17	16,767
10/10/17	17,526
10/11/17	12,683
10/12/17	11,291
10/13/17	16,283
10/14/17	18,383
10/15/17	10,031
10/16/17	3,313
10/17/17	17,550
10/18/17	989
10/19/17	5,051
10/20/17	6,874
10/21/17	5,624
10/22/17	6,666
10/23/17	9,481
10/24/17	5,384
10/25/17	8,954
10/26/17	6,794
10/27/17	7,006
10/28/17	7,237
10/29/17	7,496
10/30/17	7,266
10/31/17	7,413
11/01/17	7,370
11/02/17	10,338
11/03/17	14,407
11/04/17	14,148
11/05/17	13,132
11/06/17	12,663
11/07/17	11,576
11/08/17	14,444
11/09/17	11,260
11/10/17	8,796
11/11/17	8,924
11/12/17	8,576
11/13/17	8,840
11/14/17	9,842
11/15/17	10,626
11/16/17	10,192
11/17/17	10,572
11/18/17	9,948
11/19/17	10,020
11/20/17	10,000
11/21/17	12,152
11/22/17	14,096
11/23/17	15,678
11/24/17	15,422
11/25/17	10,102
11/26/17	2,226

**Table 1. Effluent Flow Rate Measurements, Fourth Quarter 2017**

*SFPP Norwalk Pump Station, Norwalk, California*

Date	Average Flow Rate (gpd) (Maximum Daily Discharge Limit = 150,000 gpd <sup>a</sup> )
11/27/17	3,092
11/28/17	9,440
11/29/17	11,602
11/30/17	11,186
12/01/17	10,892
12/02/17	10,232
12/03/17	9,872
12/04/17	10,054
12/05/17	9,764
12/06/17	9,298
12/07/17	8,996
12/08/17	9,500
12/09/17	9,010
12/10/17	9,350
12/11/17	9,214
12/12/17	8,986
12/13/17	6,088
12/14/17	5,680
12/15/17	5,472
12/16/17	6,216
12/17/17	5,276
12/18/17	5,994
12/19/17	8,186
12/20/17	10,878
12/21/17	10,850
12/22/17	9,752
12/23/17	10,108
12/24/17	9,664
12/25/17	9,560
12/26/17	9,016
12/27/17	9,556
12/28/17	9,454
12/29/17	9,402
12/30/17	9,568
12/31/17	9,566

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 2017**

*SFPF Norwalk Pump Station, Norwalk, California*

Analyte	Sampling Frequency	Analytical Method	Units	MDL <sup>c</sup>	RL <sup>c</sup>	ML <sup>a</sup>	10/12/2017	10/17/2017	10/20/2017	10/25/2017	10/31/2017	11/7/2017	12/15/2017	Discharge Limits <sup>b</sup>	
														Monthly Average	Daily Maximum
Flow	Daily	--	gpd	--	--	--	11,291	17,550	6,874	8,954	7,413	11,576	5,472	--	150,000
TPH as gas (C4-C12)	Monthly	EPA 8015B	µg/L	16	50	NE	<16	--	--	--	--	<16	<16	--	--
TPH as Diesel (C13-C22)	Monthly	EPA 8015B	µg/L	16	26	NE	<16	--	--	--	--	<16	<15	--	--
TPH as Oil (C23+)	Monthly	EPA 8015B	µg/L	14	26	NE	<16	--	--	--	--	<14	<14	--	--
Total TPH	Monthly	EPA 8015B	µg/L	16	50	NE	16 J	--	--	--	--	<16	<16	--	100
Total TPH	Monthly	Calculated	lb/day	--	--	--	0.001507	--	--	--	--	0.000772	0.000365	--	0.13
Benzene	Monthly	EPA 8260B	µg/L	0.34	1	2.0	<0.14	--	--	--	--	<0.14	<0.34	--	--
1,1-Dichloroethane	Monthly	EPA 8260B	µg/L	0.45	0.5	1.0	<0.13	--	--	--	--	<0.13	<0.45	--	--
1,2-Dichloroethane	Monthly	EPA 8260B	µg/L	0.29	0.5	2.0	<0.13	--	--	--	--	<0.13	<0.29	--	--
Ethylbenzene	Monthly	EPA 8260B	µg/L	0.31	1.0	2.0	<0.14	--	--	--	--	<0.14	<0.31	--	--
Phenol	Monthly	EPA 8270C	µg/L	0.49	2.0	1	<0.33	--	--	--	--	<0.49 J	<0.96	--	--
Toluene	Monthly	EPA 8260B	µg/L	0.46	2.0	2.0	<0.14	--	--	--	--	<0.14	<0.46	--	--
Methyl tertiary-butyl ether	Monthly	EPA 8260B	µg/L	0.34	1.0	NE	<0.13	--	--	--	--	<0.13	<0.34	--	--
Tertiary butyl alcohol	Monthly	EPA 8260B	µg/L	2.4	5.0	NE	<1.8	--	--	--	--	<1.8	<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) <sup>d</sup>	Monthly	EPA 200.8	µg/L	1.3	2.5	0.5	210	<0.26 J	8.4	<0.26	<0.26 J	<0.26	<0.26	9.7	32
Copper (total recoverable) (dry weather) <sup>d</sup>	Monthly	Calculated	lb/day	--	--	--	0.019775	0.000019	0.00048	0.000097	0.000080	0.000013	0.000006	0.012	0.04
Copper (total recoverable) (wet weather) <sup>d</sup>	Monthly	EPA 200.8	µg/L	1.3	2.5	0.5	210	<0.26 J	8.4	<0.26	<0.26 J	<0.26	<0.26	8.3	27
Copper (total recoverable) (wet weather) <sup>d</sup>	Monthly	Calculated	lb/day	--	--	--	0.019775	0.000019	0.00048	0.000097	0.000080	0.000013	0.000006	0.010	0.034
Lead (total recoverable) (dry weather) <sup>d</sup>	Monthly	EPA 200.8	µg/L	0.053	0.5	0.5	11	--	--	--	--	<0.053	<0.037	33	106
Lead (total recoverable) (dry weather) <sup>d</sup>	Monthly	Calculated	lb/day	--	--	--	0.001036	--	--	--	--	0.000003	0.000001	0.041	0.13
Mercury (total recoverable)	Monthly	EPA 245.1	µg/L	0.018	0.1	0.2	<0.018	--	--	--	--	<0.045	<0.018	0.051	0.10
Mercury (total recoverable)	Monthly	Calculated	lb/day	--	--	--	0.000001	--	--	--	--	0.000002	0	6.4E-05	1.3E-04
Zinc (total recoverable) (dry weather) <sup>d</sup>	Monthly	EPA 200.8	µg/L	1.3	5.0	1.0	150	<0.27	7.6	0.28 J	<0.27	0.33 J	<0.27	64	220
Zinc (total recoverable) (dry weather) <sup>d</sup>	Monthly	Calculated	lb/day	--	--	--	0.014125	0.000019	0.00044	0.000021	0.000083	0.000032	0.000006	0.080	0.28
Zinc (total recoverable) (wet weather) <sup>d</sup>	Monthly	EPA 200.8	µg/L	1.3	5.0	1.0	150	<0.27	7.6	0.28 J	<0.27	0.33 J	<0.27	46	158
Zinc (total recoverable) (wet weather) <sup>d</sup>	Monthly	Calculated	lb/day	--	--	--	0.014125	0.000019	0.00044	0.000021	0.000083	0.000032	0.000006	0.058	0.2
BOD	Quarterly	SM 5210B	mg/L	3	3.0	NE	--	--	--	--	--	<3 J	--	20	30
BOD	Quarterly	Calculated	lb/day	--	--	--	--	--	--	--	--	0.144816	--	25	38
Total Suspended Solids	Quarterly	SM 2540D	mg/L	10	10.00	NE	--	--	--	--	--	<10	--	50	75
Total Suspended Solids	Quarterly	Calculated	lb/day	--	--	--	--	--	--	--	--	0.482719	--	63	94
pH	Quarterly	--	s.u.	--	--	NE	--	--	--	--	--	7.7	--	--	6.5/8.5
Oil and Grease	Quarterly	EPA 1664A	mg/L	0.71	4.30	NE	--	--	--	--	--	<0.71	--	10	15
Oil and Grease	Quarterly	Calculated	lb/day	--	--	--	--	--	--	--	--	0.034273	--	13	19
Ammonia Nitrogen (as N)	Quarterly	EPA 350.1	mg/L	0.025	0.13	NE	--	--	--	--	--	<0.025 J	--	--	--
Settleable Solids	Quarterly	SM 2540F	mL/hr	0.096	0.10	NE	--	--	--	--	--	<0.096	--	0.1	0.3
Temperature	Quarterly	Temperature	°F	--	--	NE	--	--	--	--	--	70	--	--	86
Turbidity	Quarterly	SM 2130B	NTU	0.1	0.10	NE	--	--	--	--	--	0.28	--	50	75
Salinity	2x/year	SM 2520B	--	--	--	NE	--	--	--	--	--	1.4	--	--	--
Chronic Toxicity (see Table 4)	2x/year	--	--	--	--	NE	--	--	--	--	--	0	--	Pass	Pass and % Effect <50
Di-isopropyl Ether	Annually	EPA 8260B	µg/L	0.18	1.00	NE	--	--	--	--	--	<0.18	--	--	--
Methyl ethyl ketone	Annually	EPA 8260B	µg/L	1.9	10.00	NE	--	--	--	--	--	<1.9	--	--	--
Methylene Blue Active Substances	Annually	SM 5540C	mg/L	0.015	0.10	NE	--	--	--	--	--	0.032 J	--	--	--
Nitrate + Nitrite as N	Annually	EPA 300.0	mg/L	0.015	0.10	NE	--	--	--	--	--	1.3	--	--	--
Sulfides	Annually	SM 4500 SD	mg/L	0.05	0.10	NE	--	--	--	--	--	<0.05 J	--	--	--
Tert-amyl-methyl Ether	Annually	EPA 8260B	µg/L	0.12	1.00	NE	--	--	--	--	--	<0.12	--	--	--
TCDD Equivalents	Annually	EPA 8290	pg/L	--	--	NE	--	--	--	--	--	4.16	--	--	--
Other Priority Pollutants (not included)	Annually	--	--	--	--	--	--	--	--	--	--	See Table 4	--	--	--

**Table 2. NPDES Effluent Monitoring, Fourth Quarter 2017**

*SFPD Norwalk Pump Station, Norwalk, California*

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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.

<sup>d</sup> Dry weather condition is defined as a maximum daily flow below 156 cfs as measured at the Los Angeles County Department of Public Works flow gauge station F354-R. The maximum daily flows in Coyote Creek, as measured at Coyote Creek Gauge Station below Spring Street (F354-R), during the July, August, and September 2017 sampling events were 12 cfs, 12 cfs, and 5 cfs, respectively. Therefore, the July, August, and September 2017 results will be compared to the dry weather discharge limits.

-- = not measured or not analyzed

< = not detected above the MDL

° F = degrees Fahrenheit

µg/L = micrograms per liter

BOD = biological oxygen demand

cfs = cubic feet per second

gpd = gallons per day

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

lb/day = pounds per day

MDL = laboratory method detection limit

mg/L = milligrams per liter

ML = minimum level. See note a.

mL/L/hr = milliliters per liter per hour

NE = not established

NPDES = National Pollutant Discharge Elimination System

NTU = nephelometric turbidity unit(s)

pg/L = picograms per liter

RL = reporting limit

s.u. = standard units

TPH = total petroleum hydrocarbons

**Table 3. Maximum Daily Flow in Coyote Creek, Fourth Quarter 2017***SFPP Norwalk Pump Station, Norwalk, California*

<b>Date</b>	<b>Maximum Daily Flow Rate (cfs)<sup>a</sup></b>	<b>Comments</b>
10/01/17	6.6	
10/02/17	23.6	
10/03/17	40.4	
10/04/17	20.5	
10/05/17	16.5	
10/06/17	40.4	
10/07/17	16.5	
10/08/17	22.0	
10/09/17	38.7	
10/10/17	38.7	
10/11/17	37.0	
10/12/17	23.6	October 2017 sampling conducted
10/13/17	22.0	
10/14/17	14.1	
10/15/17	14.1	
10/16/17	11.2	
10/17/17	12.0	October 2017 sampling conducted
10/18/17	16.5	
10/19/17	15.3	
10/20/17	16.5	October 2017 sampling conducted
10/21/17	15.3	
10/22/17	12.0	
10/23/17	11.2	
10/24/17	11.2	
10/25/17	12.0	October 2017 sampling conducted
10/26/17	8.4	
10/27/17	7.1	
10/28/17	9.7	
10/29/17	9.0	
10/30/17	7.7	
10/31/17	4.8	October 2017 sampling conducted
11/01/17	4.8	
11/02/17	4.8	
11/03/17	6.0	
11/04/17	4.8	
11/05/17	6.6	
11/06/17	5.2	
11/07/17	4.8	November 2017 sampling conducted
11/08/17	4.2	
11/09/17	4.5	
11/10/17	5.2	
11/11/17	16.5	
11/12/17	4.2	
11/13/17	4.5	
11/14/17	5.2	
11/15/17	5.2	
11/16/17	3.6	
11/17/17	3.9	
11/18/17	3.9	
11/19/17	3.6	
11/20/17	4.2	
11/21/17	4.2	
11/22/17	5.5	
11/23/17	3.6	
11/24/17	4.8	



**Table 3. Maximum Daily Flow in Coyote Creek, Fourth Quarter 2017***SFPP Norwalk Pump Station, Norwalk, California*

<b>Date</b>	<b>Maximum Daily Flow Rate (cfs)<sup>a</sup></b>	<b>Comments</b>
11/25/17	4.5	
11/26/17	4.2	
11/27/17	7.7	
11/28/17	4.2	
11/29/17	7.1	
11/30/17	3.6	
12/01/17	3.6	
12/02/17	4.5	
12/03/17	4.2	
12/04/17	10.4	
12/05/17	5.2	
12/06/17	3.6	
12/07/17	4.5	
12/08/17	3.6	
12/09/17	7.1	
12/10/17	4.5	
12/11/17	8.4	
12/12/17	8.4	
12/13/17	5.2	
12/14/17	4.5	
12/15/17	6.0	December 2017 sampling conducted
12/16/17	4.2	
12/17/17	4.5	
12/18/17	6.0	
12/19/17	6.0	
12/20/17	41.9	
12/21/17	41.9	
12/22/17	4.5	
12/23/17	4.8	
12/24/17	4.5	
12/25/17	3.6	
12/26/17	3.9	
12/27/17	6.6	
12/28/17	6.0	
12/29/17	16.5	
12/30/17	4.5	
12/31/17	3.9	

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 2017**

*SFPF Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Antimony	EPA 200.8	µg/L	0.026	0.5	<b>0.14 J</b>	<b>0.50</b>
Arsenic	EPA 200.8	µg/L	0.016	0.1	<b>21</b>	<b>2</b>
Beryllium	EPA 200.8	µg/L	0.026	0.5	<0.026	<b>0.50</b>
Cadmium	EPA 200.8	µg/L	0.0098	0.25	<0.0098	<b>0.25</b>
Chromium (III) (Total Cr - Cr VI)	CALCCR3	µg/L	0.086	0.5	<0.086	<b>NA</b>
Chromium VI	EPA 7199	µg/L	0.033	0.2	<b>&lt;0.033</b>	<b>0.5</b>
Selenium	EPA 200.8	µg/L	0.07	0.5	<b>0.15 J</b>	<b>2.0</b>
Thallium	EPA 200.8	µg/L	0.034	0.5	<b>0.09 J</b>	<b>1.0</b>
Nickel	EPA 200.8	µg/L	0.038	1	<0.038	<b>1</b>
Silver	EPA 200.8	µg/L	0.023	0.25	<0.023	<b>0.25</b>
Aroclor-1016	EPA 8082	µg/L	0.048	0.2	<0.048	<b>0.5</b>
Aroclor-1221	EPA 8082	µg/L	0.077	0.2	<0.077	<b>0.5</b>
Aroclor-1232	EPA 8082	µg/L	0.12	0.2	<0.12	<b>0.5</b>
Aroclor-1242	EPA 8082	µg/L	0.063	0.2	<0.063	<b>0.5</b>
Aroclor-1248	EPA 8082	µg/L	0.18	0.2	<0.18	<b>0.5</b>
Aroclor-1254	EPA 8082	µg/L	0.066	0.2	<0.066	<b>0.5</b>
Aroclor-1260	EPA 8082	µg/L	0.094	0.2	<0.094	<b>0.5</b>
4,4'-DDD	EPA 8081A	µg/L	0.0025	0.005	<0.0025 J	<b>0.05</b>
4,4'-DDE	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.05</b>
4,4'-DDT	EPA 8081A	µg/L	0.0017	0.005	<0.0017 J	<b>0.01</b>
Aldrin	EPA 8081A	µg/L	0.0019	0.005	<0.0019 J	<b>0.005</b>
Alpha Endosulfan	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.02</b>
Alpha-BHC	EPA 8081A	µg/L	0.0023	0.005	<0.0023 J	<b>0.01</b>
Beta Endosulfan	EPA 8081A	µg/L	0.003	0.005	<0.003 J	<b>0.01</b>
Beta-BHC	EPA 8081A	µg/L	0.0025	0.005	<0.0025 J	<b>0.005</b>
Chlordane	EPA 8081A	µg/L	0.15	0.5	<0.15 J	<b>0.1</b>
Delta-BHC	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.005</b>
Dieldrin	EPA 8081A	µg/L	0.0023	0.005	<0.0023 J	<b>0.01</b>
Endosulfan Sulfate	EPA 8081A	µg/L	0.0043	0.005	<0.0043 J	<b>0.05</b>
Endrin	EPA 8081A	µg/L	0.0036	0.005	<0.0036 J	<b>0.01</b>
Endrin Aldehyde	EPA 8081A	µg/L	0.0039	0.010	<0.0039 J	<b>0.01</b>
Gamma-BHC	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.02</b>
Heptachlor	EPA 8081A	µg/L	0.002	0.005	<0.002 J	<b>0.01</b>
Heptachlor Epoxide	EPA 8081A	µg/L	0.0042	0.005	<0.0042 J	<b>0.01</b>
Toxaphene	EPA 8081A	µg/L	0.2	2	<0.2 J	<b>0.5</b>
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.15	1	<0.15	<b>2</b>
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.14	1	<0.14	<b>1</b>
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.15	1	<0.15	<b>2</b>
1,1-Dichloroethene	EPA 8260B	µg/L	0.15	1	<0.15	<b>2</b>
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.13	1	<0.13	<b>5</b>
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.14	1	<0.14	<b>2</b>
1,2-Dichloropropane	EPA 8260B	µg/L	0.14	1	<0.14	<b>1</b>
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.11	1	<0.11	<b>1</b>
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.13	1	<0.13	<b>1</b>
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	2.4	10	<2.4	<b>1</b>
Acrolein	EPA 8260B	µg/L	1.9	20	<1.9	<b>5</b>
Acrylonitrile	EPA 8260B	µg/L	2.5	20	<2.5	<b>2</b>
Bromodichloromethane	EPA 8260B	µg/L	0.1	1	<0.1	<b>2</b>
Bromoform	EPA 8260B	µg/L	0.34	1	<0.34	<b>2</b>
Bromomethane	EPA 8260B	µg/L	0.12	1	<0.12	<b>2</b>
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.14	1	<0.14	<b>2</b>
Carbon Tetrachloride	EPA 8260B	µg/L	0.13	0.5	<0.13	<b>2</b>
Chlorobenzene	EPA 8260B	µg/L	0.13	1	<0.13	<b>2</b>
Chloroethane	EPA 8260B	µg/L	0.19	1	<0.19	<b>2</b>
Chloroform	EPA 8260B	µg/L	0.18	1	<0.18	<b>2</b>
Chloromethane	EPA 8260B	µg/L	0.22	1	<0.22	<b>2</b>
Dibromochloromethane	EPA 8260B	µg/L	0.12	1	<0.12	<b>2</b>
Hexachlorobutadiene	EPA 8260B	µg/L	0.15	1	<0.15	<b>1</b>

**Table 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2017**

*SFPF Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Methylene Chloride	EPA 8260B	µg/L	0.26	2	<0.26	2
Naphthalene	EPA 8260B	µg/L	0.094	1	<0.094	1
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.2	1	<0.2	1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.13	1	<0.13	2
Tetrachloroethene	EPA 8260B	µg/L	0.13	1	<0.13	2
Trichloroethene	EPA 8260B	µg/L	0.14	1	<0.14	2
Vinyl Chloride	EPA 8260B	µg/L	0.15	0.5	<0.15	2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	0.43	2	<0.43 J	1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	0.51	5	<0.51 J	10
2,4-Dichlorophenol	EPA 8270C	µg/L	0.63	2	<0.63 J	5
2,4-Dimethylphenol	EPA 8270C	µg/L	0.6	2	<0.6 J	2
2,4-Dinitrophenol	EPA 8270C	µg/L	2.5	10	<2.5 J	5
2,4-Dinitrotoluene	EPA 8270C	µg/L	0.75	2	<0.75 J	5
2,6-Dinitrotoluene	EPA 8270C	µg/L	0.56	2	<0.56 J	5
2-Chloronaphthalene	EPA 8270C	µg/L	0.34	2	<0.34 J	10
2-Chlorophenol	EPA 8270C	µg/L	0.44	2	<0.44 J	5
2-Nitrophenol	EPA 8270C	µg/L	0.68	2	<0.68 J	10
3,3'-Dichlorobenzidine	EPA 8270C	µg/L	0.65	10	<0.65 J	5
4,6-Dinitro-2-Methylphenol	EPA 8270C	µg/L	1.8	10	<1.8 J	5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	0.42	2	<0.42 J	5
4-Chloro-3-Methylphenol	EPA 8270C	µg/L	0.48	5	<0.48 J	1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	µg/L	0.46	2	<0.46 J	5
4-Nitrophenol	EPA 8270C	µg/L	1.9	2	<1.9 J	10
Acenaphthene	EPA 8270C	µg/L	0.4	2	<0.4 J	1
Acenaphthylene	EPA 8270C	µg/L	0.34	2	<0.34 J	10
Anthracene	EPA 8270C	µg/L	0.32	2	<0.32 J	10
Benzidine	EPA 8270C	µg/L	2.7	20	<2.7 J	5
Benzo (a) Anthracene	EPA 8270C	µg/L	0.37	2	<0.37 J	5
Benzo (a) Pyrene	EPA 8270C	µg/L	0.87	2	<0.87 J	10
Benzo (b) Fluoranthene	EPA 8270C	µg/L	0.88	2	<0.88 J	10
Benzo (g,h,i) Perylene	EPA 8270C	µg/L	1.2	2	<1.2 J	5
Benzo (k) Fluoranthene	EPA 8270C	µg/L	0.96	2	<0.96 J	10
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	0.45	2	<0.45 J	5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	0.86	2	<0.86 J	1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	0.58	2	<0.58 J	2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	0.67	4	<0.67 J	5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	0.77	2	<0.77 J	10
Chrysene	EPA 8270C	µg/L	0.42	2	<0.42 J	10
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	1.6	3	<1.6 J	10
Diethyl Phthalate	EPA 8270C	µg/L	0.35	2	<0.35 J	2
Dimethyl Phthalate	EPA 8270C	µg/L	0.4	2	<0.4 J	2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	0.33	2	<0.33 J	10
Di-n-Octyl Phthalate	EPA 8270C	µg/L	0.61	2	<0.61 J	10
Fluoranthene	EPA 8270C	µg/L	0.61	2	<0.61 J	1
Fluorene	EPA 8270C	µg/L	0.54	2	<0.54 J	10
Hexachlorobenzene	EPA 8270C	µg/L	0.48	2	<0.48 J	1
Hexachlorocyclopentadiene	EPA 8270C	µg/L	0.52	2	<0.52 J	5
Hexachloroethane	EPA 8270C	µg/L	0.9	2	<0.9 J	1
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/L	1.2	2	<1.2 J	10
Isophorone	EPA 8270C	µg/L	0.31	2	<0.31 J	1
Nitrobenzene	EPA 8270C	µg/L	0.37	2	<0.37 J	1
N-Nitrosodimethylamine	EPA 8270C	µg/L	1.2	2	<1.2 J	5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	0.58	2	<0.58 J	5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	0.57	2	<0.57 J	1

**Table 4. NPDES Effluent Monitoring, Remaining Priority Pollutants, Fourth Quarter 2017**

*SFPP Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Pentachlorophenol	EPA 8270C	µg/L	1.8	10	<1.8 J	5
Phenanthrene	EPA 8270C	µg/L	0.5	2	<0.5 J	5
Pyrene	EPA 8270C	µg/L	0.45	2	<0.45 J	10
2,3,7,8-TCDD	EPA 8290	pg/L	1.3	10	<1.3	NE
Asbestos	EPA 600 94 134, 100.2	MFL	0.17	0.17	<0.17	NE
Cyanide (Total)	EPA 335.4	mg/L	0.0017	0.005	<0.0017 J	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

RL = laboratory reporting limit

**Table 5. NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2017**

*SFPD Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>9</sup>
pH	SM 4500 HB	s.u.	0.1	0.1	<b>8.0</b>	<b>NE</b>
Temperature	Temperature	°F	--	--	<b>66.8</b>	<b>NE</b>
Hardness (as CaCO3)	SM 2340B	mg/L	1	1	<b>380</b>	<b>NE</b>
2,3,7,8-TCDD	EPA 8290	pg/L	4.3	10	<4.3	<b>NE</b>
Arsenic	EPA 200.8	µg/L	0.016	0.10	<b>4.7</b>	<b>2</b>
Lead	EPA 200.8	µg/L	0.053	0.5	<b>1.3</b>	<b>0.5</b>
Aroclor-1016	EPA 8082	µg/L	0.048	0.20	<0.048	<b>0.5</b>
Aroclor-1221	EPA 8082	µg/L	0.077	0.2	<0.077	<b>0.5</b>
Aroclor-1232	EPA 8082	µg/L	0.12	0.20	<0.12	<b>0.5</b>
Aroclor-1242	EPA 8082	µg/L	0.063	0.20	<0.063	<b>0.5</b>
Aroclor-1248	EPA 8082	µg/L	0.18	0.20	<0.18	<b>0.5</b>
Aroclor-1254	EPA 8082	µg/L	0.066	0.20	<0.066	<b>0.5</b>
Aroclor-1260	EPA 8082	µg/L	0.094	0.20	<0.094	<b>0.5</b>
Cadmium	EPA 200.8	µg/L	0.0098	0.25	<b>0.048 J</b>	<b>0.25</b>
Mercury	EPA 245.1	µg/L	0.018	0.05	<0.041	<b>0.2</b>
Antimony	EPA 200.8	µg/L	0.026	0.50	<b>1.3</b>	<b>0.50</b>
Beryllium	EPA 200.8	µg/L	0.026	0.50	<0.026	<b>0.50</b>
Total Chromium	EPA 200.8	µg/L	0.086	0.50	<b>1.3</b>	<b>0.50</b>
Chromium (III) (Total Cr - Cr VI)	CALCCR3	µg/L	0.086	0.50	<b>1.16</b>	<b>NA</b>
Copper	EPA 200.8	µg/L	0.26	0.5	<b>9.2</b>	<b>0.5</b>
Nickel	EPA 200.8	µg/L	0.038	1.0	<b>2.3</b>	<b>1</b>
Selenium	EPA 200.8	µg/L	0.07	0.5	<b>2.6</b>	<b>2.0</b>
Silver	EPA 200.8	µg/L	0.023	0.25	<0.023	<b>0.25</b>
Thallium	EPA 200.8	µg/L	0.034	0.5	<b>0.069 J</b>	<b>1.0</b>
Zinc	EPA 200.8	µg/L	0.039	1	<b>30</b>	<b>1.0</b>
Chromium (VI)	EPA 7199	µg/L	0.033	0.2	<b>0.14 J</b>	<b>0.5</b>
4,4'-DDD	EPA 8081A	µg/L	0.00250	0.005	<0.0025 J	<b>0.05</b>
4,4'-DDE	EPA 8081A	µg/L	0.00240	0.005	<0.0024 J	<b>0.05</b>
4,4'-DDT	EPA 8081A	µg/L	0.00170	0.005	<0.0017 J	<b>0.01</b>
Aldrin	EPA 8081A	µg/L	0.0019	0.005	<0.0019 J	<b>0.005</b>
Alpha Endosulfan	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.02</b>
Alpha-BHC	EPA 8081A	µg/L	0.0023	0.005	<0.0023 J	<b>0.01</b>
Beta Endosulfan	EPA 8081A	µg/L	0.003	0.005	<0.003 J	<b>0.01</b>
Beta-BHC	EPA 8081A	µg/L	0.0025	0.005	<0.0025 J	<b>0.005</b>
Chlordane	EPA 8081A	µg/L	0.15	0.50	<0.15 J	<b>0.1</b>
Delta-BHC	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.005</b>
Dieldrin	EPA 8081A	µg/L	0.0023	0.005	<0.0023 J	<b>0.01</b>
Endosulfan Sulfate	EPA 8081A	µg/L	0.0043	0.005	<0.0043 J	<b>0.05</b>
Endrin	EPA 8081A	µg/L	0.0036	0.005	<0.0036 J	<b>0.01</b>
Endrin Aldehyde	EPA 8081A	µg/L	0.0039	0.010	<0.0039 J	<b>0.01</b>
Gamma-BHC	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.02</b>
Heptachlor	EPA 8081A	µg/L	0.002	0.005	<0.002 J	<b>0.01</b>
Heptachlor Epoxide	EPA 8081A	µg/L	0.0042	0.005	<0.0042 J	<b>0.01</b>
Toxaphene	EPA 8081A	µg/L	0.2	2.0	<0.2 J	<b>0.5</b>
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.068	1.0	<0.068	<b>2</b>
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.031	1.0	<0.031	<b>1</b>
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.062	1.0	<0.062	<b>2</b>
1,1-Dichloroethane	EPA 8260B	µg/L	0.022	0.50	<0.022	<b>1.0</b>
1,1-Dichloroethene	EPA 8260B	µg/L	0.087	1.00	<0.087	<b>2</b>
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.060	1.0	<0.06	<b>5</b>
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.04	1.0	<0.04	<b>2</b>
1,2-Dichloroethane	EPA 8260B	µg/L	0.064	0.50	<0.064	<b>2.0</b>
1,2-Dichloropropane	EPA 8260B	µg/L	0.062	1.0	<0.062	<b>1</b>
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.057	1.0	<0.057	<b>1</b>
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.03	1.0	<0.03	<b>1</b>
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	2.4	10.0	<2.4	<b>1</b>
Acrolein	EPA 8260B	µg/L	0.56	20	<0.56	<b>5</b>
Acrylonitrile	EPA 8260B	µg/L	0.30	20	<0.3	<b>2</b>
Benzene	EPA 8260B	µg/L	0.036	1.0	<0.036	<b>2.0</b>

**Table 5. NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2017**

*SFPD Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Bromodichloromethane	EPA 8260B	µg/L	0.031	1.0	<0.031	2
Bromoform	EPA 8260B	µg/L	0.32	1.0	<0.32	2
Bromomethane	EPA 8260B	µg/L	0.32	1	<0.32	2
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.04	1.0	<0.044	2
Carbon Tetrachloride	EPA 8260B	µg/L	0.06	0.5	<0.057	2
Chlorobenzene	EPA 8260B	µg/L	0.036	1.0	<0.036	2
Chloroethane	EPA 8260B	µg/L	0.099	1.0	<0.099	2
Chloroform	EPA 8260B	µg/L	0.036	1.0	<b>0.16 J</b>	2
Chloromethane	EPA 8260B	µg/L	0.12	1.0	<0.12	2
Dibromochloromethane	EPA 8260B	µg/L	0.072	1.0	<0.072	2
Ethylbenzene	EPA 8260B	µg/L	0.0	1	<0.036	<b>2.0</b>
Hexachlorobutadiene	EPA 8260B	µg/L	0.1	1	<0.11	1
Hexachlorobenzene	EPA 8270C	µg/L	4.8	20	<4.8 J	1
Hexachloroethane	EPA 8270C	µg/L	9	20	<9 J	1
Methylene Chloride	EPA 8260B	µg/L	0.28	2.0	<0.28	2
Naphthalene	EPA 8260B	µg/L	0.048	1	<0.048	1
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.070	1.0	<0.07	1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.04	1.0	<0.039	2
Tetrachloroethene	EPA 8260B	µg/L	0.16	1.0	<0.16	2
Toluene	EPA 8260B	µg/L	0.042	2.0	<b>0.12 J</b>	<b>2.0</b>
Trichloroethene	EPA 8260B	µg/L	0.120	1.0	<0.12	2
Vinyl Chloride	EPA 8260B	µg/L	0.095	0.5	<0.095	2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	4.3	20	<4.3 J	1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	5.1	50	<5.1 J	<b>10</b>
2,4-Dichlorophenol	EPA 8270C	µg/L	6.3	20	<6.3 J	5
2,4-Dimethylphenol	EPA 8270C	µg/L	6	20	<6 J	2
2,4-Dinitrophenol	EPA 8270C	µg/L	25	100	<25 J	5
2,4-Dinitrotoluene	EPA 8270C	µg/L	7.5	20	<7.5 J	5
2,6-Dinitrotoluene	EPA 8270C	µg/L	5.6	20	<5.6 J	5
2-Chloronaphthalene	EPA 8270C	µg/L	3.4	20	<3.4 J	<b>10</b>
2-Chlorophenol	EPA 8270C	µg/L	4.4	20	<4.4 J	5
2-Nitrophenol	EPA 8270C	µg/L	6.8	20	<6.8 J	<b>10</b>
3,3'-Dichlorobenzidine	EPA 8270C	µg/L	6.5	100	<6.5 J	5
4,6-Dinitro-2-Methylphenol	EPA 8270C	µg/L	18	100	<18 J	5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	4.2	20	<4.2 J	5
4-Chloro-3-Methylphenol	EPA 8270C	µg/L	4.8	50	<4.8 J	1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	µg/L	4.6	20	<4.6 J	5
4-Nitrophenol	EPA 8270C	µg/L	19	20	<19 J	<b>10</b>
Acenaphthene	EPA 8270C	µg/L	4	20	<4 J	1
Acenaphthylene	EPA 8270C	µg/L	3.4	20	<3.4 J	<b>10</b>
Anthracene	EPA 8270C	µg/L	3.2	20	<3.2 J	<b>10</b>
Benzidine	EPA 8270C	µg/L	27	200	<27 J	5
Benzo (a) Anthracene	EPA 8270C	µg/L	3.7	20	<3.7 J	5
Benzo (a) Pyrene	EPA 8270C	µg/L	8.7	20	<8.7 J	<b>10</b>
Benzo (b) Fluoranthene	EPA 8270C	µg/L	8.8	20	<8.8 J	<b>10</b>
Benzo (g,h,i) Perylene	EPA 8270C	µg/L	12	20	<12 J	5
Benzo (k) Fluoranthene	EPA 8270C	µg/L	9.6	20	<9.6 J	<b>10</b>
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	4.5	20	<4.5 J	5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	8.6	20	<8.6 J	1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	5.8	20	<5.8 J	2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	6.7	40	<6.7 J	5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	7.7	20	<7.7 J	<b>10</b>
Chrysene	EPA 8270C	µg/L	4.2	20	<4.2 J	<b>10</b>
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	16	30	<16 J	<b>10</b>
Diethyl Phthalate	EPA 8270C	µg/L	3.5	20	<3.5 J	2
Dimethyl Phthalate	EPA 8270C	µg/L	4	20	<4 J	2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	3.3	20	<3.3 J	<b>10</b>
Di-n-Octyl Phthalate	EPA 8270C	µg/L	6.1	20	<6.1 J	<b>10</b>
Fluoranthene	EPA 8270C	µg/L	6.1	20	<6.1 J	1

**Table 5. NPDES Receiving Water Monitoring, RSW-001 (50 feet upstream), Fourth Quarter 2017**

*SFPF Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Fluorene	EPA 8270C	µg/L	5.4	20	<5.4 J	10
Hexachlorocyclopentadiene	EPA 8270C	µg/L	5.2	20	<5.2 J	5
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/L	12	20	<12 J	10
Isophorone	EPA 8270C	µg/L	3.1	20	<3.1 J	1
Nitrobenzene	EPA 8270C	µg/L	3.7	20	<3.7 J	1
N-Nitrosodimethylamine	EPA 8270C	µg/L	12	20	<12 J	5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	5.8	20	<5.8 J	5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	5.7	20	<5.7 J	1
Pentachlorophenol	EPA 8270C	µg/L	18.0	100	<18 J	5
Phenanthrene	EPA 8270C	µg/L	5	20	<5 J	5
Phenol	EPA 8270C	µg/L	4.9	20	<4.9 J	1
Pyrene	EPA 8270C	µg/L	4.5	20	<4.5 J	10
Cyanide (Total)	EPA 335.4	mg/L	0.0017	0.005	<0.0017 J <sup>b</sup>	NE
Asbestos	EPA 600 94 134, 100.2	MFL	5	5	<5	NE
Salinity	SM 2520B	ppt	--	--	<b>0.8</b>	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.

<sup>b</sup>Cyanide was analyzed past its holding time of 14 days, results are estimated.

< = not detected above the MDL

µg/L = micrograms per liter

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

MDL = laboratory method detection limit

MFL = million fibers per liter

mg/L = milligrams per liter

ML = minimum level. See note 1.

NE = not established

NPDES = National Pollutant Discharge Elimination System

pg/L = picograms per liter

ppt = parts per trillion

RL = laboratory reporting limit

**Table 6. NPDES Receiving Water Monitoring, RSW-002 (50 feet downstream), Fourth Quarter 2017**

*SFPD Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
pH	SM 4500 HB	s.u.	0.1	0.1	<b>9.1</b>	<b>NE</b>
Temperature	Temperature	°F			<b>66.1</b>	<b>NE</b>
Hardness (as CaCO3)	SM 2340B	mg/L	1	1	<b>360</b>	<b>NE</b>
2,3,7,8-TCDD	EPA 8290	pg/L	4.3	10	<4.3	<b>NE</b>
Arsenic	EPA 200.8	µg/L	0.016	0.10	<b>4.7</b>	<b>2</b>
Lead	EPA 200.8	µg/L	0.053	0.5	<b>0.89</b>	<b>0.5</b>
Aroclor-1016	EPA 8082	µg/L	0.048	0.20	<0.048	<b>0.5</b>
Aroclor-1221	EPA 8082	µg/L	0.077	0.2	<0.077	<b>0.5</b>
Aroclor-1232	EPA 8082	µg/L	0.12	0.20	<0.12	<b>0.5</b>
Aroclor-1242	EPA 8082	µg/L	0.063	0.20	<0.063	<b>0.5</b>
Aroclor-1248	EPA 8082	µg/L	0.18	0.20	<0.18	<b>0.5</b>
Aroclor-1254	EPA 8082	µg/L	0.066	0.20	<0.066	<b>0.5</b>
Aroclor-1260	EPA 8082	µg/L	0.094	0.20	<0.094	<b>0.5</b>
Cadmium	EPA 200.8	µg/L	0.0098	0.25	<b>0.033 J</b>	<b>0.25</b>
Mercury	EPA 245.1	µg/L	0.018	0.05	<0.026	<b>0.2</b>
Antimony	EPA 200.8	µg/L	0.026	0.50	<b>1.3</b>	<b>0.50</b>
Beryllium	EPA 200.8	µg/L	0.026	0.50	<0.026	<b>0.50</b>
Total Chromium	EPA 200.8	µg/L	0.086	0.50	<b>0.99</b>	<b>0.50</b>
Chromium (III) (Total Cr - Cr VI)	CALCCR3	µg/L	0.086	0.50	<b>0.87</b>	<b>NA</b>
Copper	EPA 200.8	µg/L	0.26	0.5	<b>6.1 J</b>	<b>0.5</b>
Nickel	EPA 200.8	µg/L	0.038	1.0	<b>2</b>	<b>1</b>
Selenium	EPA 200.8	µg/L	0.07	0.5	<b>2.5</b>	<b>2.0</b>
Silver	EPA 200.8	µg/L	0.023	0.25	<0.023	<b>0.25</b>
Thallium	EPA 200.8	µg/L	0.034	0.5	<b>0.036 J</b>	<b>1.0</b>
Zinc	EPA 200.8	µg/L	0.039	1	<b>21</b>	<b>1.0</b>
Chromium (VI)	EPA 7199	µg/L	0.033	0.2	<b>0.12 J</b>	<b>0.5</b>
4,4'-DDD	EPA 8081A	µg/L	0.00250	0.005	<0.0025 J	<b>0.05</b>
4,4'-DDE	EPA 8081A	µg/L	0.00240	0.005	<0.0024 J	<b>0.05</b>
4,4'-DDT	EPA 8081A	µg/L	0.00170	0.005	<0.0017 J	<b>0.01</b>
Aldrin	EPA 8081A	µg/L	0.0019	0.005	<0.0019 J	<b>0.005</b>
Alpha Endosulfan	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.02</b>
Alpha-BHC	EPA 8081A	µg/L	0.0023	0.005	<0.0023 J	<b>0.01</b>
Beta Endosulfan	EPA 8081A	µg/L	0.003	0.005	<0.003 J	<b>0.01</b>
Beta-BHC	EPA 8081A	µg/L	0.0025	0.005	<0.0025 J	<b>0.005</b>
Chlordane	EPA 8081A	µg/L	0.15	0.50	<0.15 J	<b>0.1</b>
Delta-BHC	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.005</b>
Dieldrin	EPA 8081A	µg/L	0.0023	0.005	<0.0023 J	<b>0.01</b>
Endosulfan Sulfate	EPA 8081A	µg/L	0.0043	0.005	<0.0043 J	<b>0.05</b>
Endrin	EPA 8081A	µg/L	0.0036	0.005	<0.0036 J	<b>0.01</b>
Endrin Aldehyde	EPA 8081A	µg/L	0.0039	0.010	<0.0039 J	<b>0.01</b>
Gamma-BHC	EPA 8081A	µg/L	0.0024	0.005	<0.0024 J	<b>0.02</b>
Heptachlor	EPA 8081A	µg/L	0.002	0.005	<0.002 J	<b>0.01</b>
Heptachlor Epoxide	EPA 8081A	µg/L	0.0042	0.005	<0.0042 J	<b>0.01</b>
Toxaphene	EPA 8081A	µg/L	0.2	2.0	<0.2 J	<b>0.5</b>
1,1,1-Trichloroethane	EPA 8260B	µg/L	0.068	1.0	<0.068	<b>2</b>
1,1,2,2-Tetrachloroethane	EPA 8260B	µg/L	0.031	1.0	<0.031	<b>1</b>
1,1,2-Trichloroethane	EPA 8260B	µg/L	0.062	1.0	<0.062	<b>2</b>
1,1-Dichloroethane	EPA 8260B	µg/L	0.022	0.50	<0.022	<b>1.0</b>
1,1-Dichloroethene	EPA 8260B	µg/L	0.087	1.00	<0.087	<b>2</b>
1,2,4-Trichlorobenzene	EPA 8260B	µg/L	0.060	1.0	<0.06	<b>5</b>
1,2-Dichlorobenzene	EPA 8260B	µg/L	0.04	1.0	<0.04	<b>2</b>
1,2-Dichloroethane	EPA 8260B	µg/L	0.064	0.50	<0.064	<b>2.0</b>
1,2-Dichloropropane	EPA 8260B	µg/L	0.062	1.0	<0.062	<b>1</b>
1,3-Dichlorobenzene	EPA 8260B	µg/L	0.057	1.0	<0.057	<b>1</b>
1,4-Dichlorobenzene	EPA 8260B	µg/L	0.03	1.0	<0.03	<b>1</b>
2-Chloroethyl Vinyl Ether	EPA 8260B	µg/L	2.4	10.0	<2.4	<b>1</b>
Acrolein	EPA 8260B	µg/L	0.56	20	<0.56	<b>5</b>
Acrylonitrile	EPA 8260B	µg/L	0.30	20	<0.3	<b>2</b>
Benzene	EPA 8260B	µg/L	0.036	1.0	<0.036	<b>2.0</b>



**Table 6. NPDES Receiving Water Monitoring, RSW-002 (50 feet downstream), Fourth Quarter 2017**

*SFPD Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Bromodichloromethane	EPA 8260B	µg/L	0.031	1.0	<0.031	2
Bromoform	EPA 8260B	µg/L	0.32	1.0	<0.32	2
Bromomethane	EPA 8260B	µg/L	0.32	1	<0.32	2
cis-1,3-Dichloropropene	EPA 8260B	µg/L	0.04	1.0	<0.044	2
Carbon Tetrachloride	EPA 8260B	µg/L	0.06	0.5	<0.057	2
Chlorobenzene	EPA 8260B	µg/L	0.036	1.0	<0.036	2
Chloroethane	EPA 8260B	µg/L	0.099	1.0	<0.099	2
Chloroform	EPA 8260B	µg/L	0.036	1.0	<b>0.11 J</b>	2
Chloromethane	EPA 8260B	µg/L	0.12	1.0	<0.12	2
Dibromochloromethane	EPA 8260B	µg/L	0.072	1.0	<0.072	2
Ethylbenzene	EPA 8260B	µg/L	0.0	1	<0.036	<b>2.0</b>
Hexachlorobutadiene	EPA 8260B	µg/L	0.1	1	<0.11	1
Hexachlorobenzene	EPA 8270C	µg/L	4.8	20	<4.8 J	1
Hexachloroethane	EPA 8270C	µg/L	9	20	<9 J	1
Methylene Chloride	EPA 8260B	µg/L	0.28	2.0	<0.28	2
Naphthalene	EPA 8260B	µg/L	0.048	1	<0.048	1
trans-1,2-Dichloroethene	EPA 8260B	µg/L	0.070	1.0	<0.07	1
trans-1,3-Dichloropropene	EPA 8260B	µg/L	0.04	1.0	<0.039	2
Tetrachloroethene	EPA 8260B	µg/L	0.16	1.0	<0.16	2
Toluene	EPA 8260B	µg/L	0.042	2.0	<b>0.1 J</b>	<b>2.0</b>
Trichloroethene	EPA 8260B	µg/L	0.120	1.0	<0.12	2
Vinyl Chloride	EPA 8260B	µg/L	0.095	0.5	<0.095	2
1,2-Diphenylhydrazine	EPA 8270C	µg/L	4.3	20	<4.3 J	1
2,4,6-Trichlorophenol	EPA 8270C	µg/L	5.1	50	<5.1 J	<b>10</b>
2,4-Dichlorophenol	EPA 8270C	µg/L	6.3	20	<6.3 J	5
2,4-Dimethylphenol	EPA 8270C	µg/L	6	20	<6 J	2
2,4-Dinitrophenol	EPA 8270C	µg/L	25	100	<25 J	5
2,4-Dinitrotoluene	EPA 8270C	µg/L	7.5	20	<7.5 J	5
2,6-Dinitrotoluene	EPA 8270C	µg/L	5.6	20	<5.6 J	5
2-Chloronaphthalene	EPA 8270C	µg/L	3.4	20	<3.4 J	<b>10</b>
2-Chlorophenol	EPA 8270C	µg/L	4.4	20	<4.4 J	5
2-Nitrophenol	EPA 8270C	µg/L	6.8	20	<6.8 J	<b>10</b>
3,3'-Dichlorobenzidine	EPA 8270C	µg/L	6.5	100	<6.5 J	5
4,6-Dinitro-2-Methylphenol	EPA 8270C	µg/L	18	100	<18 J	5
4-Bromophenyl-Phenyl Ether	EPA 8270C	µg/L	4.2	20	<4.2 J	5
4-Chloro-3-Methylphenol	EPA 8270C	µg/L	4.8	50	<4.8 J	1
4-Chlorophenyl-Phenyl Ether	EPA 8270C	µg/L	4.6	20	<4.6 J	5
4-Nitrophenol	EPA 8270C	µg/L	19	20	<19 J	<b>10</b>
Acenaphthene	EPA 8270C	µg/L	4	20	<4 J	1
Acenaphthylene	EPA 8270C	µg/L	3.4	20	<3.4 J	<b>10</b>
Anthracene	EPA 8270C	µg/L	3.2	20	<3.2 J	<b>10</b>
Benzidine	EPA 8270C	µg/L	27	200	<27 J	5
Benzo (a) Anthracene	EPA 8270C	µg/L	3.7	20	<3.7 J	5
Benzo (a) Pyrene	EPA 8270C	µg/L	8.7	20	<8.7 J	<b>10</b>
Benzo (b) Fluoranthene	EPA 8270C	µg/L	8.8	20	<8.8 J	<b>10</b>
Benzo (g,h,i) Perylene	EPA 8270C	µg/L	12	20	<12 J	5
Benzo (k) Fluoranthene	EPA 8270C	µg/L	9.6	20	<9.6 J	<b>10</b>
Bis(2-Chloroethoxy) Methane	EPA 8270C	µg/L	4.5	20	<4.5 J	5
Bis(2-Chloroethyl) Ether	EPA 8270C	µg/L	8.6	20	<8.6 J	1
Bis(2-Chloroisopropyl) Ether	EPA 8270C	µg/L	5.8	20	<5.8 J	2
Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	6.7	40	<6.7 J	5
Butyl Benzyl Phthalate	EPA 8270C	µg/L	7.7	20	<7.7 J	<b>10</b>
Chrysene	EPA 8270C	µg/L	4.2	20	<4.2 J	<b>10</b>
Dibenz (a,h) Anthracene	EPA 8270C	µg/L	16	30	<16 J	<b>10</b>
Diethyl Phthalate	EPA 8270C	µg/L	3.5	20	<3.5 J	2
Dimethyl Phthalate	EPA 8270C	µg/L	4	20	<4 J	2
Di-n-Butyl Phthalate	EPA 8270C	µg/L	3.3	20	<3.3 J	<b>10</b>
Di-n-Octyl Phthalate	EPA 8270C	µg/L	6.1	20	<6.1 J	<b>10</b>
Fluoranthene	EPA 8270C	µg/L	6.1	20	<6.1 J	1

**Table 6. NPDES Receiving Water Monitoring, RSW-002 (50 feet downstream), Fourth Quarter 2017**

*SFPP Norwalk Pump Station, Norwalk, California*

Analyte	Analytical Method	Units	MDL	RL	11/7/2017	ML <sup>a</sup>
Fluorene	EPA 8270C	µg/L	5.4	20	<5.4 J	10
Hexachlorocyclopentadiene	EPA 8270C	µg/L	5.2	20	<5.2 J	5
Indeno (1,2,3-c,d) Pyrene	EPA 8270C	µg/L	12	20	<12 J	10
Isophorone	EPA 8270C	µg/L	3.1	20	<3.1 J	1
Nitrobenzene	EPA 8270C	µg/L	3.7	20	<3.7 J	1
N-Nitrosodimethylamine	EPA 8270C	µg/L	12	20	<12 J	5
N-Nitroso-di-n-propylamine	EPA 8270C	µg/L	5.8	20	<5.8 J	5
N-Nitrosodiphenylamine	EPA 8270C	µg/L	5.7	20	<5.7 J	1
Pentachlorophenol	EPA 8270C	µg/L	18.0	100	<18 J	5
Phenanthrene	EPA 8270C	µg/L	5	20	<5 J	5
Phenol	EPA 8270C	µg/L	4.9	20	<4.9 J	1
Pyrene	EPA 8270C	µg/L	4.5	20	<4.5 J	10
Cyanide (Total)	EPA 335.4	mg/L	0.0017	0.005	<0.0017 J <sup>b</sup>	NE
Asbestos	EPA 600 94 134, 100.2	MFL	5	5	<5	NE
Salinity	SM 2520B	ppt			<b>0.8</b>	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.

<sup>b</sup>Cyanide was analyzed past its holding time of 14 days, results are estimated.

< = not detected above the MDL

µg/L = micrograms per liter

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

MDL = laboratory method detection limit

MFL = million fibers per liter

mg/L = milligrams per liter

ML = minimum level. See note 1.

NE = not established

NPDES = National Pollutant Discharge Elimination System

pg/L = picograms per liter

ppt = parts per trillion

RL = laboratory reporting limit

**Table 7. NPDES TCDD Equivalent Calculation, Fourth Quarter 2017**

*SFPF Norwalk Pump Station, Norwalk, California*

Dioxin or Furan Congener <sup>a</sup>	Analysis Method	Units	Effluent Concentration (11/07/17) <sup>b</sup>	Receiving Water (RSW-001) Concentration (11/07/17) <sup>b</sup>	Receiving Water (RSW-002) Concentration (11/07/17) <sup>b</sup>	TEF	Effluent Concentration x TEF	Receiving Water (RSW-001) Concentration x TEF	Receiving Water (RSW-002) Concentration x TEF
1,2,3,4,6,7,8-Hepta CDD	EPA 8290	pg/L	<1.2	<b>60</b>	<b>62</b>	0.01	6.00E-03	6.00E-01	6.20E-01
1,2,3,4,6,7,8-Hepta CDF	EPA 8290	pg/L	<b>12 J</b>	<b>36 J</b>	<b>10 J</b>	0.01	1.20E-01	3.60E-01	1.00E-01
1,2,3,4,7,8,9-Hepta CDF	EPA 8290	pg/L	<b>4.9 J</b>	<b>12 J</b>	<6.3	0.01	4.90E-02	1.20E-01	3.15E-02
1,2,3,4,7,8-Hexa CDD	EPA 8290	pg/L	<1.1	<1.3	<2	0.1	5.50E-02	6.50E-02	1.00E-01
1,2,3,4,7,8-Hexa CDF	EPA 8290	pg/L	<b>4 J</b>	<b>10 J</b>	<2.4	0.1	4.00E-01	1.00E+00	1.20E-01
1,2,3,6,7,8-Hexa CDD	EPA 8290	pg/L	<1	<0.94	<2.1 J	0.1	5.00E-02	4.70E-02	1.05E-01
1,2,3,6,7,8-Hexa CDF	EPA 8290	pg/L	<b>2.3 J</b>	<b>6.2 J</b>	<b>2.6 J</b>	0.1	2.30E-01	6.20E-01	2.60E-01
1,2,3,7,8,9-Hexa CDD	EPA 8290	pg/L	<1.1	<1.1	<2	0.1	5.50E-02	5.50E-02	1.00E-01
1,2,3,7,8,9-Hexa CDF	EPA 8290	pg/L	<1.8	<b>6.4 J</b>	<3.4	0.1	9.00E-02	6.40E-01	1.70E-01
1,2,3,7,8-Penta CDD	EPA 8290	pg/L	<3.1	<3	<2	1	1.55E+00	1.50E+00	1.00E+00
1,2,3,7,8-Penta CDF	EPA 8290	pg/L	<2.7	<b>4.4 J</b>	<2.4	0.05	6.75E-02	2.20E-01	6.00E-02
2,3,4,6,7,8-Hexa CDF	EPA 8290	pg/L	<1.6	<b>6.6 J</b>	<2.2	0.1	8.00E-02	6.60E-01	1.10E-01
2,3,4,7,8-Penta CDF	EPA 8290	pg/L	<2.8	<4.2	<1.5	0.5	7.00E-01	1.05E+00	3.75E-01
2,3,7,8-Tetra CDD	EPA 8290	pg/L	<1.3	<1.9	<4.3	1	6.50E-01	9.50E-01	2.15E+00
2,3,7,8-Tetra CDF	EPA 8290	pg/L	<1.2	<2.2	<3.2	0.1	6.00E-02	1.10E-01	1.60E-01
Octa CDD	EPA 8290	pg/L	<2	<680	<730	0.0001	1.00E-04	3.40E-02	3.65E-02
Octa CDF	EPA 8290	pg/L	<b>17 J</b>	<b>83 J</b>	<b>64 J</b>	0.0001	1.70E-03	8.30E-03	6.40E-03
Tetra CDD-Equivalent							4.2	8.0	5.5

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

pg/L = picograms per liter

TCDD = tetrachlorodibenzodioxin

TEF = toxicity equivalency factor

**Table 8. NPDES Effluent and Receiving Water Acute and Chronic Toxicity Monitoring, Fourth Quarter 2017**  
*SFPP Norwalk Pump Station, Norwalk, California*

		Sampling Dates	
		11/6, 11/8, 11/10	
		Test dates	
		11/7 to 11/14	
		2017 Annual Toxicity/TRE 3	
Analyte <sup>a</sup>	Units	EFF-001 (Effluent)	RSW-002 (Downstream)
Chronic - <i>M. beryllinas</i> (inland silverside) – Survival	% effect	5.1	0.0
Chronic - <i>M. beryllinas</i> (inland silverside) – Growth	% effect	1.3	-3.8

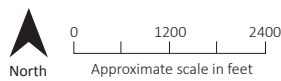
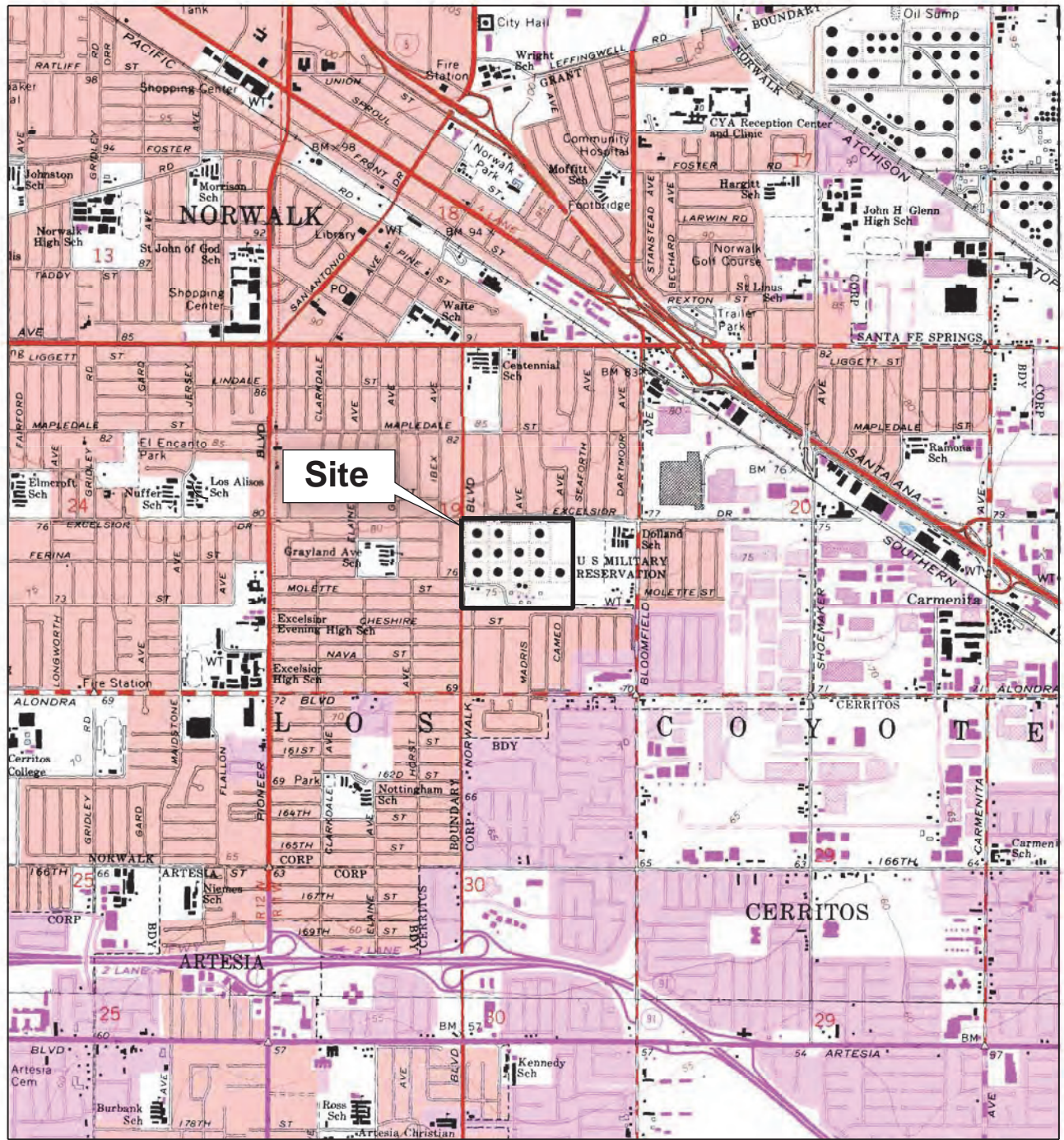
Notes:

<sup>a</sup>Chronic toxicity analysis was conducted using EPA Method 600-R-95-136.

NPDES = National Pollutant Discharge Elimination System

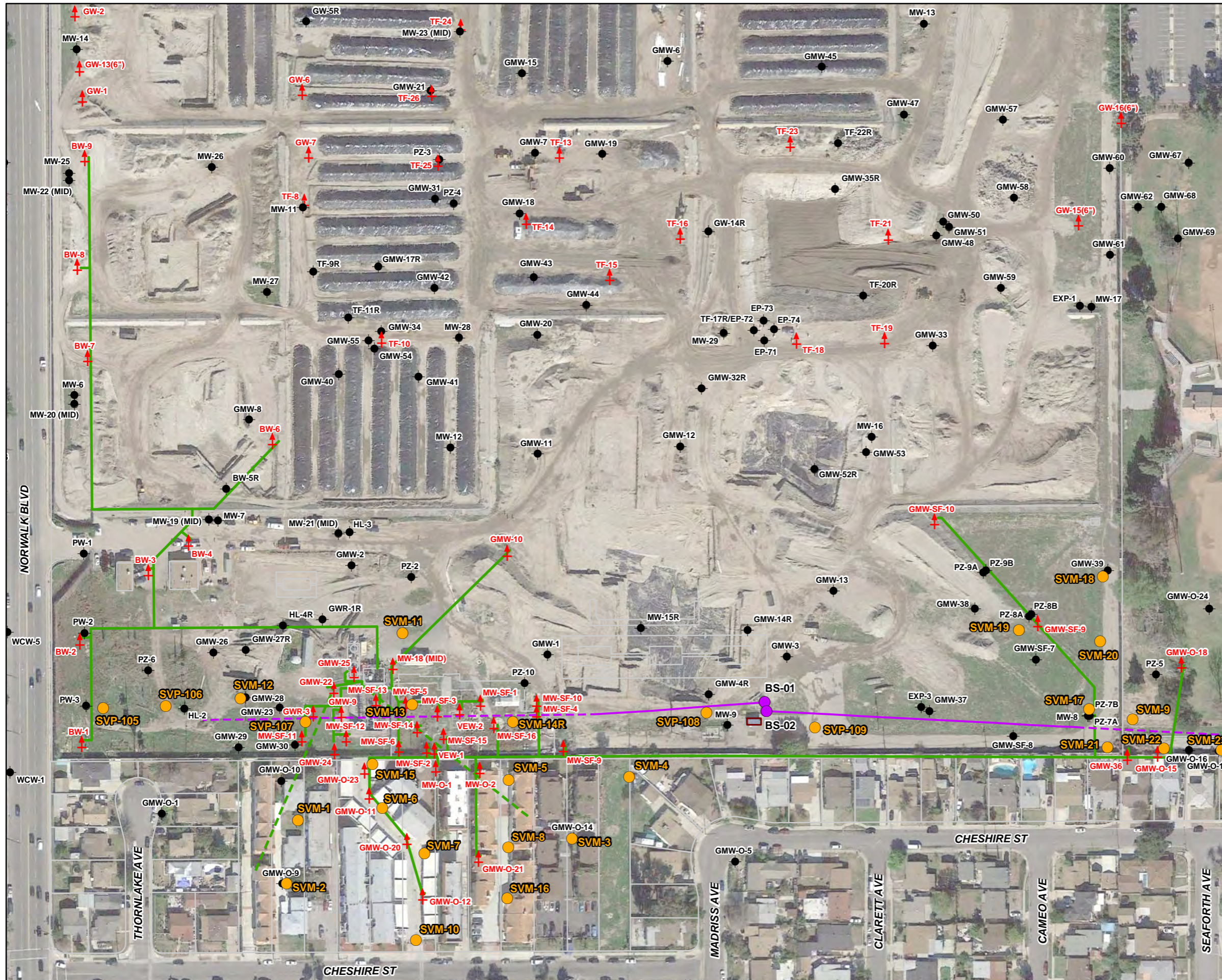
TRE = toxicity reduction evaluation

Figures



**Figure 1**  
**Site Location Map**  
*SFP Norwalk Pump Station*  
*Norwalk, California*

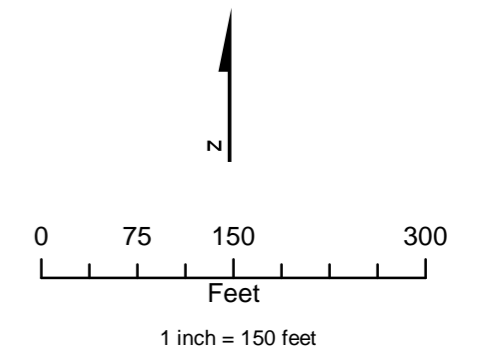
BASEMAP MODIFIED FROM U.S.G.S. 7.5 MINUTE QUADRANGLE MAP  
 LOS ALAMITOS 1964, CALIFORNIA. PHOTO-REVISED 1981.  
 WHITTIER 1965, CALIFORNIA. PHOTO-REVISED 1981.



**Legend**

- Soil Vapor Probe/Soil Vapor Monitoring Probe
- Horizontal Biosparge Well Entry Point
- Existing Groundwater Monitoring Well
- ⊕ Existing Remediation Well
- KMEP 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 and  
Chain-of-Custody Documents



October 19, 2017

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

TEL:

FAX:

Workorder No.: N026441

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 12, 2017 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,



Puri Romualdo  
Laboratory Director

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ORELAP/NELAP Cert 4046

**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026441

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

Samples were received intact with proper chain of custody documentation.

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

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

Samples were analyzed within method holding time.

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

**Analytical Comment for EPA 8260B:**

Surrogate recovery biased high on N026441-001 possibly due to matrix interferences. Sample results were non-detect (ND) for analytes of interest therefore reanalysis of the sample was not necessary.

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

**Analytical Comment for EPA 200.8:**

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are outside recovery criteria for Copper in QC samples N026441-001B-MS and N026441-001B-MSD 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 8015B\_GRO:**

Surrogate recovery for Method Blank and QC sample N026432-024ADUP is biased high; however the results were non-detect (ND) for analytes of interest and reanalysis of the sample was not necessary.



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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026441

---

**CASE NARRATIVE**

Analytical Comment for EPA 8270C\_SIM:

Surrogate recovery biased high on N026441-001 possibly due to matrix interferences. Sample results were non-detect (ND) for analytes of interest therefore reanalysis of the sample was not necessary.

Surrogate recovery for Method Blank, Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) is biased high; however the results were non-detect (ND) for analytes of interest and reanalysis of the sample was not necessary.



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ORELAP/NELAP Cert 4046

Page 2 of 2

**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026441  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026441-001A	EFF-10-12	Wastewater	10/12/2017 12:50:00 PM	10/12/2017	10/19/2017
N026441-001B	EFF-10-12	Wastewater	10/12/2017 12:50:00 PM	10/12/2017	10/19/2017
N026441-001C	EFF-10-12	Wastewater	10/12/2017 12:50:00 PM	10/12/2017	10/19/2017
N026441-001D	EFF-10-12	Wastewater	10/12/2017 12:50:00 PM	10/12/2017	10/19/2017



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 19-Oct-17

**CLIENT:** CH2MHill  
**Lab Order:** N026441  
**Project:** SFPP Norwalk  
**Lab ID:** N026441-001

**Client Sample ID:** EFF-10-12  
**Collection Date:** 10/12/2017 12:50:00 PM  
**Matrix:** WASTEWATER

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

**EPA 3510C**

**EPA 8270C**

RunID: <b>NV00922-MS3_171018B</b>	QC Batch: <b>64212</b>			PrepDate: <b>10/16/2017</b>		Analyst: <b>JJS</b>
Phenol	ND	0.33	1.0	µg/L	1	10/18/2017 05:45 PM
Surr: 1,2-Dichlorobenzene-d4	136	0	16-120	S %REC	1	10/18/2017 05:45 PM
Surr: Phenol-d5	37.0	0	15-120	%REC	1	10/18/2017 05:45 PM

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 8260B**

RunID: <b>NV00922-MS5_171013A</b>	QC Batch: <b>P17VW180</b>			PrepDate:		Analyst: <b>QBM</b>
1,1-Dichloroethane	ND	0.13	0.50	µg/L	1	10/13/2017 10:13 PM
1,2-Dichloroethane	ND	0.13	0.50	µg/L	1	10/13/2017 10:13 PM
Benzene	ND	0.14	1.0	µg/L	1	10/13/2017 10:13 PM
Ethylbenzene	ND	0.14	1.0	µg/L	1	10/13/2017 10:13 PM
m,p-Xylene	ND	0.23	1.0	µg/L	1	10/13/2017 10:13 PM
MTBE	ND	0.13	1.0	µg/L	1	10/13/2017 10:13 PM
o-Xylene	ND	0.13	1.0	µg/L	1	10/13/2017 10:13 PM
Tert-Butanol	ND	1.8	5.0	µg/L	1	10/13/2017 10:13 PM
Toluene	ND	0.14	2.0	µg/L	1	10/13/2017 10:13 PM
Xylenes, Total	ND	1.5	2.0	µg/L	1	10/13/2017 10:13 PM
Surr: 1,2-Dichloroethane-d4	122	0	72-119	S %REC	1	10/13/2017 10:13 PM
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	1	10/13/2017 10:13 PM
Surr: Dibromofluoromethane	119	0	85-115	S %REC	1	10/13/2017 10:13 PM
Surr: Toluene-d8	109	0	81-120	%REC	1	10/13/2017 10:13 PM

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID: <b>NV00922-GC3_171013A</b>	QC Batch: <b>64193</b>			PrepDate: <b>10/13/2017</b>		Analyst: <b>QCE</b>
TPH-Diesel (C13-C22)	ND	16	26	µg/L	1	10/13/2017 08:54 PM
TPH-Oil (C23-C36)	16	14	26	J µg/L	1	10/13/2017 08:54 PM
Surr: Octacosane	101	0	26-152	%REC	1	10/13/2017 08:54 PM
Surr: p-Terphenyl	98.5	0	57-132	%REC	1	10/13/2017 08:54 PM

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>NV00922-GC4_171013A</b>	QC Batch: <b>E17VW094</b>			PrepDate:		Analyst: <b>QBM</b>
TPH-Gasoline (C4-C12)	ND	16	50	µg/L	1	10/13/2017 10:00 AM
Surr: Chlorobenzene - d5	136	0	74-138	%REC	1	10/13/2017 10:00 AM

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



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**ANALYTICAL RESULTS**

Print Date: 19-Oct-17

**CLIENT:** CH2MHill  
**Lab Order:** N026441  
**Project:** SFPP Norwalk  
**Lab ID:** N026441-001

**Client Sample ID:** EFF-10-12  
**Collection Date:** 10/12/2017 12:50:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID: <b>NV00922-AA1_171013B</b>	QC Batch: <b>64181</b>			PrepDate: <b>10/13/2017</b>		Analyst: <b>MG</b>	
Mercury	ND	0.018	0.050	µg/L	1	10/13/2017 12:31 PM	

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171013B</b>	QC Batch: <b>64182</b>			PrepDate: <b>10/13/2017</b>		Analyst: <b>CEI</b>	
Copper	210	1.3	2.5	µg/L	5	10/13/2017 01:50 PM	
Lead	11	0.037	0.50	µg/L	1	10/13/2017 01:44 PM	
Zinc	150	1.3	5.0	µg/L	5	10/13/2017 01:50 PM	

**TOTAL TPH**

**EPA 8015B**

RunID: <b>NV00922-GC3_171013A</b>	QC Batch: <b>R118539</b>			PrepDate:		Analyst: <b>QCE</b>	
Total TPH	16	14	50	J ug/L	1	10/13/2017	

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-64182</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50									
Lead	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-64182</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791687</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	10.232	0.50	10.00	0	102	85	115				
Lead	10.046	0.50	10.00	0	100	85	115				
Zinc	104.378	1.0	100.0	0	104	85	115				

Sample ID: <b>N026441-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791691</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	20.910	0.50	10.00	10.79	101	75	125				

Sample ID: <b>N026441-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791692</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	20.961	0.50	10.00	10.79	102	75	125	20.91	0.241	20	

Sample ID: <b>N026441-001B-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791693</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N026441-001B-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791693</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	10.357	0.50						10.79	4.12	20	
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Sample ID: <b>N026441-001B-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791695</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	204.303	2.5						214.5	4.87	20	
Zinc	141.104	5.0						154.8	9.23	20	

Sample ID: <b>N026441-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791699</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	213.307	2.5	10.00	214.5	-12.0	75	125				S
Zinc	245.630	5.0	100.0	154.8	90.9	75	125				

Sample ID: <b>N026441-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118531</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64182</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791700</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	215.586	2.5	10.00	214.5	10.8	75	125	213.3	1.06	20	S
Zinc	247.809	5.0	100.0	154.8	93.1	75	125	245.6	0.883	20	

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_LL**

Sample ID: <b>MB-64181</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118526</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64181</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.050

Sample ID: <b>LCS-64181</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118526</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64181</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791467</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.433 0.050 2.500 0 97.3 85 115

Sample ID: <b>N026441-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118526</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64181</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.436 0.050 2.500 0 97.4 75 125

Sample ID: <b>N026441-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118526</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64181</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791469</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.454 0.050 2.500 0 98.2 75 125 2.436 0.772 20

Sample ID: <b>N026441-001B-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118526</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64181</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2791470</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:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

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

Sample ID: <b>MB-64193</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b> Units: <b>ug/L</b>	Prep Date: <b>10/13/2017</b>	RunNo: <b>118539</b>							
Client ID: <b>PBW</b>	Batch ID: <b>64193</b>	TestNo: <b>EPA 8015B EPA 3510C</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792230</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	21.944	25									J
Surr: Octacosane	70.692		80.00		88.4	26	152				
Surr: p-Terphenyl	67.977		80.00		85.0	57	132				

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPTOT**

Sample ID: <b>MB-R118539</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118539</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R118539</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2793017</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	39.000	50									J

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID: <b>E171013LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118550</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E17VW094</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792596</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	976.000	50	1000	0	97.6	67	136				
Surr: Chlorobenzene - d5	56099.000		50000		112	74	138				

Sample ID: <b>E171013MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118550</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E17VW094</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792597</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	17.000	50									J
Surr: Chlorobenzene - d5	69237.000		50000		138	74	138				S

Sample ID: <b>N026432-024ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118550</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW094</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792600</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50						0	0	0	
Surr: Chlorobenzene - d5	70170.000		50000		140	74	138		0	0	S

Sample ID: <b>N026441-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118550</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW094</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792601</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1003.000	50	1000	0	100	67	136				
Surr: Chlorobenzene - d5	61321.000		50000		123	74	138				

Sample ID: <b>N026441-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118550</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW094</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792602</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	1001.000	50	1000	0	100	67	136	1003	0.200	30	

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8015GAS\_WSFPP

Sample ID: <b>N026441-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118550</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW094</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792602</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Chlorobenzene - d5	59570.000		50000		119	74	138		0	0	

### Qualifiers:

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171013LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>			Prep Date:			RunNo: <b>118542</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>P17VW180</b>		TestNo: <b>EPA 8260B</b>			Analysis Date: <b>10/13/2017</b>			SeqNo: <b>2792404</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethane	19.970	0.50	20.00	0	99.8	69	133					
1,2-Dichloroethane	21.260	0.50	20.00	0	106	69	132					
Benzene	20.480	1.0	20.00	0	102	81	122					
Ethylbenzene	19.290	1.0	20.00	0	96.5	73	127					
m,p-Xylene	40.270	1.0	40.00	0	101	76	128					
MTBE	21.490	1.0	20.00	0	107	65	123					
o-Xylene	21.190	1.0	20.00	0	106	80	121					
Tert-Butanol	114.350	5.0	100.0	0	114	70	130					
Toluene	20.220	2.0	20.00	0	101	77	122					
Xylenes, Total	61.460	2.0	60.00	0	102	75	125					
Surr: 1,2-Dichloroethane-d4	26.370		25.00		105	72	119					
Surr: 4-Bromofluorobenzene	26.540		25.00		106	76	119					
Surr: Dibromofluoromethane	26.630		25.00		107	85	115					
Surr: Toluene-d8	26.210		25.00		105	81	120					

Sample ID: <b>N026441-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>			Prep Date:			RunNo: <b>118542</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>P17VW180</b>		TestNo: <b>EPA 8260B</b>			Analysis Date: <b>10/13/2017</b>			SeqNo: <b>2792405</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethane	20.540	0.50	20.00	0	103	69	133					
1,2-Dichloroethane	20.900	0.50	20.00	0	104	69	132					
Benzene	19.970	1.0	20.00	0	99.8	81	122					
Ethylbenzene	19.130	1.0	20.00	0	95.7	73	127					
m,p-Xylene	39.830	1.0	40.00	0	99.6	76	128					
MTBE	21.360	1.0	20.00	0	107	65	123					
o-Xylene	20.290	1.0	20.00	0	101	80	121					
Tert-Butanol	116.980	5.0	100.0	0	117	70	130					
Toluene	20.140	2.0	20.00	0	101	77	122					
Xylenes, Total	60.120	2.0	60.00	0	100	75	125					
Surr: 1,2-Dichloroethane-d4	27.300		25.00		109	72	119					

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N026441-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118542</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW180</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792405</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	26.710		25.00		107	76	119				
Surr: Dibromofluoromethane	27.250		25.00		109	85	115				
Surr: Toluene-d8	26.050		25.00		104	81	120				

Sample ID: <b>N026441-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118542</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW180</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792406</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	20.230	0.50	20.00	0	101	69	133	20.54	1.52	20	
1,2-Dichloroethane	20.840	0.50	20.00	0	104	69	132	20.90	0.287	20	
Benzene	19.810	1.0	20.00	0	99.0	81	122	19.97	0.804	20	
Ethylbenzene	19.440	1.0	20.00	0	97.2	73	127	19.13	1.61	20	
m,p-Xylene	39.690	1.0	40.00	0	99.2	76	128	39.83	0.352	20	
MTBE	22.070	1.0	20.00	0	110	65	123	21.36	3.27	20	
o-Xylene	20.660	1.0	20.00	0	103	80	121	20.29	1.81	20	
Tert-Butanol	121.090	5.0	100.0	0	121	70	130	117.0	3.45	20	
Toluene	19.580	2.0	20.00	0	97.9	77	122	20.14	2.82	20	
Xylenes, Total	60.350	2.0	60.00	0	101	75	125	60.12	0.382	20	
Surr: 1,2-Dichloroethane-d4	26.980		25.00		108	72	119		0		
Surr: 4-Bromofluorobenzene	26.360		25.00		105	76	119		0		
Surr: Dibromofluoromethane	26.860		25.00		107	85	115		0		
Surr: Toluene-d8	25.990		25.00		104	81	120		0		

Sample ID: <b>P171013MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118542</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P17VW180</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792409</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
Benzene	ND	1.0									

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171013MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>118542</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P17VW180</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>10/13/2017</b>	SeqNo: <b>2792409</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
MTBE	ND	1.0									
o-Xylene	ND	1.0									
Tert-Butanol	ND	5.0									
Toluene	ND	2.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	29.600		25.00		118	72	119				
Surr: 4-Bromofluorobenzene	26.240		25.00		105	76	119				
Surr: Dibromofluoromethane	29.220		25.00		117	85	115				S
Surr: Toluene-d8	26.570		25.00		106	81	120				

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026441  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270WATER\_SIMEXT**

Sample ID: <b>LCS-64212</b>	SampType: <b>LCS</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>10/16/2017</b>	RunNo: <b>118628</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64212</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798002</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	4.620	1.0	6.000	0	77.0	24	120				
Surr: 1,2-Dichlorobenzene-d4	1.320		1.000		132	16	120				S
Surr: Phenol-d5	0.520		1.000		52.0	15	120				

Sample ID: <b>LCSD-64212</b>	SampType: <b>LCSD</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>10/16/2017</b>	RunNo: <b>118628</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>64212</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798003</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	4.830	1.0	6.000	0	80.5	24	120	4.620	4.44	20	
Surr: 1,2-Dichlorobenzene-d4	1.320		1.000		132	16	120		0		S
Surr: Phenol-d5	0.560		1.000		56.0	15	120		0		

Sample ID: <b>MB-64212</b>	SampType: <b>MBLK</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>10/16/2017</b>	RunNo: <b>118628</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64212</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798004</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	1.0									
Surr: 1,2-Dichlorobenzene-d4	1.380		1.000		138	16	120				S
Surr: Phenol-d5	0.380		1.000		38.0	15	120				

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | E Value above quantitation range       | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits                   | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits               |
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N026441

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

CHAIN OF CUSTODY RECORD

DATE: 10/12/17  
PAGE: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	Section D Sampler Information:
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh	Report To: Eric Davis	Attention: Steve Defibaugh - Ref. AFE# 81195	Sampler Name: James Dye
Address: 1100 Town & Country Road Orange, CA 92868	Copy To: Steve Defibaugh	Company Name: Kinder Morgan Energy Partners	Sampler Signature: <i>[Signature]</i>
Email To: steve_defibaugh@kindermorgan.com eric.davis@ch2m.com	Purchase Order No.:	Address: 1100 Town & Country Road Orange, CA 92868	Sample Date: 10/12/17
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: SFPP Norwalk	ATL Project Manager: Marlon Cartin	

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (S=GRAB C-COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	CONTAINER TYPE					Comments	
					DATE	TIME			V	V	A	P	A		
1	EFF-10-12	EFFLUENT	WW	G	10/12/17	1550	11	BTEX, 1,1-DCA, 1,2-DCA, MTBE, TBA (82608) TPH-gas (80158) TPH-l, TPH-oli, Total TPH (80158) Cu, Pb, Zn (200.8); Hg (265.1) Phenol (8270)	X	X	X	X	X		
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 10/12/17 1500	Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 10/12/17 1542	<b>Turn Around Time (TAT):</b> <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays  TAT Starts at 8 AM the following day if samples received after 3:00 PM.	<b>Special Instruction:</b>  3.0°C JN#2  650 #. 3019
Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 10/12/17 1600	Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: 10/13/17 8:20 am		
<b>Matrix:</b> W = Water    WW = Wastewater O = Oil    P = Product    S = Soil			

# ASSET Laboratories

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


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


Cooler Received/Opened On: 10/12/2017 Workorder: N026441  
 Rep sample Temp (Deg C): 3.0 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 3019 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR  10/13/2017

Reviewed By:  10/13/2017

# ASSET Laboratories

## WORK ORDER Summary

13-Oct-17

**WorkOrder:** N026441

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** Level IV

**Date Received:** 10/12/2017

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026441-001A	EFFLUENT	10/12/2017 12:50:00 PM	10/13/2017	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/13/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026441-001B			10/13/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/13/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/13/2017		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026441-001C			10/13/2017			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/19/2017		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026441-001D			10/19/2017		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/13/2017		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026441-001A	FOLDER	10/13/2017	10/13/2017		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/13/2017		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			10/13/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			10/13/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



800-322-5555  
www.gso.com

**Ship From**

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

Tracking #: 537973019

**CPS**



**Ship To**

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

**LVS**  
**LAS VEGAS**

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

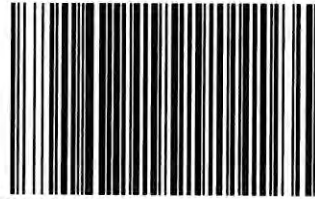
**Reference:**

**C89102A**

**Delivery Instructions:**

**HOLD FOR PICK-UP**

**Signature Type:** NOT REQUIRED



73606232

Print Date: 10/12/2017 7:20 PM

**Package 1 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](http://www.gso.com).

*3-000  
10/12/17*

October 20, 2017

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

TEL:

FAX:

Workorder No.: N026580

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 17, 2017 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,



Puri Romualdo  
Laboratory Director

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



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ELAP Cert 2676 | NV Cert NV00922  
ORELAP/NELAP Cert 4046

**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026580

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

Samples were received intact with proper chain of custody documentation.

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

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

Samples were analyzed within method holding time.

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

**Analytical Comment for EPA 200.8:**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Copper on QC samples N026516-001A-MSD and N026580-001A-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026580  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026580-001A	EFF-10-17	Wastewater	10/17/2017 12:00:00 PM	10/17/2017	10/20/2017





**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Oct-17

**CLIENT:** CH2MHill  
**Lab Order:** N026580  
**Project:** SFPP Norwalk  
**Lab ID:** N026580-001

**Client Sample ID:** EFF-10-17  
**Collection Date:** 10/17/2017 12:00:00 PM  
**Matrix:** WASTEWATER

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

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171018C</b>	QC Batch: <b>64249</b>			PrepDate: <b>10/18/2017</b>		Analyst: <b>CEI</b>
Copper	ND	0.26	0.50	µg/L	1	10/18/2017 04:55 PM
Zinc	ND	0.27	1.0	µg/L	1	10/18/2017 04:55 PM

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



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**CLIENT:** CH2MHill  
**Work Order:** N026580  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-64249</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/18/2017</b>	RunNo: <b>118640</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64249</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798418</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-64249</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/18/2017</b>	RunNo: <b>118640</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64249</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798419</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	10.236	0.50	10.00	0	102	85	115				
Zinc	102.814	1.0	100.0	0	103	85	115				

Sample ID: <b>N026516-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/18/2017</b>	RunNo: <b>118640</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64249</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798435</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	50.699	0.50						50.68	0.0324	20	
Zinc	84.031	1.0						84.72	0.819	20	

Sample ID: <b>N026516-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/18/2017</b>	RunNo: <b>118640</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64249</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798436</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	61.055	0.50	10.00	50.68	104	75	125				
Zinc	180.718	1.0	100.0	84.72	96.0	75	125				

Sample ID: <b>N026516-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/18/2017</b>	RunNo: <b>118640</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64249</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/18/2017</b>	SeqNo: <b>2798437</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:**

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



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

**CLIENT:** CH2MHill  
**Work Order:** N026580  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N026516-001A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>10/18/2017</b>		RunNo: <b>118640</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>64249</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>10/18/2017</b>		SeqNo: <b>2798437</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	57.866	0.50	10.00	50.68	71.8	75	125	61.06	5.36	20	S
Zinc	176.924	1.0	100.0	84.72	92.2	75	125	180.7	2.12	20	

Sample ID: <b>N026580-001A-DUP</b>		SampType: <b>DUP</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>10/18/2017</b>		RunNo: <b>118641</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>64249</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>10/18/2017</b>		SeqNo: <b>2798459</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50						0	0	20	
Zinc	ND	1.0						0	0	20	

Sample ID: <b>N026580-001A-MS</b>		SampType: <b>MS</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>10/18/2017</b>		RunNo: <b>118641</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>64249</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>10/18/2017</b>		SeqNo: <b>2798460</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.425	0.50	10.00	0	74.3	75	125				S
Zinc	92.738	1.0	100.0	0	92.7	75	125				

**Qualifiers:**

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



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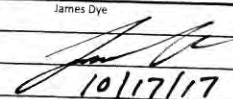
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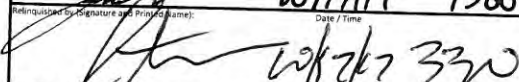
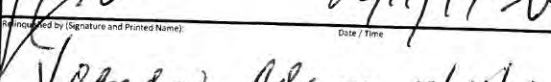
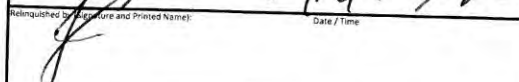
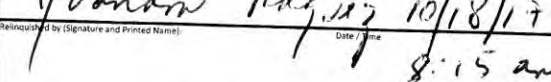
Asset Laboratories  
 3151 W. Post Road  
 Las Vegas, NV 89118  
 Tel: 702-307-2659 Fax: 702-307-2691  
 Marlon Cartin (marlon@assetlaboratories.com)

CHAIN OF CUSTODY RECORD

DATE: 10/17/17  
 PAGE: \_\_\_\_\_ of \_\_\_\_\_

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFE# 81195		Sampler Name: James Dye	
Address: 1100 Town & Country Road Orange, CA 92868		Copy To: Steve Defibaugh		Company Name: Kinder Morgan Energy Partners		Sampler Signature: 	
Email To: steve_defibaugh@kindermorgan.com eric_davis@ch2m.com		Purchase Order No.:		Address: 1100 Town & Country Road Orange, CA 92868		Sample Date: 10/17/17	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: SFPP Norwalk		ATL Project Manager: Marlon Cartin			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	CONTAINER TYPE						COMMENTS
					DATE	TIME			V	V	A	P	A	P	
1	EFF-0-17	EFFLUENT	WW	G	10/17/17	1200	1	RTX, 1,1-DCA, 1,2-DCA, MTBE, TBA (82608)	3	3	2	1	2	1	Comments N026580 - 01 Report metals, TPH and VOC preliminary data on 24-hr TAT Report total Xylenes
2								TPH-gas (8015B)							
3								TPH-d, TPH-ol, Total TPH (8015B)							
4								Cu, Pb, Zn (200.8); Hg (245-1)							
5								Phenol (8270)							
6								Cu, Zn (200.8)							
7															
8															
9															
10															
11															
12															

Relinquished by (Signature and Printed Name):  Date / Time: 10/17/17 1500	Relinquished by (Signature and Printed Name):  Date / Time: 10/17/17 3:00	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction: 3.9c #2
Relinquished by (Signature and Printed Name):  Date / Time: 10/17/17 3:30	Relinquished by (Signature and Printed Name):  Date / Time: 10/18/17 8:15 am		
Relinquished by (Signature and Printed Name):  Date / Time:	Relinquished by (Signature and Printed Name):  Date / Time:		

<b>Matrix:</b>			<b>Preservatives:</b>			<b>Container Type:</b>			
W = Water	WW = Wastewater		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:			M = Metal	P = Plastic	C = Can	

650 # = 5312

# ASSET Laboratories

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

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

Cooler Received/Opened On: 10/17/2017 Workorder: N026580  
 Rep sample Temp (Deg C): 3.9 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 5312 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR YR 10/20/2017

Reviewed By: HS 10/20/2017

## SampleControlLV

---

From: Carino, Vladimir/SCO <[Vladimir.Carino@CH2M.com](mailto:Vladimir.Carino@CH2M.com)>  
Sent: Thursday, October 19, 2017 2:22 PM  
To: Marlon B. Cartin; [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com); 'Sample Control'  
Cc: Orliczky, Nils/SCO  
Subject: RE: N026516 COC and Work Order Summary for Samples Received 10/17/2017

The one on the separate COC, what you are calling Sample 12, EFF-10-17 collected at 12pm.

Thanks.  
Vladimir

---

From: Marlon B. Cartin [<mailto:marlon@assetlaboratories.com>]  
Sent: Thursday, October 19, 2017 1:06 PM  
To: Carino, Vladimir/SCO <[Vladimir.Carino@CH2M.com](mailto:Vladimir.Carino@CH2M.com)>; [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com); 'Sample Control' <[samplecontrol.lv@assetlaboratories.com](mailto:samplecontrol.lv@assetlaboratories.com)>  
Cc: Orliczky, Nils/SCO <[Nils.Orliczky@ch2m.com](mailto:Nils.Orliczky@ch2m.com)>  
Subject: RE: N026516 COC and Work Order Summary for Samples Received 10/17/2017 [EXTERNAL]

Hi Vladimir,

Yes we can do that, which effluent sample?

Thanks,

**Marlon B. Cartin**  
Project Manager  
Nevada: 3151 W. Post Road, Las Vegas, NV 89118  
P: 702.307.2659 Ext. 410 | F: 702.307.2691 | M: 702.439.0421

---

From: Carino, Vladimir/SCO [<mailto:Vladimir.Carino@CH2M.com>]  
Sent: Thursday, October 19, 2017 12:43 PM  
To: 'Marlon B. Cartin'; [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com); Sample Control  
Cc: Orliczky, Nils/SCO  
Subject: RE: N026516 COC and Work Order Summary for Samples Received 10/17/2017

Marlon and Fern,

Can the effluent sample be on its own Work Order? We only have to report the effluent sample but not the midpoint ones.

Thanks.  
Vladimir

---

From: Orliczky, Nils/SCO  
Sent: Thursday, October 19, 2017 12:38 PM  
To: Carino, Vladimir/SCO <[Vladimir.Carino@CH2M.com](mailto:Vladimir.Carino@CH2M.com)>  
Subject: RE: N026516 COC and Work Order Summary for Samples Received 10/17/2017 [EXTERNAL]

It is on 2<sup>nd</sup> page

Thanks,

**Nils Orliczky**

*Environmental Engineer*

**D** 1 714 435 6255

**M** 1 562 882 9676

**CH2M**

---

From: Carino, Vladimir/SCO

Sent: Thursday, October 19, 2017 12:36 PM

To: Sample Control <[samplecontrol.lv@assetlaboratories.com](mailto:samplecontrol.lv@assetlaboratories.com)>; Davis, Eric/LAC <[Eric.Davis@CH2M.com](mailto:Eric.Davis@CH2M.com)>; 'Marlon B. Cartin' <[marlon@assetlaboratories.com](mailto:marlon@assetlaboratories.com)>; [reports.lv@assetlaboratories.com](mailto:reports.lv@assetlaboratories.com)

Cc: Orliczky, Nils/SCO <[Nils.Orliczky@ch2m.com](mailto:Nils.Orliczky@ch2m.com)>

Subject: RE: N026516 COC and Work Order Summary for Samples Received 10/17/2017 [EXTERNAL]

Fern and Marlon,

Do you have a work order for the effluent sample from 10/17? When should I expect the preliminary result of that sample? Hopefully later on today.

Thanks.

Vladimir

---

From: Sample Control [<mailto:samplecontrol.lv@assetlaboratories.com>]

Sent: Thursday, October 19, 2017 11:41 AM

To: Davis, Eric/LAC <[Eric.Davis@CH2M.com](mailto:Eric.Davis@CH2M.com)>

Cc: Carino, Vladimir/SCO <[Vladimir.Carino@CH2M.com](mailto:Vladimir.Carino@CH2M.com)>; Orliczky, Nils/SCO <[Nils.Orliczky@ch2m.com](mailto:Nils.Orliczky@ch2m.com)>

Subject: N026516 COC and Work Order Summary for Samples Received 10/17/2017 [EXTERNAL]

Hi Eric Davis:

Enclosed is COC and WOSummary for sample received 10/17/2017. If you have any questions, please contact your Project Manager listed below.

Marlon Cartin

3151 W. Post Road

Las Vegas, Nevada

89118

Tel. No.: (702)-307-2659 Ext. 410

Cel. No.: (702)-439-0421

Email: [marlon@assetlaboratories.com](mailto:marlon@assetlaboratories.com)

Our apologies for delay email, our internet is down yesterday.

Thank you for using ASSET Laboratories.

Sincerely,

Krydelle D. Ines

Sample Control Officer

# ASSET Laboratories

## WORK ORDER Summary

19-Oct-17

**WorkOrder:** N026580

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 10/17/2017

**Comments:**

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026580-001A	EFF-10-17	10/17/2017 12:00:00 PM	10/18/2017	Wastewater		AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			10/18/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026580-002A	FOLDER		10/18/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB





800-322-5555  
www.gso.com

**Ship From**

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

**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:** NOT REQUIRED

**Tracking #: 538025312**

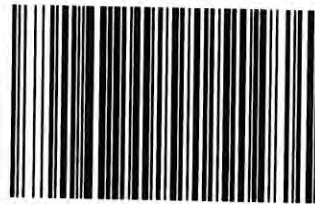
**CPS**



**LVS**  
**LAS VEGAS**

**A**

**C89102A**



73801425

Print Date: 10/17/2017 5:16 PM

**Package 2 of 3**

**LABEL INSTRUCTIONS:**

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

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

Step 2: Fold this page in half.

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

**TERMS AND CONDITIONS:**

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

3.90  
w/ # 2

October 24, 2017

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

TEL:

FAX:

Workorder No.: N026623

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 20, 2017 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,



Puri Romualdo  
Laboratory Director

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



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ORELAP/NELAP Cert 4046

**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026623

**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.

Samples were analyzed within method holding time.

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



**CLIENT:** CH2MHi1  
**Project:** SFPP Norwalk  
**Lab Order:** N026623  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026623-001A	EFF-10-20	Wastewater	10/20/2017 1:50:00 PM	10/20/2017	10/24/2017



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 24-Oct-17

**CLIENT:** CH2MHill  
**Lab Order:** N026623  
**Project:** SFPP Norwalk  
**Lab ID:** N026623-001

**Client Sample ID:** EFF-10-20  
**Collection Date:** 10/20/2017 1:50:00 PM  
**Matrix:** WASTEWATER

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

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171023A</b>	QC Batch: <b>64331</b>			PrepDate: <b>10/22/2017</b>		Analyst: <b>CEI</b>
Copper	8.4	0.26	0.50	µg/L	1	10/23/2017 03:27 PM
Zinc	7.6	0.27	1.0	µg/L	1	10/23/2017 03:27 PM

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



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**CLIENT:** CH2MHill  
**Work Order:** N026623  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-64331</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/22/2017</b>	RunNo: <b>118746</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64331</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/23/2017</b>	SeqNo: <b>2804482</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-64331</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/22/2017</b>	RunNo: <b>118746</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64331</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/23/2017</b>	SeqNo: <b>2804483</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	10.212	0.50	10.00	0	102	85	115				
Zinc	100.905	1.0	100.0	0	101	85	115				

Sample ID: <b>N026623-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/22/2017</b>	RunNo: <b>118746</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64331</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/23/2017</b>	SeqNo: <b>2804487</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	17.596	0.50	10.00	8.445	91.5	75	125				
Zinc	106.055	1.0	100.0	7.611	98.4	75	125				

Sample ID: <b>N026623-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/22/2017</b>	RunNo: <b>118746</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64331</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/23/2017</b>	SeqNo: <b>2804488</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	17.418	0.50	10.00	8.445	89.7	75	125	17.60	1.02	20	
Zinc	103.011	1.0	100.0	7.611	95.4	75	125	106.1	2.91	20	

Sample ID: <b>N026624-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/22/2017</b>	RunNo: <b>118746</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64331</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/23/2017</b>	SeqNo: <b>2804500</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026623  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 200.8\_W\_SFPP

Sample ID: <b>N026624-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/22/2017</b>	RunNo: <b>118746</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64331</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/23/2017</b>	SeqNo: <b>2804500</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.970	0.50	10.00	0	89.7	75	125				
Zinc	96.485	1.0	100.0	0	96.5	75	125				

### Qualifiers:

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



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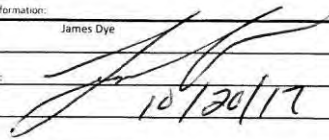
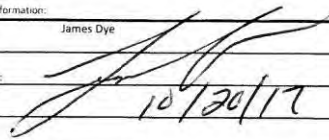
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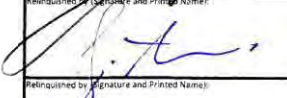
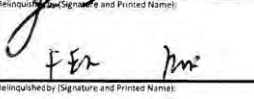

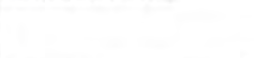
Asset Laboratories  
 3151 W. Post Road  
 Las Vegas, NV 89118  
 Tel: 702-307-2659 Fax: 702-307-2691  
 Marlon Cartin (marlon@assetlaboratories.com)

CHAIN OF CUSTODY RECORD

DATE: 10/20/17  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: <b>Kinder Morgan Energy Partners</b> Attention: <b>Steve Defibaugh</b>		Report To: <b>Eric Davis</b>		Attention: <b>Steve Defibaugh - Ref. AFE# 81195</b>		Sampler Name: <b>James Dye</b>	
Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b>		Copy To: <b>Steve Defibaugh</b>		Company Name: <b>Kinder Morgan Energy Partners</b>		Sampler Name: 	
Email To: <b>steve_defibaugh@kindermorgan.com</b> <b>eric_davis@ch2m.com</b>		Purchase Order No.:		Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b>		Sampler Signature: 	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: <b>SFPP Norwalk</b>		ATL Project Manager: <b>Marlon Cartin</b>		Sample Date: <u>10/20/17</u>	

Section E Required Sample Information		CONTAINER TYPE		V		V		A		P		A												
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	TOTAL # OF CONTAINERS	Analysis Test	# OF CONTAINERS		PRESERVATIVE		VOLUME (mL)										Comments	
									V	A	H	N	40	1000	500	1000								
1	EFF-10-20	EFFLUENT	WW	G	10/20/17	1350		BTEX, 1,1-DCA, 1,2-DCA, MTBE, TBA (82608)																N026623-01
2								TPH-gas (8015B)																Report metals, TPH and VOC preliminary data on 24-hr TAT
3								TPH-4, TPH-oil, Total TPH (8015B)																Report total Xylenes
4								Cu, Pb, Zn (200.8); Hg (245.1)																
5								Phenol (82.70)																
6								Cu, Zn (200.8)																
7																								
8																								
9																								
10																								
11																								
12																								

Relinquished by (Signature and Printed Name):  Date / Time: <u>10/20/17 15:00</u>	Relinquished by (Signature and Printed Name):  Date / Time: <u>10/20/17 3:00</u>	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):  Date / Time: <u>10/20/17 3:30</u>	Relinquished by (Signature and Printed Name):  Date / Time: <u>10/21/17 9:30</u>		
Relinquished by (Signature and Printed Name):  Date / Time:	Relinquished by (Signature and Printed Name):  Date / Time:		

090 0113 12H1 4.7°C

Matrix:		Preservatives:			Container Type:				
W = Water	WW = Wastewater	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:			M = Metal			P = Plastic	C = Can



# ASSET Laboratories

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


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

Cooler Received/Opened On: 10/20/2017 Workorder: N026623  
 Rep sample Temp (Deg C): 4.7 IR Gun ID: 1  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 6113 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

For:  
 Checklist Completed By: FR  10/23/2017

Reviewed By:  10/23/2017

# ASSET Laboratories

## WORK ORDER Summary

20-Oct-17

**WorkOrder:** N026623

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 10/20/2017

**Comments:**

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026623-001A	EFF-10-20	10/20/2017 1:50:00 PM	10/23/2017	Wastewater		AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			10/23/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026623-002A	FOLDER	10/23/2017	10/23/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			10/23/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



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

Tracking #: 538076113

**SDS**



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

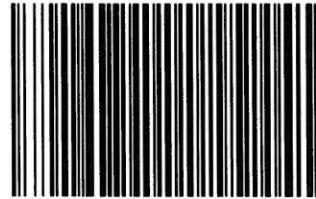
**LVS**  
**LAS VEGAS**

**A**

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

**C89102A**

**Delivery Instructions:**  
HOLD FOR PICK-UP  
**Signature Type:** NOT REQUIRED



73999603

Print Date: 10/20/2017 4:36 PM

Package 1 of 2

**LABEL INSTRUCTIONS:**

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

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

Step 2: Fold this page in half.

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

**TERMS AND CONDITIONS:**

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

10 H 1 4.7°C

October 26, 2017

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

TEL:

FAX:

Workorder No.: N026684

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 25, 2017 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,



Quennie Manimtim  
Laboratory Director

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



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ORELAP/NELAP Cert 4046

**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026684

**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.

Samples were analyzed within method holding time.

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



**CLIENT:** CH2MHi1  
**Project:** SFPP Norwalk  
**Lab Order:** N026684  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026684-001A	EFF-10-25	Wastewater	10/25/2017 11:40:00 AM	10/25/2017	10/26/2017



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 26-Oct-17

**CLIENT:** CH2MHill  
**Lab Order:** N026684  
**Project:** SFPP Norwalk  
**Lab ID:** N026684-001

**Client Sample ID:** EFF-10-25  
**Collection Date:** 10/25/2017 11:40:00 AM  
**Matrix:** WASTEWATER

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

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171026A</b>	QC Batch: <b>64400</b>			PrepDate: <b>10/26/2017</b>		Analyst: <b>CEI</b>
Copper	ND	0.26	0.50	µg/L	1	10/26/2017 03:06 PM
Zinc	0.28	0.27	1.0	J µg/L	1	10/26/2017 03:06 PM

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



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**CLIENT:** CH2MHill  
**Work Order:** N026684  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-64400</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/26/2017</b>	RunNo: <b>118818</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64400</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/26/2017</b>	SeqNo: <b>2809422</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-64400</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/26/2017</b>	RunNo: <b>118818</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64400</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/26/2017</b>	SeqNo: <b>2809423</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	9.827	0.50	10.00	0	98.3	85	115				
Zinc	97.423	1.0	100.0	0	97.4	85	115				

Sample ID: <b>N026684-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/26/2017</b>	RunNo: <b>118818</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64400</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/26/2017</b>	SeqNo: <b>2809425</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50						0	0	20	
Zinc	ND	1.0						0.2829	0	20	

Sample ID: <b>N026684-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/26/2017</b>	RunNo: <b>118818</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64400</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/26/2017</b>	SeqNo: <b>2809430</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.991	0.50	10.00	0	89.9	75	125				
Zinc	94.401	1.0	100.0	0.2829	94.1	75	125				

Sample ID: <b>N026684-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>10/26/2017</b>	RunNo: <b>118818</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64400</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>10/26/2017</b>	SeqNo: <b>2809431</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:**

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



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 ORELAP/NELAP Cert 4046



**CLIENT:** CH2MHill  
**Work Order:** N026684  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N026684-001A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>10/26/2017</b>		RunNo: <b>118818</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>64400</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>10/26/2017</b>		SeqNo: <b>2809431</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.976	0.50	10.00	0	89.8	75	125	8.991	0.171	20	
Zinc	95.283	1.0	100.0	0.2829	95.0	75	125	94.40	0.930	20	

**Qualifiers:**

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



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

CHAIN OF CUSTODY RECORD

DATE: 10/25/17  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: <b>Kinder Morgan Energy Partners</b> Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFE# 81195		Sampler Name: <u>James Dye</u> <u>Mlad Canino</u>	
Address: 1100 Town & Country Road Orange, CA 92868		Copy To: Steve Defibaugh		Company Name: Kinder Morgan Energy Partners		Sampler Signature: <u>[Signature]</u>	
Email To: <u>steve_defibaugh@kindermorgan.com</u> <u>eric.davis@ch2m.com</u>		Purchase Order No.:		Address: 1100 Town & Country Road Orange, CA 92868		Sample Date: <u>10/25/17</u>	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: <b>SFPP Norwalk</b>		ATL Project Manager: Marlon Cartin			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	CONTAINER TYPE						Comments
					DATE	TIME			V	V	A	P	A	P	
1	EFF-10-25	EFFLUENT	WW	G	10/25/17	11:40	1	BTEX, 1,1-DCA, 1,2-DCA, MTBE, TBA (82608) TPH-gas (8015B) TPH-d, TPH-oil, Total TPH (8015B) Cu, Pb, Zn (200.8); Hg (245.1) Phenol (8270) Cu, Zn (200.8)	3	3	2	1	2	1	N026684 - 01
2															Report metals, TPH and VOC preliminary data on 24-hr TAT
3															Report total Xylenes
4															
5															
6															
7															
8															
9															
10															
11															
12															

Relinquished by (Signature and Printed Name): <u>[Signature]</u> Date / Time: <u>10/25/17</u>	Relinquished by (Signature and Printed Name): <u>[Signature]</u> Date / Time: <u>10/25/17 12:30</u>	<b>Turn Around Time (TAT):</b> <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input type="checkbox"/> F = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	<b>Special Instruction:</b>  <u>2.9°C</u> <u>SR# 1</u>
Relinquished by (Signature and Printed Name): <u>[Signature]</u> Date / Time: <u>10/25/17 12:35</u>	Relinquished by (Signature and Printed Name): <u>[Signature]</u> Date / Time: <u>10/26/17</u>		
Relinquished by (Signature and Printed Name): <u>[Signature]</u> Date / Time: <u>8:35 am</u>			

<b>Matrix:</b>			<b>Preservatives:</b>			<b>Container Type:</b>				
W = Water	WW = Wastewater		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:			M = Metal			P = Plastic	C = Can

650 # : 9984

# ASSET Laboratories

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


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

Cooler Received/Opened On: 10/25/2017 Workorder: N026684  
 Rep sample Temp (Deg C): 2.9 IR Gun ID: 1  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 9984 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR  10/26/2017

Reviewed By:  10/26/2017

# ASSET Laboratories

## WORK ORDER Summary

26-Oct-17

**WorkOrder:** N026684

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 10/25/2017

**Comments:**

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026684-001A	EFF-10-25	10/25/2017 11:40:00 AM	10/26/2017	Wastewater		AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			10/26/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026684-002A	FOLDER	10/26/2017	10/26/2017	Folder	Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			10/26/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



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**Ship From**  
ASSET LABORATORIES  
MOLKY BRAR  
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CERRITOS, CA 90703

Tracking #: 538129984

CPS



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

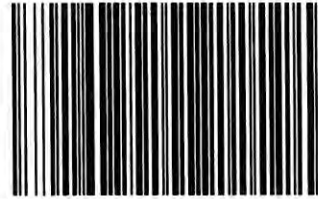
**LVS**  
**LAS VEGAS**

**A**

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

**C89102A**

**Delivery Instructions:**  
**HOLD FOR PICK-UP**  
**Signature Type:** NOT REQUIRED



74207221

Print Date: 10/25/2017 4:28 PM

Package 1 of 2

**LABEL INSTRUCTIONS:**

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

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

Step 2: Fold this page in half.

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

**TERMS AND CONDITIONS:**

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

2.90  
LN # 1

November 02, 2017

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

TEL:

FAX:

Workorder No.: N026793

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on October 31, 2017 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,



Quennie Manimtim  
Laboratory Director

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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026793

**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.

Samples were analyzed within method holding time.

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

**Analytical Comment for EPA 200.8:**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Copper in N026793-001A-MS and N026793-001A-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N026793  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026793-001A	EFF-10-31	Wastewater	10/31/2017 2:00:00 PM	10/31/2017	11/2/2017





**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 02-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026793  
**Project:** SFPP Norwalk  
**Lab ID:** N026793-001

**Client Sample ID:** EFF-10-31  
**Collection Date:** 10/31/2017 2:00:00 PM  
**Matrix:** WASTEWATER

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

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171102A</b>	QC Batch: <b>64493</b>			PrepDate: <b>11/1/2017</b>		Analyst: <b>CEI</b>
Copper	ND	0.26	0.50	µg/L	1	11/2/2017 11:48 AM
Zinc	ND	0.27	1.0	µg/L	1	11/2/2017 11:48 AM

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



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"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N026793  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-64493</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>11/1/2017</b>	RunNo: <b>118977</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64493</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/2/2017</b>	SeqNo: <b>2819908</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-64493</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>11/1/2017</b>	RunNo: <b>118977</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64493</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/2/2017</b>	SeqNo: <b>2819909</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	9.242	0.50	10.00	0	92.4	85	115				
Zinc	103.297	1.0	100.0	0	103	85	115				

Sample ID: <b>N026793-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>11/1/2017</b>	RunNo: <b>118977</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64493</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/2/2017</b>	SeqNo: <b>2819911</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	0.50						0	0	20	
Zinc	ND	1.0						0	0	20	

Sample ID: <b>N026793-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>11/1/2017</b>	RunNo: <b>118977</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64493</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/2/2017</b>	SeqNo: <b>2819914</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	6.503	0.50	10.00	0	65.0	75	125				S
Zinc	101.521	1.0	100.0	0	102	75	125				

Sample ID: <b>N026793-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>11/1/2017</b>	RunNo: <b>118977</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64493</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/2/2017</b>	SeqNo: <b>2819915</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:**

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

Calculations are based on raw values

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"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N026793  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N026793-001A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>11/1/2017</b>		RunNo: <b>118977</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>64493</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>11/2/2017</b>		SeqNo: <b>2819915</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	6.475	0.50	10.00	0	64.8	75	125	6.503	0.428	20	S
Zinc	101.919	1.0	100.0	0	102	75	125	101.5	0.392	20	

**Qualifiers:**

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



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# ASSET Laboratories

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


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

Cooler Received/Opened On: 10/31/2017 Workorder: N026793  
 Rep sample Temp (Deg C): 3.8 IR Gun ID: 1  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 3821 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

Checklist Completed By: YR  11/1/2017

Reviewed By:  11/01/2017

# ASSET Laboratories

## WORK ORDER Summary

31-Oct-17

**WorkOrder:** N026793

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 10/31/2017

**Comments:**

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026793-001A	EFF-10-31	10/31/2017 2:00:00 PM	11/1/2017	Wastewater		AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/1/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026793-002A	FOLDER	11/1/2017	11/1/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			11/1/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



800-322-5555  
www.gso.com

**Ship From**

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

Tracking #: 538203821

CPS

**Ship To**

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

**LVS**  
**LAS VEGAS**

A

COD: \$0.00

Weight: 0 lb(s)

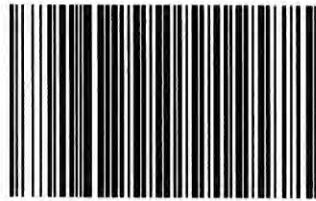
Reference:

C89102A

**Delivery Instructions:**

HOLD FOR PICK-UP

Signature Type: NOT REQUIRED



74490100

Print Date: 10/31/2017 5:31 PM

Package 1 of 3

**LABEL INSTRUCTIONS:**

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

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

Step 2: Fold this page in half.

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

**TERMS AND CONDITIONS:**

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

3.80  
LN #1

November 20, 2017

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

TEL:

FAX:

Workorder No.: N026919

RE: SFPP - Norwalk Site

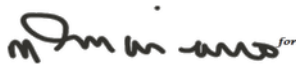
Attention: Eric Davis

Enclosed are the results for sample(s) received on November 07, 2017 by ASSET Laboratories .  
The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in  
accordance with the applicable laboratory certifications.

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

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

Sincerely,



Quennie Manimtim  
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in  
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**CLIENT:** CH2MHill  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N026919

**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.

Samples were analyzed within method holding time.

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

**Subcontracted Analyses:**

Ammonia, Cyanide, Sulfide, MBAs, BOD, OCPs, PCBs and SVOCs were subcontracted to BC Laboratories, Bakersfield, CA.

Asbestos was subcontracted to LA Testing, Pasadena, CA.

EPA 8290 was subcontracted to PACE Laboratories, Minneapolis, MN.

**Analytical Comment for EPA 200.7:**

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

**Analytical Comment for EPA 200.8:**

Matrix Spike Duplicate (MSD) is outside recovery criteria for Copper possibly due to non-homogeneity of sample. The associated Laboratory Control Sample (LCS) recovery was acceptable.

**Analytical Comment for 8260B:**



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**CLIENT:** CH2MHill  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N026919

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## CASE NARRATIVE

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

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

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

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for some analytes possibly due to non-homogeneity of sample; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Analytical Comments for EPA 300.0:

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.

Dilution was necessary for sample N026919-001 due to precipitation upon addition of eluent.

Analytical Comment for EPA 160.2\_2540D:

RPD for Sample Duplicate (DUP) is outside criteria possibly in QC sample N026917-001ADUP due to non-homogeneity of sample; however, the Laboratory Control Sample (LCS) validated the analytical batch.



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**ASSET Laboratories**

Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N026919  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026919-001A	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001B	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001C	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001D	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001E	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001F	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001G	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001H	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001I	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001J	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001K	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001L	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001M	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001N	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001O	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001P	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-001Q	EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	11/7/2017	11/20/2017
N026919-002A	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002B	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002C	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002D	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002E	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002F	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002G	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002H	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-002I	RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	11/7/2017	11/20/2017
N026919-003A	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003B	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003C	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017



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**CLIENT:** CH2MHill  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N026919  
**Contract No:**

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N026919-003D	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003E	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003F	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003G	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003H	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017
N026919-003I	RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	11/7/2017	11/20/2017



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**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-001

**Client Sample ID:** EFF-11-07  
**Collection Date:** 11/7/2017 1:10:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>TOTAL NON-FILTERABLE RESIDUE</b>							
<b>SM2540D</b>							
RunID: <b>NV00922-WC_171109E</b>	QC Batch: <b>64605</b>				PrepDate: <b>11/9/2017</b>		Analyst: <b>LR</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	11/9/2017 10:52 AM
<b>SETTLABLE MATTER</b>							
<b>SM2540F</b>							
RunID: <b>NV00922-WC_171108H</b>	QC Batch: <b>64591</b>				PrepDate: <b>11/8/2017</b>		Analyst: <b>QBM</b>
Settleable Matter	ND	0.096	0.096		ml/L	1	11/8/2017
<b>HEXANE EXTRACTABLE MATERIAL (HEM)</b>							
<b>EPA 1664 _HEM REV B</b>							
RunID: <b>NV00922-WC_171108A</b>	QC Batch: <b>64582</b>				PrepDate: <b>11/8/2017</b>		Analyst: <b>LR</b>
Oil & Grease	ND	0.71	4.3		mg/L	1	11/8/2017 07:20 AM
<b>TURBIDITY</b>							
<b>SM 2130B</b>							
RunID: <b>NV00922-WC_171108F</b>	QC Batch: <b>R119137</b>				PrepDate:		Analyst: <b>LR</b>
Turbidity	0.28	0.10	0.10		NTU	1	11/8/2017 02:35 PM
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>							
<b>EPA 8260B</b>							
RunID: <b>NV00922-MS5_171108A</b>	QC Batch: <b>P17VW196</b>				PrepDate:		Analyst: <b>QBM</b>
1,1,1-Trichloroethane	ND	0.15	1.0		ug/L	1	11/8/2017 12:23 PM
1,1,2,2-Tetrachloroethane	ND	0.14	1.0		ug/L	1	11/8/2017 12:23 PM
1,1,2-Trichloroethane	ND	0.15	1.0		ug/L	1	11/8/2017 12:23 PM
1,1-Dichloroethane	ND	0.13	0.50		ug/L	1	11/8/2017 12:23 PM
1,1-Dichloroethene	ND	0.15	1.0		ug/L	1	11/8/2017 12:23 PM
1,2,4-Trichlorobenzene	ND	0.13	1.0		ug/L	1	11/8/2017 12:23 PM
1,2-Dichlorobenzene	ND	0.14	1.0		ug/L	1	11/8/2017 12:23 PM
1,2-Dichloroethane	ND	0.13	0.50		ug/L	1	11/8/2017 12:23 PM
1,2-Dichloropropane	ND	0.14	1.0		ug/L	1	11/8/2017 12:23 PM
1,3-Dichlorobenzene	ND	0.11	1.0		ug/L	1	11/8/2017 12:23 PM
1,4-Dichlorobenzene	ND	0.13	1.0		ug/L	1	11/8/2017 12:23 PM
2-Butanone	ND	1.9	10		ug/L	1	11/8/2017 12:23 PM
Acrolein	ND	1.9	20		ug/L	1	11/8/2017 12:23 PM
Acrylonitrile	ND	2.5	20		ug/L	1	11/8/2017 12:23 PM
Benzene	ND	0.14	1.0		ug/L	1	11/8/2017 12:23 PM
Bromodichloromethane	ND	0.10	1.0		ug/L	1	11/8/2017 12:23 PM

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



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**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-001

**Client Sample ID:** EFF-11-07  
**Collection Date:** 11/7/2017 1:10:00 PM  
**Matrix:** WASTEWATER

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

**EPA 8260B**

RunID: NV00922-MS5_171108A	QC Batch: P17VW196	PrepDate:	Analyst: QBM		
Bromoform	ND 0.34	1.0	ug/L	1	11/8/2017 12:23 PM
Bromomethane	ND 0.12	1.0	ug/L	1	11/8/2017 12:23 PM
Carbon tetrachloride	ND 0.13	0.50	ug/L	1	11/8/2017 12:23 PM
Chlorobenzene	ND 0.13	1.0	ug/L	1	11/8/2017 12:23 PM
Chloroethane	ND 0.19	1.0	ug/L	1	11/8/2017 12:23 PM
Chloroform	ND 0.18	1.0	ug/L	1	11/8/2017 12:23 PM
Chloromethane	ND 0.22	1.0	ug/L	1	11/8/2017 12:23 PM
cis-1,3-Dichloropropene	ND 0.14	1.0	ug/L	1	11/8/2017 12:23 PM
Di-isopropyl ether	ND 0.18	1.0	ug/L	1	11/8/2017 12:23 PM
Dibromochloromethane	ND 0.12	1.0	ug/L	1	11/8/2017 12:23 PM
Ethylbenzene	ND 0.14	1.0	ug/L	1	11/8/2017 12:23 PM
Hexachlorobutadiene	ND 0.15	1.0	ug/L	1	11/8/2017 12:23 PM
m,p-Xylene	ND 0.23	1.0	ug/L	1	11/8/2017 12:23 PM
Methylene chloride	ND 0.26	2.0	ug/L	1	11/8/2017 12:23 PM
MTBE	ND 0.13	1.0	ug/L	1	11/8/2017 12:23 PM
Naphthalene	ND 0.094	1.0	ug/L	1	11/8/2017 12:23 PM
o-Xylene	ND 0.13	1.0	ug/L	1	11/8/2017 12:23 PM
Tert-amyl methyl ether	ND 0.12	1.0	ug/L	1	11/8/2017 12:23 PM
Tert-Butanol	ND 1.8	5.0	ug/L	1	11/8/2017 12:23 PM
Tetrachloroethene	ND 0.13	1.0	ug/L	1	11/8/2017 12:23 PM
Toluene	ND 0.14	2.0	ug/L	1	11/8/2017 12:23 PM
trans-1,2-Dichloroethene	ND 0.20	1.0	ug/L	1	11/8/2017 12:23 PM
trans-1,3-Dichloropropene	ND 0.13	1.0	ug/L	1	11/8/2017 12:23 PM
Trichloroethene	ND 0.14	1.0	ug/L	1	11/8/2017 12:23 PM
Vinyl chloride	ND 0.15	0.50	ug/L	1	11/8/2017 12:23 PM
Xylenes, Total	ND 1.5	2.0	ug/L	1	11/8/2017 12:23 PM
Surr: 1,2-Dichloroethane-d4	110 0	72-119	%REC	1	11/8/2017 12:23 PM
Surr: 4-Bromofluorobenzene	98.0 0	76-119	%REC	1	11/8/2017 12:23 PM
Surr: Dibromofluoromethane	112 0	85-115	%REC	1	11/8/2017 12:23 PM
Surr: Toluene-d8	104 0	81-120	%REC	1	11/8/2017 12:23 PM

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID: NV00922-GC3_171108A	QC Batch: 64584	PrepDate: 11/8/2017	Analyst: QCE		
TPH-Diesel (C13-C22)	ND 16	26	ug/L	1	11/9/2017 12:18 AM
TPH-Oil (C23-C36)	ND 14	26	ug/L	1	11/9/2017 12:18 AM

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



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**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-001

**Client Sample ID:** EFF-11-07  
**Collection Date:** 11/7/2017 1:10:00 PM  
**Matrix:** WASTEWATER

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

**EPA 3510C**

**EPA 8015B**

RunID: <b>NV00922-GC3_171108A</b>	QC Batch: <b>64584</b>			PrepDate: <b>11/8/2017</b>		Analyst: <b>QCE</b>
Surr: Octacosane	137	0	26-152	%REC	1	11/9/2017 12:18 AM
Surr: p-Terphenyl	99.2	0	57-132	%REC	1	11/9/2017 12:18 AM

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>NV00922-GC4_171108A</b>	QC Batch: <b>E17VW099</b>			PrepDate:		Analyst: <b>QBM</b>
TPH-Gasoline (C4-C12)	ND	16	50	ug/L	1	11/8/2017 12:08 PM
Surr: Chlorobenzene - d5	123	0	74-138	%REC	1	11/8/2017 12:08 PM

**HEXAVALENT CHROMIUM BY IC**

**EPA 7199**

RunID: <b>NV00922-IC7_171108A</b>	QC Batch: <b>R119139</b>			PrepDate:		Analyst: <b>RAB</b>
Hexavalent Chromium	ND	0.033	0.20	µg/L	1	11/8/2017 08:59 AM

**ANIONS BY ION CHROMATOGRAPHY**

**EPA 300.0**

RunID: <b>NV00922-IC8_171108A</b>	QC Batch: <b>R119127</b>			PrepDate:		Analyst: <b>RAB</b>
Nitrogen, Nitrite	ND	0.015	2.5	mg/L	5	11/8/2017 10:23 AM

**ANIONS BY ION CHROMATOGRAPHY**

**EPA 300.0**

RunID: <b>NV00922-IC8_171108A</b>	QC Batch: <b>R119127</b>			PrepDate:		Analyst: <b>RAB</b>
Nitrate/Nitrite as N	1.3	0.015	0.10	mg/L	1	11/8/2017 10:23 AM

**ANIONS BY ION CHROMATOGRAPHY**

**EPA 300.0**

RunID: <b>NV00922-IC8_171108A</b>	QC Batch: <b>R119127</b>			PrepDate:		Analyst: <b>RAB</b>
Nitrate as N	1.3	0.025	0.25	mg/L	5	11/8/2017 10:23 AM

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID: <b>NV00922-AA1_171108A</b>	QC Batch: <b>64576</b>			PrepDate: <b>11/8/2017</b>		Analyst: <b>MG</b>
Mercury	0.045	0.018	0.050	J µg/L	1	11/8/2017 03:56 PM

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



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**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-001

**Client Sample ID:** EFF-11-07  
**Collection Date:** 11/7/2017 1:10:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL METALS BY COLLISION/REACTION CELL ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171108A</b>	QC Batch: <b>64575</b>				PrepDate: <b>11/8/2017</b>		Analyst: <b>CEI</b>
Selenium	0.15	0.070	0.50	J	µg/L	1	11/8/2017 03:28 PM

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171108A</b>	QC Batch: <b>64575</b>				PrepDate: <b>11/8/2017</b>		Analyst: <b>CEI</b>
Antimony	0.14	0.026	0.50	J	µg/L	1	11/8/2017 03:28 PM
Arsenic	21	0.016	0.10		µg/L	1	11/8/2017 03:28 PM
Beryllium	ND	0.026	0.50		µg/L	1	11/8/2017 03:28 PM
Cadmium	ND	0.0098	0.25		µg/L	1	11/8/2017 03:28 PM
Chromium	ND	0.086	0.50		µg/L	1	11/8/2017 03:28 PM
Copper	ND	0.26	0.50		µg/L	1	11/8/2017 03:28 PM
Lead	ND	0.053	0.50		µg/L	1	11/8/2017 03:28 PM
Nickel	ND	0.038	1.0		µg/L	1	11/8/2017 03:28 PM
Silver	ND	0.023	0.25		µg/L	1	11/8/2017 03:28 PM
Thallium	0.090	0.034	0.50	J	µg/L	1	11/8/2017 03:28 PM
Zinc	0.33	0.039	1.0	J	µg/L	1	11/8/2017 03:28 PM

**TOTAL TPH**

**EPA 8015B**

RunID: <b>NV00922-GC3_171108A</b>	QC Batch: <b>R119129</b>				PrepDate:		Analyst: <b>QCE</b>
Total TPH	ND	16	50		ug/L	1	11/8/2017

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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



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**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-002

**Client Sample ID:** RSW-001-11-07  
**Collection Date:** 11/7/2017 11:55:00 AM  
**Matrix:** WASTEWATER

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

**EPA 8260B**

RunID:	NV00922-MS5_171108A	QC Batch:	P17VW196	PrepDate:	Analyst:	QBM
1,1,1-Trichloroethane	ND	0.068	1.0	ug/L	1	11/8/2017 12:45 PM
1,1,2,2-Tetrachloroethane	ND	0.031	1.0	ug/L	1	11/8/2017 12:45 PM
1,1,2-Trichloroethane	ND	0.062	1.0	ug/L	1	11/8/2017 12:45 PM
1,1-Dichloroethane	ND	0.022	0.50	ug/L	1	11/8/2017 12:45 PM
1,1-Dichloroethene	ND	0.087	1.0	ug/L	1	11/8/2017 12:45 PM
1,2,4-Trichlorobenzene	ND	0.060	1.0	ug/L	1	11/8/2017 12:45 PM
1,2-Dichlorobenzene	ND	0.040	1.0	ug/L	1	11/8/2017 12:45 PM
1,2-Dichloroethane	ND	0.064	0.50	ug/L	1	11/8/2017 12:45 PM
1,2-Dichloropropane	ND	0.062	1.0	ug/L	1	11/8/2017 12:45 PM
1,3-Dichlorobenzene	ND	0.057	1.0	ug/L	1	11/8/2017 12:45 PM
1,4-Dichlorobenzene	ND	0.030	1.0	ug/L	1	11/8/2017 12:45 PM
2-Butanone	ND	0.48	10	ug/L	1	11/8/2017 12:45 PM
Acrolein	ND	0.56	20	ug/L	1	11/8/2017 12:45 PM
Acrylonitrile	ND	0.30	20	ug/L	1	11/8/2017 12:45 PM
Benzene	ND	0.036	1.0	ug/L	1	11/8/2017 12:45 PM
Bromodichloromethane	ND	0.031	1.0	ug/L	1	11/8/2017 12:45 PM
Bromoform	ND	0.32	1.0	ug/L	1	11/8/2017 12:45 PM
Bromomethane	ND	0.32	1.0	ug/L	1	11/8/2017 12:45 PM
Carbon tetrachloride	ND	0.057	0.50	ug/L	1	11/8/2017 12:45 PM
Chlorobenzene	ND	0.036	1.0	ug/L	1	11/8/2017 12:45 PM
Chloroethane	ND	0.099	1.0	ug/L	1	11/8/2017 12:45 PM
Chloroform	0.16	0.036	1.0	J ug/L	1	11/8/2017 12:45 PM
Chloromethane	ND	0.12	1.0	ug/L	1	11/8/2017 12:45 PM
cis-1,3-Dichloropropene	ND	0.044	1.0	ug/L	1	11/8/2017 12:45 PM
Di-isopropyl ether	ND	0.017	1.0	ug/L	1	11/8/2017 12:45 PM
Dibromochloromethane	ND	0.072	1.0	ug/L	1	11/8/2017 12:45 PM
Ethylbenzene	ND	0.036	1.0	ug/L	1	11/8/2017 12:45 PM
Hexachlorobutadiene	ND	0.11	1.0	ug/L	1	11/8/2017 12:45 PM
m,p-Xylene	0.10	0.024	1.0	J ug/L	1	11/8/2017 12:45 PM
Methylene chloride	ND	0.28	2.0	ug/L	1	11/8/2017 12:45 PM
MTBE	ND	0.062	1.0	ug/L	1	11/8/2017 12:45 PM
Naphthalene	ND	0.048	1.0	ug/L	1	11/8/2017 12:45 PM
o-Xylene	ND	0.042	1.0	ug/L	1	11/8/2017 12:45 PM
Tert-amyl methyl ether	ND	0.039	1.0	ug/L	1	11/8/2017 12:45 PM
Tert-Butanol	ND	0.30	5.0	ug/L	1	11/8/2017 12:45 PM
Tetrachloroethene	ND	0.16	1.0	ug/L	1	11/8/2017 12:45 PM

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



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**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-002

**Client Sample ID:** RSW-001-11-07  
**Collection Date:** 11/7/2017 11:55:00 AM  
**Matrix:** WASTEWATER

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

**EPA 8260B**

RunID:	NV00922-MS5_171108A	QC Batch:	P17VW196	PrepDate:	Analyst: QBM		
Toluene	0.12	0.042	2.0	J ug/L	1	11/8/2017 12:45 PM	
trans-1,2-Dichloroethene	ND	0.070	1.0	ug/L	1	11/8/2017 12:45 PM	
trans-1,3-Dichloropropene	ND	0.039	1.0	ug/L	1	11/8/2017 12:45 PM	
Trichloroethene	ND	0.12	1.0	ug/L	1	11/8/2017 12:45 PM	
Vinyl chloride	ND	0.095	0.50	ug/L	1	11/8/2017 12:45 PM	
Xylenes, Total	ND	1.5	2.0	ug/L	1	11/8/2017 12:45 PM	
Surr: 1,2-Dichloroethane-d4	114	0	72-119	%REC	1	11/8/2017 12:45 PM	
Surr: 4-Bromofluorobenzene	99.2	0	76-119	%REC	1	11/8/2017 12:45 PM	
Surr: Dibromofluoromethane	114	0	85-115	%REC	1	11/8/2017 12:45 PM	
Surr: Toluene-d8	106	0	81-120	%REC	1	11/8/2017 12:45 PM	

**HEXAVALENT CHROMIUM BY IC**

**EPA 7199**

RunID:	NV00922-IC7_171108A	QC Batch:	R119139	PrepDate:	Analyst: RAB	
Hexavalent Chromium	0.14	0.033	0.20	J ug/L	1	11/8/2017 09:11 AM

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID:	NV00922-AA1_171108A	QC Batch:	64576	PrepDate:	11/8/2017	Analyst: MG
Mercury	0.041	0.018	0.050	J ug/L	1	11/8/2017 03:42 PM

**TOTAL METALS BY ICP**

**EPA 200.7**

RunID:	NV00922-ICP2_171108A	QC Batch:	64577	PrepDate:	11/8/2017	Analyst: CEI
Calcium	83000	28	500	ug/L	1	11/8/2017 01:53 PM
Magnesium	41000	4.4	100	ug/L	1	11/8/2017 01:53 PM

**HARDNESS BY CALCULATION**

**SM 2340 B**

RunID:	NV00922-ICP2_171108A	QC Batch:	64577	PrepDate:	11/8/2017	Analyst: CEI
Total Hardness (As CaCO3)	380	1.0	1.0	mg/L	1	11/8/2017

**TOTAL METALS BY COLLISION/REACTION CELL ICNMS**

**EPA 200.8**

RunID:	NV00922-ICP7_171108A	QC Batch:	64575	PrepDate:	11/8/2017	Analyst: CEI
Selenium	2.6	0.070	0.50	ug/L	1	11/8/2017 02:22 PM

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



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**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-002

**Client Sample ID:** RSW-001-11-07  
**Collection Date:** 11/7/2017 11:55:00 AM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID:	NV00922-ICP7_171108A	QC Batch:	64575	PrepDate:	11/8/2017	Analyst:	CEI
Antimony	1.3	0.026	0.50		µg/L	1	11/8/2017 02:22 PM
Arsenic	4.5	0.016	0.10		µg/L	1	11/8/2017 02:22 PM
Beryllium	ND	0.026	0.50		µg/L	1	11/8/2017 02:22 PM
Cadmium	0.048	0.0098	0.25	J	µg/L	1	11/8/2017 02:22 PM
Chromium	1.3	0.086	0.50		µg/L	1	11/8/2017 02:22 PM
Copper	9.2	0.26	0.50		µg/L	1	11/8/2017 02:22 PM
Lead	1.3	0.053	0.50		µg/L	1	11/8/2017 02:22 PM
Nickel	2.3	0.038	1.0		µg/L	1	11/8/2017 02:22 PM
Silver	ND	0.023	0.25		µg/L	1	11/8/2017 02:22 PM
Thallium	0.069	0.034	0.50	J	µg/L	1	11/8/2017 02:22 PM
Zinc	30	0.039	1.0		µg/L	1	11/8/2017 02:22 PM

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



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**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-003

**Client Sample ID:** RSW-002-11-07  
**Collection Date:** 11/7/2017 12:07:00 PM  
**Matrix:** WASTEWATER

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

**EPA 8260B**

RunID: <b>NV00922-MS5_171108A</b>	QC Batch: <b>P17VW196</b>				PrepDate:	Analyst: <b>QBM</b>
1,1,1-Trichloroethane	ND	0.068	1.0		ug/L	1 11/8/2017 01:08 PM
1,1,2,2-Tetrachloroethane	ND	0.031	1.0		ug/L	1 11/8/2017 01:08 PM
1,1,2-Trichloroethane	ND	0.062	1.0		ug/L	1 11/8/2017 01:08 PM
1,1-Dichloroethane	ND	0.022	0.50		ug/L	1 11/8/2017 01:08 PM
1,1-Dichloroethene	ND	0.087	1.0		ug/L	1 11/8/2017 01:08 PM
1,2,4-Trichlorobenzene	ND	0.060	1.0		ug/L	1 11/8/2017 01:08 PM
1,2-Dichlorobenzene	ND	0.040	1.0		ug/L	1 11/8/2017 01:08 PM
1,2-Dichloroethane	ND	0.064	0.50		ug/L	1 11/8/2017 01:08 PM
1,2-Dichloropropane	ND	0.062	1.0		ug/L	1 11/8/2017 01:08 PM
1,3-Dichlorobenzene	ND	0.057	1.0		ug/L	1 11/8/2017 01:08 PM
1,4-Dichlorobenzene	ND	0.030	1.0		ug/L	1 11/8/2017 01:08 PM
2-Butanone	ND	0.48	10		ug/L	1 11/8/2017 01:08 PM
Acrolein	ND	0.56	20		ug/L	1 11/8/2017 01:08 PM
Acrylonitrile	ND	0.30	20		ug/L	1 11/8/2017 01:08 PM
Benzene	ND	0.036	1.0		ug/L	1 11/8/2017 01:08 PM
Bromodichloromethane	ND	0.031	1.0		ug/L	1 11/8/2017 01:08 PM
Bromoform	ND	0.32	1.0		ug/L	1 11/8/2017 01:08 PM
Bromomethane	ND	0.32	1.0		ug/L	1 11/8/2017 01:08 PM
Carbon tetrachloride	ND	0.057	0.50		ug/L	1 11/8/2017 01:08 PM
Chlorobenzene	ND	0.036	1.0		ug/L	1 11/8/2017 01:08 PM
Chloroethane	ND	0.099	1.0		ug/L	1 11/8/2017 01:08 PM
Chloroform	0.11	0.036	1.0	J	ug/L	1 11/8/2017 01:08 PM
Chloromethane	ND	0.12	1.0		ug/L	1 11/8/2017 01:08 PM
cis-1,3-Dichloropropene	ND	0.044	1.0		ug/L	1 11/8/2017 01:08 PM
Di-isopropyl ether	ND	0.017	1.0		ug/L	1 11/8/2017 01:08 PM
Dibromochloromethane	ND	0.072	1.0		ug/L	1 11/8/2017 01:08 PM
Ethylbenzene	ND	0.036	1.0		ug/L	1 11/8/2017 01:08 PM
Hexachlorobutadiene	ND	0.11	1.0		ug/L	1 11/8/2017 01:08 PM
m,p-Xylene	0.090	0.024	1.0	J	ug/L	1 11/8/2017 01:08 PM
Methylene chloride	ND	0.28	2.0		ug/L	1 11/8/2017 01:08 PM
MTBE	ND	0.062	1.0		ug/L	1 11/8/2017 01:08 PM
Naphthalene	ND	0.048	1.0		ug/L	1 11/8/2017 01:08 PM
o-Xylene	ND	0.042	1.0		ug/L	1 11/8/2017 01:08 PM
Tert-amyl methyl ether	ND	0.039	1.0		ug/L	1 11/8/2017 01:08 PM
Tert-Butanol	ND	0.30	5.0		ug/L	1 11/8/2017 01:08 PM
Tetrachloroethene	ND	0.16	1.0		ug/L	1 11/8/2017 01:08 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit S Spike/Surrogate outside of limits due to matrix interference  
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**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-003

**Client Sample ID:** RSW-002-11-07  
**Collection Date:** 11/7/2017 12:07:00 PM  
**Matrix:** WASTEWATER

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

**EPA 8260B**

RunID:	NV00922-MS5_171108A	QC Batch:	P17VW196	PrepDate:	Analyst:	QBM
Toluene	0.10	0.042	2.0	J ug/L	1	11/8/2017 01:08 PM
trans-1,2-Dichloroethene	ND	0.070	1.0	ug/L	1	11/8/2017 01:08 PM
trans-1,3-Dichloropropene	ND	0.039	1.0	ug/L	1	11/8/2017 01:08 PM
Trichloroethene	ND	0.12	1.0	ug/L	1	11/8/2017 01:08 PM
Vinyl chloride	ND	0.095	0.50	ug/L	1	11/8/2017 01:08 PM
Xylenes, Total	ND	1.5	2.0	ug/L	1	11/8/2017 01:08 PM
Surr: 1,2-Dichloroethane-d4	105	0	72-119	%REC	1	11/8/2017 01:08 PM
Surr: 4-Bromofluorobenzene	96.5	0	76-119	%REC	1	11/8/2017 01:08 PM
Surr: Dibromofluoromethane	108	0	85-115	%REC	1	11/8/2017 01:08 PM
Surr: Toluene-d8	102	0	81-120	%REC	1	11/8/2017 01:08 PM

**HEXAVALENT CHROMIUM BY IC**

**EPA 7199**

RunID:	NV00922-IC7_171108A	QC Batch:	R119139	PrepDate:	Analyst:	RAB
Hexavalent Chromium	0.12	0.033	0.20	J ug/L	1	11/8/2017 09:31 AM

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID:	NV00922-AA1_171108A	QC Batch:	64576	PrepDate:	11/8/2017	Analyst:	MG
Mercury	0.026	0.018	0.050	J ug/L	1	11/8/2017 03:53 PM	

**TOTAL METALS BY ICP**

**EPA 200.7**

RunID:	NV00922-ICP2_171108A	QC Batch:	64577	PrepDate:	11/8/2017	Analyst:	CEI
Calcium	79000	28	500	ug/L	1	11/8/2017 02:31 PM	
Magnesium	41000	4.4	100	ug/L	1	11/8/2017 02:31 PM	

**HARDNESS BY CALCULATION**

**SM 2340 B**

RunID:	NV00922-ICP2_171108A	QC Batch:	64577	PrepDate:	11/8/2017	Analyst:	CEI
Total Hardness (As CaCO3)	360	1.0	1.0	mg/L	1	11/8/2017	

**TOTAL METALS BY COLLISION/REACTION CELL ICNMS**

**EPA 200.8**

RunID:	NV00922-ICP7_171108A	QC Batch:	64575	PrepDate:	11/8/2017	Analyst:	CEI
Selenium	2.5	0.070	0.50	ug/L	1	11/8/2017 02:33 PM	

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



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**ANALYTICAL RESULTS**

Print Date: 20-Nov-17

**CLIENT:** CH2MHill  
**Lab Order:** N026919  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N026919-003

**Client Sample ID:** RSW-002-11-07  
**Collection Date:** 11/7/2017 12:07:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID:	NV00922-ICP7_171108A	QC Batch:	64575	PrepDate:	11/8/2017	Analyst:	CEI
Antimony	1.3	0.026	0.50		µg/L	1	11/8/2017 02:33 PM
Arsenic	4.7	0.016	0.10		µg/L	1	11/8/2017 02:33 PM
Beryllium	ND	0.026	0.50		µg/L	1	11/8/2017 02:33 PM
Cadmium	0.033	0.0098	0.25	J	µg/L	1	11/8/2017 02:33 PM
Chromium	0.99	0.086	0.50		µg/L	1	11/8/2017 02:33 PM
Copper	6.1	0.26	0.50		µg/L	1	11/8/2017 02:33 PM
Lead	0.89	0.053	0.50		µg/L	1	11/8/2017 02:33 PM
Nickel	2.0	0.038	1.0		µg/L	1	11/8/2017 02:33 PM
Silver	ND	0.023	0.25		µg/L	1	11/8/2017 02:33 PM
Thallium	0.036	0.034	0.50	J	µg/L	1	11/8/2017 02:33 PM
Zinc	21	0.039	1.0		µg/L	1	11/8/2017 02:33 PM

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



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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 160.2\_2540D\_W**

Sample ID: <b>LCS-64605</b>	SampType: <b>LCS</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>	Prep Date: <b>11/9/2017</b>	RunNo: <b>119171</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>64605</b>	TestNo: <b>SM2540D</b>	Analysis Date: <b>11/9/2017</b>	SeqNo: <b>2828798</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter)	943.000	10	1000	0	94.3	80	120				

Sample ID: <b>MB-64605</b>	SampType: <b>MBLK</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>	Prep Date: <b>11/9/2017</b>	RunNo: <b>119171</b>							
Client ID: <b>PBW</b>	Batch ID: <b>64605</b>	TestNo: <b>SM2540D</b>	Analysis Date: <b>11/9/2017</b>	SeqNo: <b>2828799</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter)	ND	10									

Sample ID: <b>N026917-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>	Prep Date: <b>11/9/2017</b>	RunNo: <b>119171</b>							
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64605</b>	TestNo: <b>SM2540D</b>	Analysis Date: <b>11/9/2017</b>	SeqNo: <b>2828801</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter)	18.000	10						17.00	5.71	5	R

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 160.5\_2540F\_W**

Sample ID: <b>MB-64591</b>	SampType: <b>MBLK</b>	TestCode: <b>160.5_2540F_</b> Units: <b>ml/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>120305</b>							
Client ID: <b>PBW</b>	Batch ID: <b>64591</b>	TestNo: <b>SM2540F</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2836345</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Settleable Matter	ND	0.10									

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.7\_WPGEPB**

Sample ID: <b>MB-64577</b>	SampType: <b>MBLK</b>	TestCode: <b>200.7_WPGE</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119122</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64577</b>	TestNo: <b>EPA 200.7</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827034</b>						
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: <b>LCS-64577</b>	SampType: <b>LCS</b>	TestCode: <b>200.7_WPGE</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119122</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64577</b>	TestNo: <b>EPA 200.7</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827035</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9644.401	500	10000	0	96.4	85	115				
Magnesium	10084.660	100	10000	0	101	85	115				

Sample ID: <b>N026919-002D-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.7_WPGE</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119122</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64577</b>	TestNo: <b>EPA 200.7</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827040</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	96257.946	500	10000	83190	131	75	125				S
Magnesium	51759.502	100	10000	41120	106	75	125				

Sample ID: <b>N026919-002D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.7_WPGE</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119122</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64577</b>	TestNo: <b>EPA 200.7</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	96624.700	500	10000	83190	134	75	125	96260	0.380	20	S
Magnesium	51810.771	100	10000	41120	107	75	125	51760	0.0990	20	

Sample ID: <b>N026919-002D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.7_WPGE</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119122</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64577</b>	TestNo: <b>EPA 200.7</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827043</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	82833.534	500						78810	4.98	20	

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.7\_WPGEPBB**

Sample ID: <b>N026919-002D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.7_WPGE</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119122</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64577</b>	TestNo: <b>EPA 200.7</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827043</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	41046.598	100						40530	1.27	20	

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_DRC**

Sample ID: <b>MB-64575</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_DR</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826813</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium ND 0.50

Sample ID: <b>LCS-64575</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_DR</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826814</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium 9.468 0.50 10.00 0 94.7 85 115

Sample ID: <b>N026919-003D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_DR</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826821</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium 2.586 0.50 2.494 3.63 20

Sample ID: <b>N026919-003D-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_DR</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826826</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium 11.544 0.50 10.00 2.494 90.5 75 125

Sample ID: <b>N026919-003D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_DR</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826827</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium 11.533 0.50 10.00 2.494 90.4 75 125 11.54 0.0980 20

**Qualifiers:**

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



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**Work Order:** N026919  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-64575</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>
Client ID: <b>PBW</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826845</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									
Beryllium	ND	0.50									
Cadmium	ND	0.25									
Chromium	ND	0.50									
Copper	ND	0.50									
Lead	ND	0.50									
Nickel	ND	1.0									
Silver	ND	0.25									
Thallium	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-64575</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>
Client ID: <b>LCSW</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826846</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.512	0.50	10.00	0	95.1	85	115				
Arsenic	9.702	0.10	10.00	0	97.0	85	115				
Beryllium	9.409	0.50	10.00	0	94.1	85	115				
Cadmium	9.646	0.25	10.00	0	96.5	85	115				
Chromium	9.483	0.50	10.00	0	94.8	85	115				
Copper	9.667	0.50	10.00	0	96.7	85	115				
Lead	9.345	0.50	10.00	0	93.4	85	115				
Nickel	9.826	1.0	10.00	0	98.3	85	115				
Silver	10.767	0.25	10.00	0	108	85	115				
Thallium	11.042	0.50	10.00	0	110	85	115				
Zinc	103.854	1.0	100.0	0	104	85	115				

**Qualifiers:**

- |  |  |  |
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## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N026919-003D-DUP</b> SampType: <b>DUP</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>11/8/2017</b>		RunNo: <b>119112</b>				
Client ID: <b>ZZZZZ</b> Batch ID: <b>64575</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>11/8/2017</b>		SeqNo: <b>2826853</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.262	0.50						1.251	0.851	20	
Arsenic	4.628	0.10						4.662	0.740	20	
Beryllium	ND	0.50						0	0	20	
Cadmium	ND	0.25						0.03327	0	20	
Chromium	0.926	0.50						0.9851	6.17	20	
Copper	5.629	0.50						6.099	8.01	20	
Lead	0.863	0.50						0.8939	3.49	20	
Nickel	2.007	1.0						2.049	2.08	20	
Silver	ND	0.25						0	0	20	
Thallium	ND	0.50						0.03615	0	20	
Zinc	20.127	1.0						20.75	3.05	20	

Sample ID: <b>N026919-003D-MS</b> SampType: <b>MS</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>11/8/2017</b>		RunNo: <b>119112</b>				
Client ID: <b>ZZZZZ</b> Batch ID: <b>64575</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>11/8/2017</b>		SeqNo: <b>2826858</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.569	0.50	10.00	1.251	93.2	75	125				
Arsenic	13.905	0.10	10.00	4.662	92.4	75	125				
Beryllium	9.248	0.50	10.00	0	92.5	75	125				
Cadmium	8.840	0.25	10.00	0.03327	88.1	75	125				
Chromium	9.442	0.50	10.00	0.9851	84.6	75	125				
Copper	13.655	0.50	10.00	6.099	75.6	75	125				
Lead	10.120	0.50	10.00	0.8939	92.3	75	125				
Nickel	10.590	1.0	10.00	2.049	85.4	75	125				
Silver	10.217	0.25	10.00	0	102	75	125				
Thallium	8.956	0.50	10.00	0.03615	89.2	75	125				
Zinc	130.413	1.0	100.0	20.75	110	75	125				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N026919-003D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119112</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64575</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826859</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.601	0.50	10.00	1.251	93.5	75	125	10.57	0.310	20	
Arsenic	13.332	0.10	10.00	4.662	86.7	75	125	13.91	4.21	20	
Beryllium	9.139	0.50	10.00	0	91.4	75	125	9.248	1.19	20	
Cadmium	8.847	0.25	10.00	0.03327	88.1	75	125	8.840	0.0788	20	
Chromium	10.034	0.50	10.00	0.9851	90.5	75	125	9.442	6.07	20	
Copper	13.211	0.50	10.00	6.099	71.1	75	125	13.66	3.31	20	S
Lead	9.875	0.50	10.00	0.8939	89.8	75	125	10.12	2.45	20	
Nickel	10.165	1.0	10.00	2.049	81.2	75	125	10.59	4.10	20	
Silver	10.129	0.25	10.00	0	101	75	125	10.22	0.871	20	
Thallium	8.717	0.50	10.00	0.03615	86.8	75	125	8.956	2.71	20	
Zinc	126.664	1.0	100.0	20.75	106	75	125	130.4	2.92	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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## ANALYTICAL QC SUMMARY REPORT

**TestCode: 2130\_W**

Sample ID: <b>MB-R119137</b>	SampType: <b>MBLK</b>	TestCode: <b>2130_W</b>	Units: <b>NTU</b>	Prep Date:	RunNo: <b>119137</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R119137</b>	TestNo: <b>SM 2130B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Turbidity	ND	0.10	
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Sample ID: <b>N026919-001EDUP</b>	SampType: <b>DUP</b>	TestCode: <b>2130_W</b>	Units: <b>NTU</b>	Prep Date:	RunNo: <b>119137</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119137</b>	TestNo: <b>SM 2130B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Turbidity	0.300	0.10		0.2800	6.90	30
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**Qualifiers:**

- |  |  |  |
|--|--|--|
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| J Analyte detected below quantitation limits                   | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits               |
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_LL**

Sample ID: <b>MB-64576</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119121</b>						
Client ID: <b>PBW</b>	Batch ID: <b>64576</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826998</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.037	0.050									J
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Sample ID: <b>LCS-64576</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119121</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>64576</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826999</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	2.473	0.050	2.500	0	98.9	85	115				
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Sample ID: <b>N026919-002D-MS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119121</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64576</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827000</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	2.733	0.050	2.500	0.04113	108	75	125				
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Sample ID: <b>N026919-002D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119121</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64576</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827001</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	2.854	0.050	2.500	0.04113	112	75	125	2.733	4.31	20	
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Sample ID: <b>N026919-002D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119121</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>64576</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827003</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	0.050						0.04113	0	20	
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**Qualifiers:**

- |   |  |    |                                     |   |  |
|---|--|----|-------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank              | E  | Value above quantitation range      | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits                   | ND | Not Detected at the Reporting Limit | R | RPD outside accepted recovery limits               |
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**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 300WLLNO3PGE**

Sample ID: <b>N026939-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>300WLLNO3P</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>119127</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119127</b>	TestNo: <b>EPA 300.0</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827488</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N	8.810	0.25	6.250	2.471	101	80	120				
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Sample ID: <b>N026939-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>300WLLNO3P</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>119127</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119127</b>	TestNo: <b>EPA 300.0</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827489</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N	8.849	0.25	6.250	2.471	102	80	120	8.810	0.436	20	
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Sample ID: <b>N026938-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>300WLLNO3P</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>119127</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119127</b>	TestNo: <b>EPA 300.0</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827491</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N	8.802	0.25	6.250	2.440	102	80	120				
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**Qualifiers:**

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|--|--|--|
| B Analyte detected in the associated Method Blank              | E Value above quantitation range       | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits                   | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits               |
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7199\_WPGE**

Sample ID: <b>N026936-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>7199_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>119139</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119139</b>	TestNo: <b>EPA 7199</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1054.700	20	500.0	537.2	104	85	115				
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Sample ID: <b>N026936-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>7199_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>119139</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119139</b>	TestNo: <b>EPA 7199</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1057.900	20	500.0	537.2	104	85	115	1055	0.303	20	
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Sample ID: <b>N026937-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>7199_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>119139</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R119139</b>	TestNo: <b>EPA 7199</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827698</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	9.916	0.20						10.01	0.953	20	
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**Qualifiers:**

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



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**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

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

Sample ID: <b>MB-64584</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b> Units: <b>ug/L</b>	Prep Date: <b>11/8/2017</b>	RunNo: <b>119129</b>							
Client ID: <b>PBW</b>	Batch ID: <b>64584</b>	TestNo: <b>EPA 8015B EPA 3510C</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827564</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	15.051	25									J
Surr: Octacosane	108.892		80.00		136	26	152				
Surr: p-Terphenyl	79.368		80.00		99.2	57	132				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPTOT**

Sample ID: <b>MB-R119129</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119129</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R119129</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2827850</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	15.051	50									

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPF**

Sample ID: <b>E171108LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119106</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E17VW099</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826674</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	864.000	50	1000	0	86.4	67	136				
Surr: Chlorobenzene - d5	45718.000		50000		91.4	74	138				

Sample ID: <b>E171108MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119106</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E17VW099</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826675</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50									
Surr: Chlorobenzene - d5	54333.000		50000		109	74	138				

Sample ID: <b>N026919-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119106</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW099</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826677</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	895.000	50	1000	0	89.5	67	136				
Surr: Chlorobenzene - d5	53143.000		50000		106	74	138				

Sample ID: <b>N026919-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119106</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW099</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826678</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	851.000	50	1000	0	85.1	67	136	895.0	5.04	30	
Surr: Chlorobenzene - d5	51577.000		50000		103	74	138		0	0	

**Qualifiers:**

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|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171108LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	22.640	1.0	20.00	0	113	67	132				
1,1,2,2-Tetrachloroethane	21.090	1.0	20.00	0	105	63	128				
1,1,2-Trichloroethane	19.140	1.0	20.00	0	95.7	75	125				
1,1-Dichloroethane	20.060	0.50	20.00	0	100	69	133				
1,1-Dichloroethene	21.880	1.0	20.00	0	109	68	130				
1,2,4-Trichlorobenzene	19.510	1.0	20.00	0	97.6	66	134				
1,2-Dichlorobenzene	19.260	1.0	20.00	0	96.3	71	122				
1,2-Dichloroethane	18.970	0.50	20.00	0	94.8	69	132				
1,2-Dichloropropane	20.770	1.0	20.00	0	104	75	125				
1,3-Dichlorobenzene	19.520	1.0	20.00	0	97.6	75	124				
1,4-Dichlorobenzene	19.160	1.0	20.00	0	95.8	74	123				
2-Butanone	229.710	10	200.0	0	115	49	136				
Acrolein	185.910	20	200.0	0	93.0	75	125				
Acrylonitrile	199.840	20	200.0	0	99.9	75	125				
Benzene	19.820	1.0	20.00	0	99.1	81	122				
Bromodichloromethane	20.020	1.0	20.00	0	100	76	121				
Bromoform	20.340	1.0	20.00	0	102	69	128				
Bromomethane	26.220	1.0	20.00	0	131	53	141				
Carbon tetrachloride	22.340	0.50	20.00	0	112	66	138				
Chlorobenzene	19.500	1.0	20.00	0	97.5	81	122				
Chloroethane	25.620	1.0	20.00	0	128	58	133				
Chloroform	18.520	1.0	20.00	0	92.6	69	128				
Chloromethane	20.420	1.0	20.00	0	102	56	131				
cis-1,3-Dichloropropene	20.350	1.0	20.00	0	102	69	131				
Di-isopropyl ether	19.070	1.0	20.00	0	95.4	70	130				
Dibromochloromethane	20.570	1.0	20.00	0	103	66	133				
Ethylbenzene	19.340	1.0	20.00	0	96.7	73	127				
Hexachlorobutadiene	19.080	1.0	20.00	0	95.4	67	131				
m,p-Xylene	37.880	1.0	40.00	0	94.7	76	128				
Methylene chloride	19.840	2.0	20.00	0	99.2	63	137				

**Qualifiers:**

- |  |  |  |
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171108LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>119107</b>			
Client ID: <b>LCSW</b>		Batch ID: <b>P17VW196</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>		SeqNo: <b>2826681</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	21.110	1.0	20.00	0	106	65	123				
Naphthalene	18.510	1.0	20.00	0	92.6	54	138				
o-Xylene	18.460	1.0	20.00	0	92.3	80	121				
Tert-amyl methyl ether	22.880	1.0	20.00	0	114	70	130				
Tert-Butanol	148.820	5.0	100.0	0	149	70	130				S
Tetrachloroethene	20.170	1.0	20.00	0	101	66	128				
Toluene	19.260	2.0	20.00	0	96.3	77	122				
trans-1,2-Dichloroethene	19.690	1.0	20.00	0	98.4	63	137				
trans-1,3-Dichloropropene	21.710	1.0	20.00	0	109	59	135				
Trichloroethene	19.840	1.0	20.00	0	99.2	70	127				
Vinyl chloride	23.640	0.50	20.00	0	118	50	134				
Xylenes, Total	56.340	2.0	60.00	0	93.9	75	125				
Surr: 1,2-Dichloroethane-d4	25.350		25.00		101	72	119				
Surr: 4-Bromofluorobenzene	24.320		25.00		97.3	76	119				
Surr: Dibromofluoromethane	26.130		25.00		105	85	115				
Surr: Toluene-d8	25.220		25.00		101	81	120				

Sample ID: <b>N026919-001GMS</b>		SampType: <b>MS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>119107</b>			
Client ID: <b>ZZZZZ</b>		Batch ID: <b>P17VW196</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>		SeqNo: <b>2826682</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	24.620	1.0	20.00	0	123	67	132				
1,1,2,2-Tetrachloroethane	19.470	1.0	20.00	0	97.4	63	128				
1,1,2-Trichloroethane	18.040	1.0	20.00	0	90.2	75	125				
1,1-Dichloroethane	21.410	0.50	20.00	0	107	69	133				
1,1-Dichloroethene	23.940	1.0	20.00	0	120	68	130				
1,2,4-Trichlorobenzene	20.050	1.0	20.00	0	100	66	134				
1,2-Dichlorobenzene	19.560	1.0	20.00	0	97.8	71	122				
1,2-Dichloroethane	18.120	0.50	20.00	0	90.6	69	132				
1,2-Dichloropropane	21.350	1.0	20.00	0	107	75	125				

**Qualifiers:**

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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N026919-001GMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	20.770	1.0	20.00	0	104	75	124				
1,4-Dichlorobenzene	20.200	1.0	20.00	0	101	74	123				
2-Butanone	193.070	10	200.0	0	96.5	49	136				
Acrolein	180.490	20	200.0	0	90.2	75	125				
Acrylonitrile	180.910	20	200.0	0	90.5	75	125				
Benzene	20.780	1.0	20.00	0	104	81	122				
Bromodichloromethane	20.540	1.0	20.00	0	103	76	121				
Bromoform	20.130	1.0	20.00	0	101	69	128				
Bromomethane	27.840	1.0	20.00	0	139	53	141				
Carbon tetrachloride	25.360	0.50	20.00	0	127	66	138				
Chlorobenzene	20.740	1.0	20.00	0	104	81	122				
Chloroethane	28.040	1.0	20.00	0	140	58	133				S
Chloroform	19.380	1.0	20.00	0	96.9	69	128				
Chloromethane	22.310	1.0	20.00	0	112	56	131				
cis-1,3-Dichloropropene	20.230	1.0	20.00	0	101	69	131				
Di-isopropyl ether	19.770	1.0	20.00	0	98.8	70	130				
Dibromochloromethane	20.600	1.0	20.00	0	103	66	133				
Ethylbenzene	21.020	1.0	20.00	0	105	73	127				
Hexachlorobutadiene	20.240	1.0	20.00	0	101	67	131				
m,p-Xylene	41.100	1.0	40.00	0	103	76	128				
Methylene chloride	20.730	2.0	20.00	0	104	63	137				
MTBE	20.130	1.0	20.00	0	101	65	123				
Naphthalene	16.030	1.0	20.00	0	80.2	54	138				
o-Xylene	19.440	1.0	20.00	0	97.2	80	121				
Tert-amyl methyl ether	22.400	1.0	20.00	0	112	70	130				
Tert-Butanol	136.310	5.0	100.0	0	136	70	130				S
Tetrachloroethene	21.780	1.0	20.00	0	109	66	128				
Toluene	20.130	2.0	20.00	0	101	77	122				
trans-1,2-Dichloroethene	20.930	1.0	20.00	0	105	63	137				
trans-1,3-Dichloropropene	21.020	1.0	20.00	0	105	59	135				

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N026919-001GMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826682</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	21.470	1.0	20.00	0	107	70	127				
Vinyl chloride	26.730	0.50	20.00	0	134	50	134				
Xylenes, Total	60.540	2.0	60.00	0	101	75	125				
Surr: 1,2-Dichloroethane-d4	24.470		25.00		97.9	72	119				
Surr: 4-Bromofluorobenzene	24.690		25.00		98.8	76	119				
Surr: Dibromofluoromethane	26.340		25.00		105	85	115				
Surr: Toluene-d8	25.280		25.00		101	81	120				

Sample ID: <b>N026919-001GMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826683</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	26.410	1.0	20.00	0	132	67	132	24.62	7.02	20	S
1,1,2,2-Tetrachloroethane	20.290	1.0	20.00	0	101	63	128	19.47	4.12	20	
1,1,2-Trichloroethane	19.780	1.0	20.00	0	98.9	75	125	18.04	9.20	20	
1,1-Dichloroethane	22.660	0.50	20.00	0	113	69	133	21.41	5.67	20	
1,1-Dichloroethene	23.510	1.0	20.00	0	118	68	130	23.94	1.81	20	
1,2,4-Trichlorobenzene	20.490	1.0	20.00	0	102	66	134	20.05	2.17	20	
1,2-Dichlorobenzene	19.450	1.0	20.00	0	97.3	71	122	19.56	0.564	20	
1,2-Dichloroethane	19.530	0.50	20.00	0	97.6	69	132	18.12	7.49	20	
1,2-Dichloropropane	21.330	1.0	20.00	0	107	75	125	21.35	0.0937	20	
1,3-Dichlorobenzene	19.850	1.0	20.00	0	99.2	75	124	20.77	4.53	20	
1,4-Dichlorobenzene	19.520	1.0	20.00	0	97.6	74	123	20.20	3.42	20	
2-Butanone	222.340	10	200.0	0	111	49	136	193.1	14.1	20	
Acrolein	198.240	20	200.0	0	99.1	75	125	180.5	9.37	20	
Acrylonitrile	213.190	20	200.0	0	107	75	125	180.9	16.4	20	
Benzene	21.250	1.0	20.00	0	106	81	122	20.78	2.24	20	
Bromodichloromethane	21.030	1.0	20.00	0	105	76	121	20.54	2.36	20	
Bromoform	20.920	1.0	20.00	0	105	69	128	20.13	3.85	20	
Bromomethane	28.730	1.0	20.00	0	144	53	141	27.84	3.15	20	S

**Qualifiers:**

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



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"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N026919-001GMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	26.290	0.50	20.00	0	131	66	138	25.36	3.60	20	
Chlorobenzene	20.590	1.0	20.00	0	103	81	122	20.74	0.726	20	
Chloroethane	28.100	1.0	20.00	0	140	58	133	28.04	0.214	20	S
Chloroform	20.450	1.0	20.00	0	102	69	128	19.38	5.37	20	
Chloromethane	23.160	1.0	20.00	0	116	56	131	22.31	3.74	20	
cis-1,3-Dichloropropene	21.370	1.0	20.00	0	107	69	131	20.23	5.48	20	
Di-isopropyl ether	20.750	1.0	20.00	0	104	70	130	19.77	4.84	20	
Dibromochloromethane	21.750	1.0	20.00	0	109	66	133	20.60	5.43	20	
Ethylbenzene	20.890	1.0	20.00	0	104	73	127	21.02	0.620	20	
Hexachlorobutadiene	20.180	1.0	20.00	0	101	67	131	20.24	0.297	20	
m,p-Xylene	39.480	1.0	40.00	0	98.7	76	128	41.10	4.02	20	
Methylene chloride	21.940	2.0	20.00	0	110	63	137	20.73	5.67	20	
MTBE	22.570	1.0	20.00	0	113	65	123	20.13	11.4	20	
Naphthalene	12.800	1.0	20.00	0	64.0	54	138	16.03	22.4	20	R
o-Xylene	19.500	1.0	20.00	0	97.5	80	121	19.44	0.308	20	
Tert-amyl methyl ether	23.890	1.0	20.00	0	119	70	130	22.40	6.44	20	
Tert-Butanol	179.500	5.0	100.0	0	180	70	130	136.3	27.4	20	SR
Tetrachloroethene	21.950	1.0	20.00	0	110	66	128	21.78	0.777	20	
Toluene	20.510	2.0	20.00	0	103	77	122	20.13	1.87	20	
trans-1,2-Dichloroethene	21.580	1.0	20.00	0	108	63	137	20.93	3.06	20	
trans-1,3-Dichloropropene	22.260	1.0	20.00	0	111	59	135	21.02	5.73	20	
Trichloroethene	21.960	1.0	20.00	0	110	70	127	21.47	2.26	20	
Vinyl chloride	27.880	0.50	20.00	0	139	50	134	26.73	4.21	20	S
Xylenes, Total	58.980	2.0	60.00	0	98.3	75	125	60.54	2.61	20	
Surr: 1,2-Dichloroethane-d4	26.540		25.00		106	72	119		0		
Surr: 4-Bromofluorobenzene	24.850		25.00		99.4	76	119		0		
Surr: Dibromofluoromethane	27.940		25.00		112	85	115		0		
Surr: Toluene-d8	26.190		25.00		105	81	120		0		

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171108MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>
Client ID: <b>PBW</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826686</b>

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									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Hexachlorobutadiene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	0.660	2.0									J

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | E Value above quantitation range       | H Holding times for preparation or analysis exceeded |
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**CLIENT:** CH2MHill  
**Work Order:** N026919  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171108MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>119107</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P17VW196</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>11/8/2017</b>	SeqNo: <b>2826686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	ND	1.0									
Naphthalene	0.140	1.0									J
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	27.500		25.00		110	72	119				
Surr: 4-Bromofluorobenzene	24.590		25.00		98.4	76	119				
Surr: Dibromofluoromethane	28.970		25.00		116	85	115				S
Surr: Toluene-d8	27.030		25.00		108	81	120				

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | E Value above quantitation range       | H Holding times for preparation or analysis exceeded |
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**ATTACHMENT I – LIST OF PRIORITY POLLUTANTS**

CTR Number	Parameter	CAS Number	Analytical Methods
1	Antimony	7440360	
2	Arsenic	7440382	
3	Beryllium	7440417	
4	Cadmium	7440439	
5a	Chromium (III)	16065831	
5a	Chromium (VI)	18540299	
6	Copper	7440508	
7	Lead	7439921	
8	Mercury	7439976	
9	Nickel	7440020	
11	Selenium	7782492	
11	Silver	7440224	
12	Thallium	7440280	
13	Zinc	7440666	
14	Cyanide	57125	
15	Asbestos	1332214	
16	2,3,7,8-TCDD	1746016	
17	Acrolein	117028	
18	Acrylonitrile	117131	
19	Benzene	71432	
20	Bromoform	75252	
21	Carbon Tetrachloride	56235	
22	Chlorobenzene	118907	
23	Chlorodibromomethane	124481	
24	Chloroethane	75003	
25	2-Chloroethylvinyl Ether	111758	
26	Chloroform	67663	
27	Dichlorobromomethane	75274	
28	1,1-Dichloroethane	75343	
29	1,2-Dichloroethane	117062	
30	1,1-Dichloroethylene	75354	
31	1,2-Dichloropropane	78875	
32	1,3-Dichloropropylene	542756	
33	Ethylbenzene	110414	
34	Methyl Bromide	74839	
35	Methyl Chloride	74873	
36	Methylene Chloride	75092	
37	1,1,2,2-Tetrachloroethane	79345	
38	Tetrachloroethylene	127184	
39	Toluene	118883	
40	1,2-Trans-Dichloroethylene	156605	
41	1,1,1-Trichloroethane	71556	
42	1,1,2-Trichloroethane	79005	
43	Trichloroethylene	79016	
44	Vinyl Chloride	75014	
45	2-Chlorophenol	95578	
46	2,4-Dichlorophenol	120832	

CTR Number	Parameter	CAS Number	Analytical Methods
47	2,4-Dimethylphenol	115679	
48	2-Methyl-4,6-Dinitrophenol	534521	
49	2,4-Dinitrophenol	51285	
50	2-Nitrophenol	88755	
51	4-Nitrophenol	110027	
52	3-Methyl-4-Chlorophenol	59507	
53	Pentachlorophenol	87865	
54	Phenol	118952	
55	2,4,6-Trichlorophenol	88062	
56	Acenaphthene	83329	
57	Acenaphthylene	208968	
58	Anthracene	120127	
59	Benzidine	92875	
60	Benzo(a)Anthracene	56553	
61	Benzo(a)Pyrene	50328	
62	Benzo(b)Fluoranthene	205992	
63	Benzo(ghi)Perylene	191242	
64	Benzo(k)Fluoranthene	207089	
65	Bis(2-Chloroethoxy)Methane	111911	
66	Bis(2-Chloroethyl)Ether	111444	
67	Bis(2-Chloroisopropyl)Ether	118601	
68	Bis(2-Ethylhexyl)Phthalate	117817	
69	4-Bromophenyl Phenyl Ether	111553	
70	Butylbenzyl Phthalate	85687	
71	2-Chloronaphthalene	91587	
72	4-Chlorophenyl Phenyl Ether	7005723	
73	Chrysene	218019	
74	Dibenzo(a,h)Anthracene	53703	
75	1,2-Dichlorobenzene	95501	
76	1,3-Dichlorobenzene	541731	
77	1,4-Dichlorobenzene	116467	
78	3,3'-Dichlorobenzidine	91941	
79	Diethyl Phthalate	84662	
80	Dimethyl Phthalate	131113	
81	Di-n-Butyl Phthalate	84742	
82	2,4-Dinitrotoluene	121142	
83	2,6-Dinitrotoluene	606202	
84	Di-n-Octyl Phthalate	117840	
85	1,2-Diphenylhydrazine	122667	
86	Fluoranthene	206440	
87	Fluorene	86737	
88	Hexachlorobenzene	118741	
89	Hexachlorobutadiene	87863	
90	Hexachlorocyclopentadiene	77474	
91	Hexachloroethane	67721	
92	Indeno(1,2,3-cd)Pyrene	193395	
93	Isophorone	78591	
94	Naphthalene	91203	
95	Nitrobenzene	98953	
96	N-Nitrosodimethylamine	62759	
97	N-Nitrosodi-n-Propylamine	621647	
98	N-Nitrosodiphenylamine	86306	

CTR Number	Parameter	CAS Number	Analytical Methods
99	Phenanthrene	85018	
100	Pyrene	129000	
101	1,2,4-Trichlorobenzene	120821	
102	Aldrin	309002	
103	alpha-BHC	319846	
104	beta-BHC	319857	
105	gamma-BHC	58899	
106	delta-BHC	319868	
107	Chlordane	57749	
108	4,4'-DDT	50293	
109	4,4'-DDE	72559	
110	4,4'-DDD	72548	
111	Dieldrin	60571	
112	alpha-Endosulfan	959988	
113	beta-Endosulfan	33213659	
114	Endosulfan Sulfate	1131178	
115	Endrin	72208	
116	Endrin Aldehyde	7421934	
117	Heptachlor	76448	
118	Heptachlor Epoxide	1124573	
119	PCB-1016	12674112	
120	PCB-1221	11104282	
121	PCB-1232	11141165	
122	PCB-1242	53469219	
123	PCB-1248	12672296	
124	PCB-1254	11097691	
125	PCB-1260	11096825	
126	Toxaphene	8001352	

<sup>1</sup> Pollutants shall be analyzed using the methods described in 40 C.F.R. Part 136.

# ASSET Laboratories

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

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

Cooler Received/Opened On: 11/7/2017 Workorder: N026919  
 Rep sample Temp (Deg C): 3.8 IR Gun ID: 1  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 3728 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments: Sample 1 (EFF-11-07): 16 oz poly for Metals was missing upon receipt in Las Vegas lab. For metal analysis 200 mL were taken from Gen Min fraction and pH adjusted to < 2 with HNO3.

Checklist Completed By: YR YR 11/7/2017

Reviewed By: HS 11/09/2017



**CHAIN OF CUSTODY RECORD**

**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  
[www.assetlaboratories.com](http://www.assetlaboratories.com)

TO: BC LABS

<b>Client:</b> ASSET Laboratories	<b>Report to:</b> Marlon Cartin	<b>Bill to:</b> Accounts Payable	<b>EDD Requirement</b>	<b>QA/QC</b>	<b>Sampe Receipt Condition</b>
<b>Address:</b> 11110 Artesia Blvd Ste B	<b>Company:</b> Same	<b>Address:</b> Same	Excel EDD <input type="checkbox"/>	RTNE <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
<b>Address:</b> Cerritos, CA 90703	<b>Email:</b> marlon@assetlaboratories.com reports@assetlaboratories.com		Geotracker <input type="checkbox"/>	RWQCB <input type="checkbox"/>	1. Chilled <input type="checkbox"/>
<b>Phone:</b> 562.219.7435	<b>Address:</b> Same	<b>Email to:</b> AssetAP@assetlaboratories.com	Labspec <input type="checkbox"/>	CalTrans <input type="checkbox"/>	2. Headspace <input type="checkbox"/>
<b>Fax:</b>		<b>PO#</b> N26919A	Others <input type="checkbox"/>	Level III <input type="checkbox"/>	3. Container Intact <input type="checkbox"/>
<b>Submitted By:</b> Hanah Glodoviza		<b>Phone:</b>	Specify:	LEVEL IV <input type="checkbox"/>	4. Seal Present <input type="checkbox"/>
<b>Title:</b>	<b>Phone:</b>	<b>Fax:</b>	Global ID:	Regulatory <input type="checkbox"/>	5. IR number <input type="checkbox"/>
<b>Signature:</b>	<b>Date:</b>	<b>Signature:</b>		Specify State:	6. Method of Cooling <input type="checkbox"/>
<i>I hereby authorize ASSET Labs to perform the tests indicated below:</i>		<b>Sampled by:</b> James Dye	<b>Matrix</b>		
<b>Project Name:</b> SFPP Norwalk	<b>Signature:</b>	<b>Surface:</b>	<b>Analyses Requested</b>		
<b>Project Number:</b>					

Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Water	Solid	Others	Ammonia	Cyanide	Sulfide (SM4500 S2-D)	MBAAs (SM 5540C)	BOD (@20 deg C) (SM5210B)	OCPIs by EPA 8081	PCBs by EPA 8082	SVOCs by 8270	Turn Around Time	No. of container	Container Type	PRESERVATION	Remarks
1		EFF-11-07	7-Nov	1310	X			X	X	X	X	X	X	X	X	F				See attached List
2		RSW-001-11-07	7-Nov	1155	X								X	X	X	F				See attached List
3		RSW-002-11-07	7-Nov	1207	X								X	X	X	F				See attached List
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

<b>Relinquished by (Signature and Printed Name):</b> Hanh Glodoviza	<b>Date / Time:</b> 11/7/17 1800	<b>Received by (Signature and Printed Name):</b>	<b>Date / Time:</b>	<b>Turn Around Time (TAT)</b> <input type="checkbox"/> A < 24 Hrs or Same Day TAT <input type="checkbox"/> B = Next Workday <input type="checkbox"/> C = 2 Workdays <input type="checkbox"/> D = 3 Workdays <input checked="" type="checkbox"/> E = Routine 5-7 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	<b>Special Instruction:</b>
<b>Relinquished by (Signature and Printed Name):</b>	<b>Date / Time:</b>	<b>Received by (Signature and Printed Name):</b>	<b>Date / Time:</b>		
<b>Relinquished by (Signature and Printed Name):</b>	<b>Date / Time:</b>	<b>Received by (Signature and Printed Name):</b>	<b>Date / Time:</b>		

**Terms**  
1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report.  
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis:  
Less than 24 Hrs = 200% Next Day = 300% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20%  
3. Custom EDD formats will be an additional 3% of the total project price.  
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharges applied on total project price.

5. Trip Blanks and Equipment Blanks are billable sample.  
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology.  
7. Terms are net 30 Days.  
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.  
9. For subcontract analysis, TAT and Surcharges will vary.

<b>Preservatives:</b>	<b>Container Type:</b>
H = HCl N = HNO3 S = H2SO4 C = 4°C	T = Tube V = VOA P = Pint
Z = Zn(AC)2 O = NaOH T = Na2S2O3	J = Jar B = Tedlar G = Glass
Others/Specify:	M = Metal P = Plastic C = Can

White = Laboratory Copy

Yellow = Customer's Copy



**CHAIN OF CUSTODY RECORD**

TO: LA TESTING

Client: ASSET Laboratories		Report to: Marlon Cartin		Bill to: Accounts Payable		EDD Requirement		QA/QC		Sample Receipt Condition	
Address: 11110 Artesia Blvd Ste B		Company: Same		Address: Same		Excel EDD <input type="checkbox"/>		RTNE <input type="checkbox"/>		Y N	
Address: Cerritos, CA 90703		Email: <a href="mailto:marlon@assetlaboratories.com">marlon@assetlaboratories.com</a> <a href="mailto:reports@assetlaboratories.com">reports@assetlaboratories.com</a>		Email to: <a href="mailto:AssetAP@assetlaboratories.com">AssetAP@assetlaboratories.com</a>		Labspec <input type="checkbox"/>		RWQCB <input type="checkbox"/>		1. Chilled <input type="checkbox"/>	
Phone: 562.219.7435 Fax:		Address: Same		PO# N26919B		CalTrans <input type="checkbox"/>		Level III <input type="checkbox"/>		2. Headspace <input type="checkbox"/>	
Submitted By: Hanah Glodoviza		Phone:		Fax:		Others <input type="checkbox"/>		LEVEL IV <input type="checkbox"/>		3. Container Intact <input type="checkbox"/>	
Title:		Matrix		Analyses Requested		Specify:		Regulatory <input type="checkbox"/>		4. Seal Present <input type="checkbox"/>	
Signature: _____ Date: _____		Sampled by: James Dye		Ground <input type="checkbox"/> Sediment <input type="checkbox"/>		Global ID:		Specify State:		5. IR number <input type="checkbox"/>	
I hereby authorize ASSET Labs to perform the tests indicated below:		Potable <input type="checkbox"/> Soil <input type="checkbox"/>		NPDES <input type="checkbox"/> Other Solid <input type="checkbox"/>		Sample Temp:		6. Method of Cooling <input type="checkbox"/>		6. Method of Cooling <input type="checkbox"/>	
Project Name: SFPP Norwalk		Surface <input type="checkbox"/>		Asbestos		Turn Around Time		No. of container		Tracking No.	
Project Number:		Signature: _____		Asbestos		Container Type		PRESERVATION		Remarks	

Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Water	Solid	Others	Asbestos	Turn Around Time	No. of container	Container Type	PRESERVATION	Remarks
1		EFF-11-07	7-Nov	1310	X			X	E				
2		RSW-001-11-07	7-Nov	1155	X			X	E				
3		RSW-002-11-07	7-Nov	1207	X			X	E				
4													
5													
6													
7													
8													
9													
10													
11													
12													

Relinquished by (Signature and Printed Name): <i>H. Glodoviza</i> H. GLODOVIZA 11/7/17	Date / Time: 11/7/17	Received by (Signature and Printed Name):	Date / Time:	Turn Around Time (TAT) <input type="checkbox"/> A < 24 Hrs or Same Day TAT <input type="checkbox"/> B = Next Workday <input type="checkbox"/> C = 2 Workdays <input type="checkbox"/> D = 3 Workdays <input checked="" type="checkbox"/> E = Routine 5-7 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):	Date / Time:	Received by (Signature and Printed Name):	Date / Time:		
Relinquished by (Signature and Printed Name):	Date / Time:	Received by (Signature and Printed Name):	Date / Time:		

**Terms**  
1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report.  
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis:  
Less than 24 hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20%  
3. Custom EDD formats will be an additional 3% of the total project price.  
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.

5. Trip Blanks and Equipment Blanks are billable sample.  
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology.  
7. Terms are net 30 Days.  
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.  
9. For subcontract analysis, TAT and Surcharges will vary.

**Preservatives:**  
H = HCl N = HNO3 S = H2SO4 C = 4°C  
Z = Zn(AC)2 O = NaOH T = Na2S2O3  
Others/Specify:

**Container Type:**  
T = Tube V = VOA P = Pint  
J = Jar B = Tedlar G = Glass  
M = Metal P = Plastic C = Can





# CHAIN OF CUSTODY RECORD

TO: PACE, MN

Client: ASSET Laboratories		Report to: Marlon Cartin		Bill to: Accounts Payable		EDD Requirement		QA/QC		Sampe Receipt Condition													
Address: 11110 Artesia Blvd Ste B		Company: Same		Address: Same		Excel EDD <input type="checkbox"/>		RTNE <input type="checkbox"/>		Y N													
Address: Cerritos, CA 90703		Email: marlon@assetlaboratories.com reports@assetlaboratories.com				Geotracker <input type="checkbox"/>		RWQCB <input type="checkbox"/>		1. Chilled <input type="checkbox"/>													
Phone: 562.219.7435 Fax:		Address: Same		Email to: AssetAP@assetlaboratories.com PO# N26919C		Labspec <input type="checkbox"/>		CalTrans <input type="checkbox"/>		2. Headspace <input type="checkbox"/>													
Submitted By: Hanah Glodoviza				Phone: Fax:		Others <input type="checkbox"/>		Level III <input type="checkbox"/>		3. Container Intact <input type="checkbox"/>													
Title:		Phone: Fax:		Global ID:		Specify:		LEVEL IV <input type="checkbox"/>		4. Seal Present <input type="checkbox"/>													
Signature: Date:		Sampled by: James Dye		Matrix		Analyses Requested		Regulatory <input type="checkbox"/>		5. IR number													
I hereby authorize ASSET Labs to perform the tests indicated below:		I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		Ground <input type="checkbox"/> Sediment <input type="checkbox"/>				Specify State:		6. Method of Cooling													
Project Name: SFPP Norwalk		Signature:		Potable <input type="checkbox"/> Soil <input type="checkbox"/>				Turn Around Time		Sample Temp:													
Project Number:				NPDES <input type="checkbox"/> Other Solid <input type="checkbox"/>				No. of container		Courier:													
				Surface <input type="checkbox"/>				Container Type		Tracking No.													
				2,3,7,8-TCDD and TCDD Equivalents (8290)				PRESERVATION		Remarks													
Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Water	Solid	Others					Remarks											
1		EFF-11-07	7-Nov	1310	X			X															
2		RSW-001-11-07	7-Nov	1155	X			X															
3		RSW-002-11-07	7-Nov	1207	X			X															
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
Relinquished by (Signature and Printed Name):			Date / Time			Received by (Signature and Printed Name):			Date / Time			Turn Around Time (TAT)			Special Instruction:								
H. Glodoviza			11/7/17									<input type="checkbox"/> A < 24 Hrs or Same Day TAT <input type="checkbox"/> B = Next Workday <input type="checkbox"/> C = 2 Workdays <input type="checkbox"/> D = 3 Workdays <input checked="" type="checkbox"/> E = Routine 5-7 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.											
Relinquished by (Signature and Printed Name):			Date / Time			Received by (Signature and Printed Name):			Date / Time														
Relinquished by (Signature and Printed Name):			Date / Time			Received by (Signature and Printed Name):			Date / Time														
<b>Terms</b> 1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report. 2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis. Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20% 3. Custom EDD formats will be an additional 3% of the total project price. 4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharges applied on total project price.												5. Trip Blanks and Equipment Blanks are billable sample. 6. ASSET Laboratories is not responsible for samples collected using incorrect methodology. 7. Terms are net 30 Days. 8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed. 9. For subcontract analysis, TAT and Surcharges will vary.											
Preservatives:						Container Type:																	
H = HCl		N = HNO <sub>3</sub>		S = H <sub>2</sub> SO <sub>4</sub>		C = 4°C		T = Tube		V = VOA		P = Pint											
Z = Zn(AC) <sub>2</sub>		O = NaOH		T = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				J = Jar		B = Tedlar		G = Glass											
Others/Specify:												M = Metal		P = Plastic		C = Can							

White = Laboratory Copy

Yellow = Customer's Copy

# ASSET Laboratories

## WORK ORDER Summary

09-Nov-17

**WorkOrder:** N026919

**Client ID:** CH2HI03

**Project:** SFPP - Norwalk Site

**QC Level:** RTNE

**Date Received:** 11/7/2017

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026919-001A	EFF-11-07	11/7/2017 1:10:00 PM	11/14/2017	Wastewater		Oil and Grease Sample Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consumed
			11/14/2017		EPA 1664 _HEM	Hexane Extractable Material (HEM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consumed
N026919-001B			11/8/2017		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-001C			11/8/2017		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-001D			11/14/2017		SM2540F	SETTLEABLE MATTER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/14/2017			Setteable Matter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-001E			11/14/2017		SM4500-H+B	pH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			11/14/2017		SM2540D	TOTAL NON-FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			11/14/2017			Total Suspended Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			11/14/2017		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			11/14/2017		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			11/14/2017		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			11/14/2017		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N026919-001F			11/14/2017		SM 5210 B	BIOCHEMICAL OXYGEN DEMAND	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001G			11/14/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-001H			11/8/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW

# ASSET Laboratories

## WORK ORDER Summary

09-Nov-17

WorkOrder: N026919

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 11/7/2017

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026919-001H	EFF-11-07	11/7/2017 1:10:00 PM	11/8/2017	Wastewater	EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-001I			11/14/2017		SM4500-NH3C	AMMONIA-N	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001J			11/14/2017		SM 5540 C	SURFACTANTS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SUB
N026919-001K			11/14/2017		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
			11/14/2017		EPA 8082	PCBs BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
			11/14/2017		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001L			11/14/2017		SM4500-S-2D	SULFIDE, TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001M			11/14/2017		EPA 8290	Dioxins and Dibenzofurans	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001N			11/8/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-001O			11/14/2017		Asb_PLM	Asbestos PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001P			11/14/2017		SM 4500-CN CE	CYANIDE, TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-001Q			11/14/2017		EPA 7199	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-002A	RSW-001-11-07	11/7/2017 11:55:00 AM	11/14/2017		SM4500-H+B	pH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N026919-002B			11/14/2017		EPA 8290	Dioxins and Dibenzofurans	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-002C			11/8/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-002D			11/8/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW

# ASSET Laboratories

## WORK ORDER Summary

09-Nov-17

WorkOrder: N026919

Client ID: CH2HI03

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 11/7/2017

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026919-002D	RSW-001-11-07	11/7/2017 11:55:00 AM	11/8/2017	Wastewater	EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/14/2017		SM 2340 B	Hardness by Calculation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-002E			11/14/2017		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
			11/14/2017		EPA 8082	PCBs BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
			11/14/2017		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-002F			11/8/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-002G			11/14/2017		Asb_PLM	Asbestos PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-002H			11/14/2017		SM 4500-CN CE	CYANIDE, TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-002I			11/14/2017		EPA 7199	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-003A	RSW-002-11-07	11/7/2017 12:07:00 PM	11/14/2017		SM4500-H+B	pH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N026919-003B			11/14/2017		EPA 8290	Dioxins and Dibenzofurans	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-003C			11/8/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-003D			11/8/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.8	TOTAL METALS BY COLLISION/REACTION CELL ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/8/2017		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW

# ASSET Laboratories

## WORK ORDER Summary

09-Nov-17

**WorkOrder:** N026919

**Client ID:** CH2HI03

**Project:** SFPP - Norwalk Site

**QC Level:** RTNE

**Date Received:** 11/7/2017

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N026919-003D	RSW-002-11-07	11/7/2017 12:07:00 PM	11/8/2017	Wastewater		MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			11/14/2017		SM 2340 B	Hardness by Calculation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-003E			11/14/2017		EPA 8081A	ORGANOCHLORINE PESTICIDES BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
			11/14/2017		EPA 8082	PCBs BY GC/ECD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
			11/14/2017		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-003F			11/8/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N026919-003G			11/14/2017		Asb_PLM	Asbestos PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-003H			11/14/2017		SM 4500-CN CE	CYANIDE, TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N026919-003I			11/14/2017		EPA 7199	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N026919-004A	FOLDER	11/8/2017	11/8/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			11/8/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



Date of Report: 11/30/2017

Marlon Cartin

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

Client Project: N026919  
BCL Project: CH2M Hill  
BCL Work Order: 1731836  
Invoice ID: B285685

Enclosed are the results of analyses for samples received by the laboratory on 11/8/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000676002

Sincerely,

Contact Person: Vanessa Sandoval  
Client Service Rep

Authorized Signature

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

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



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# Laboratories, Inc.

Environmental Testing Laboratory Since 1949

## Chain of Custody and Cooler Receipt Form for 1731836 Page 1 of 2

Contact us: 3151 W. Post Road, Las Vegas, NV 89118  
 Nevada: P: 702.307.2659 F: 702.307.2691  
 California: 11110 Artesia Blvd., Ste B, Cerritos, CA 90703  
 P: 562.219.7435 F: 562.219.7436  
 www.assetlaboratories.com

### CHAIN OF CUSTODY RECORD

Page 1 of 1  
 Bill to: Accounts Payable  
 Address: Same  
 PO# N26919A  
 Email: AssetLabs@assetlaboratories.com  
 Phone: 562.219.7435  
 Fax: 562.219.7436



Client: ASSET Laboratories  
 Address: 11110 Artesia Blvd Site B  
 Cerritos, CA 90703  
 Phone: 562.219.7435  
 Submitted By: Hanah Glodoviza

Report to: Marlon Carlin  
 Company: Same  
 Email: marlon@assetlaboratories.com  
 Address: reports@assetlaboratories.com  
 Address: Same  
 Phone: 562.219.7435  
 Title: Hanah Glodoviza

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 I hereby authorize ASSET Labs to perform the tests indicated below.  
 Project Name: SFPP Norwalk  
 Project Number: \_\_\_\_\_

Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Matrix				Water	Solid	Other	Remarks
					Ground	Segment	Potable	Soil				
1	1	EFF-11-07	7-Nov	1310					X			See attached List
2	2	RSW-001-11-07	7-Nov	1155					X			See attached List
3	3	RSW-002-11-07	7-Nov	1207					X			See attached List
4												
5												
6												
7												
8												
9												
10												
11												
12												

CHK BY DISTRIBUTION  
 MSF  
 SUB-OUT

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

Received by (Signature and Printed Name): \_\_\_\_\_ Date / Time: 11/17 1800  
 Received by (Signature and Printed Name): \_\_\_\_\_ Date / Time: 11.8.17 10:30  
 Received by (Signature and Printed Name): \_\_\_\_\_ Date / Time: \_\_\_\_\_

Turn Around Time (TAT)  
 A < 24 Hrs or Same Day TAT  
 B = Next Workday  
 C = 2 Workdays  
 D = 3 Workdays  
 E = Routine 5-7 Workdays  
 TAT Starts at 8 AM the following day if samples received after 3:00 PM.

# AUS!!!

Special Instruction: \_\_\_\_\_

Container Type: \_\_\_\_\_  
 V = VOA P = Pint  
 T = Tube B = Tardlar G = Glass  
 J = Jar M = Metal C = Can

Preservatives:  
 H = HCl N = HNO<sub>3</sub> S = HSO<sub>4</sub> C = C  
 Z = ZnAc<sub>2</sub> O = NaOH P = Na<sub>2</sub>SO<sub>4</sub>  
 Other: \_\_\_\_\_

Yellow = Customer's Copy  
 White = Laboratory Copy





BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 2

Submission #: 17-31836

<b>SHIPPING INFORMATION</b> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Ontrac <input type="checkbox"/> Hand Delivery <input type="checkbox"/> BC Lab Field Service <input type="checkbox"/> Other <input checked="" type="checkbox"/> (Specify) <u>GASD</u>		<b>SHIPPING CONTAINER</b> Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		<b>FREE LIQUID</b> YES <input type="checkbox"/> NO <input type="checkbox"/> W / S
---	--	---	--	---

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

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received YES  NO

Emissivity: 0.9 Container: Amber Thermometer ID: 274 Date/Time: 11-8-17  
 Temperature: (A) 12.0 °C / (C) 12.0 °C Analyst Init: [Signature]

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6+</sup>										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: JM Date/Time: 11-8-17 [Signature] Rev 21 05/23/2016  
 A = Actual / C = Corrected (S:\WPDoc\WordPerfect\LAB\_DOCS\FORMS\SAMREC Rev 20)



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

**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1731836-01	<b>COC Number:</b>	---	<b>Receive Date:</b>	11/08/2017 10:30
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 13:10
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	EFF-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water
	<hr/>			
1731836-02	<b>COC Number:</b>	---	<b>Receive Date:</b>	11/08/2017 10:30
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 11:55
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	RSW-001-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water
	<hr/>			
1731836-03	<b>COC Number:</b>	---	<b>Receive Date:</b>	11/08/2017 10:30
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 12:07
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	RSW-002-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water
	<hr/>			



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

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

### Organochlorine Pesticides (EPA Method 8081A)

<b>BCL Sample ID:</b> 1731836-01	<b>Client Sample Name:</b> EFF-11-07, 11/7/2017 1:10:00PM
----------------------------------	---

Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
Aldrin		ND	ug/L	0.0050	0.0019	EPA-8081A	ND		1
alpha-BHC		ND	ug/L	0.0050	0.0023	EPA-8081A	ND		1
beta-BHC		ND	ug/L	0.0050	0.0025	EPA-8081A	ND		1
delta-BHC		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
gamma-BHC (Lindane)		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
Chlordane (Technical)		ND	ug/L	0.50	0.15	EPA-8081A	ND		1
4,4'-DDD		ND	ug/L	0.0050	0.0025	EPA-8081A	ND		1
4,4'-DDE		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
4,4'-DDT		ND	ug/L	0.0050	0.0017	EPA-8081A	ND		1
Dieldrin		ND	ug/L	0.0050	0.0023	EPA-8081A	ND		1
Endosulfan I		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
Endosulfan II		ND	ug/L	0.0050	0.0030	EPA-8081A	ND		1
Endosulfan sulfate		ND	ug/L	0.0050	0.0043	EPA-8081A	ND		1
Endrin		ND	ug/L	0.0050	0.0036	EPA-8081A	ND		1
Endrin aldehyde		ND	ug/L	0.010	0.0039	EPA-8081A	ND		1
Heptachlor		ND	ug/L	0.0050	0.0020	EPA-8081A	ND		1
Heptachlor epoxide		ND	ug/L	0.0050	0.0042	EPA-8081A	ND		1
Methoxychlor		ND	ug/L	0.0050	0.0038	EPA-8081A	ND		1
Toxaphene		ND	ug/L	2.0	0.20	EPA-8081A	ND		1
TCMX (Surrogate)		101	%	40 - 140 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)		90.6	%	40 - 120 (LCL - UCL)		EPA-8081A			1

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8081A	11/09/17 12:00	11/13/17	19:51	HKS	GC-17	1	B[K1267

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

**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### PCB Analysis (EPA Method 8082)

BCL Sample ID: 1731836-01		Client Sample Name: EFF-11-07, 11/7/2017 1:10:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
PCB-1016		ND	ug/L	0.20	0.048	EPA-8082	ND		1
PCB-1221		ND	ug/L	0.20	0.077	EPA-8082	ND		1
PCB-1232		ND	ug/L	0.20	0.12	EPA-8082	ND		1
PCB-1242		ND	ug/L	0.20	0.063	EPA-8082	ND		1
PCB-1248		ND	ug/L	0.20	0.18	EPA-8082	ND		1
PCB-1254		ND	ug/L	0.20	0.066	EPA-8082	ND		1
PCB-1260		ND	ug/L	0.20	0.094	EPA-8082	ND		1
Total PCB's (Summation)		ND	ug/L	0.20	0.10	EPA-8082	ND		1
Decachlorobiphenyl (Surrogate)		103	%	30 - 120 (LCL - UCL)		EPA-8082			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8082	11/09/17 07:00	11/13/17 09:50	HKS	GC-15	1	B[K1098



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

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-01		Client Sample Name: EFF-11-07, 11/7/2017 1:10:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
Acenaphthene		ND	ug/L	2.0	0.40	EPA-8270C	ND		1
Acenaphthylene		ND	ug/L	2.0	0.34	EPA-8270C	ND		1
Aldrin		ND	ug/L	2.0	0.45	EPA-8270C	ND		1
Aniline		ND	ug/L	5.0	0.71	EPA-8270C	ND		1
Anthracene		ND	ug/L	2.0	0.32	EPA-8270C	ND		1
Benzidine		ND	ug/L	20	2.7	EPA-8270C	ND		1
Benzo[a]anthracene		ND	ug/L	2.0	0.37	EPA-8270C	ND		1
Benzo[b]fluoranthene		ND	ug/L	2.0	0.88	EPA-8270C	ND		1
Benzo[k]fluoranthene		ND	ug/L	2.0	0.96	EPA-8270C	ND		1
Benzo[a]pyrene		ND	ug/L	2.0	0.87	EPA-8270C	ND		1
Benzo[g,h,i]perylene		ND	ug/L	2.0	1.2	EPA-8270C	ND		1
Benzoic acid		ND	ug/L	10	2.0	EPA-8270C	ND		1
Benzyl alcohol		ND	ug/L	2.0	0.44	EPA-8270C	ND		1
Benzyl butyl phthalate		ND	ug/L	2.0	0.77	EPA-8270C	ND		1
alpha-BHC		ND	ug/L	2.0	1.8	EPA-8270C	ND		1
beta-BHC		ND	ug/L	2.0	1.4	EPA-8270C	ND		1
delta-BHC		ND	ug/L	2.0	1.8	EPA-8270C	ND		1
gamma-BHC (Lindane)		ND	ug/L	2.0	1.2	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane		ND	ug/L	2.0	0.45	EPA-8270C	ND		1
bis(2-Chloroethyl) ether		ND	ug/L	2.0	0.86	EPA-8270C	ND		1
bis(2-Chloroisopropyl)ether		ND	ug/L	2.0	0.58	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate		ND	ug/L	4.0	0.67	EPA-8270C	ND		1
4-Bromophenyl phenyl ether		ND	ug/L	2.0	0.42	EPA-8270C	ND		1
4-Chloroaniline		ND	ug/L	2.0	0.40	EPA-8270C	ND		1
2-Chloronaphthalene		ND	ug/L	2.0	0.34	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether		ND	ug/L	2.0	0.46	EPA-8270C	ND		1
Chrysene		ND	ug/L	2.0	0.42	EPA-8270C	ND		1
4,4'-DDD		ND	ug/L	2.0	0.74	EPA-8270C	ND		1
4,4'-DDE		ND	ug/L	3.0	1.2	EPA-8270C	ND		1
4,4'-DDT		ND	ug/L	2.0	1.1	EPA-8270C	ND		1
Dibenzo[a,h]anthracene		ND	ug/L	3.0	1.6	EPA-8270C	ND		1
Dibenzofuran		ND	ug/L	2.0	0.32	EPA-8270C	ND		1

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

**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

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

BCL Sample ID: 1731836-01		Client Sample Name: EFF-11-07, 11/7/2017 1:10:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
1,2-Dichlorobenzene		ND	ug/L	2.0	0.39	EPA-8270C	ND		1
1,3-Dichlorobenzene		ND	ug/L	2.0	0.50	EPA-8270C	ND		1
1,4-Dichlorobenzene		ND	ug/L	2.0	0.55	EPA-8270C	ND		1
3,3-Dichlorobenzidine		ND	ug/L	10	0.65	EPA-8270C	ND		1
Dieldrin		ND	ug/L	3.0	0.68	EPA-8270C	ND		1
Diethyl phthalate		ND	ug/L	2.0	0.35	EPA-8270C	ND		1
Dimethyl phthalate		ND	ug/L	2.0	0.40	EPA-8270C	ND		1
Di-n-butyl phthalate		ND	ug/L	2.0	0.33	EPA-8270C	ND		1
2,4-Dinitrotoluene		ND	ug/L	2.0	0.75	EPA-8270C	ND		1
2,6-Dinitrotoluene		ND	ug/L	2.0	0.56	EPA-8270C	ND		1
Di-n-octyl phthalate		ND	ug/L	2.0	0.61	EPA-8270C	ND		1
1,2-Diphenylhydrazine		ND	ug/L	2.0	0.43	EPA-8270C	ND		1
Endosulfan I		ND	ug/L	10	3.2	EPA-8270C	ND		1
Endosulfan II		ND	ug/L	10	3.1	EPA-8270C	ND		1
Endosulfan sulfate		ND	ug/L	3.0	2.5	EPA-8270C	ND		1
Endrin		ND	ug/L	2.0	1.4	EPA-8270C	ND		1
Endrin aldehyde		ND	ug/L	10	2.6	EPA-8270C	ND		1
Fluoranthene		ND	ug/L	2.0	0.61	EPA-8270C	ND		1
Fluorene		ND	ug/L	2.0	0.54	EPA-8270C	ND		1
Heptachlor		ND	ug/L	2.0	0.94	EPA-8270C	ND		1
Heptachlor epoxide		ND	ug/L	2.0	0.69	EPA-8270C	ND		1
Hexachlorobenzene		ND	ug/L	2.0	0.48	EPA-8270C	ND		1
Hexachlorobutadiene		ND	ug/L	2.0	0.48	EPA-8270C	ND		1
Hexachlorocyclopentadiene		ND	ug/L	2.0	0.52	EPA-8270C	ND		1
Hexachloroethane		ND	ug/L	2.0	0.90	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene		ND	ug/L	2.0	1.2	EPA-8270C	ND		1
Isophorone		ND	ug/L	2.0	0.31	EPA-8270C	ND		1
2-Methylnaphthalene		ND	ug/L	2.0	0.38	EPA-8270C	ND		1
Naphthalene		ND	ug/L	2.0	0.27	EPA-8270C	ND		1
2-Naphthylamine		ND	ug/L	20	0.83	EPA-8270C	ND		1
2-Nitroaniline		ND	ug/L	2.0	0.60	EPA-8270C	ND		1
3-Nitroaniline		ND	ug/L	2.0	0.92	EPA-8270C	ND		1

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

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

<b>BCL Sample ID:</b> 1731836-01	<b>Client Sample Name:</b> EFF-11-07, 11/7/2017 1:10:00PM
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Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
4-Nitroaniline		ND	ug/L	5.0	1.3	EPA-8270C	ND		1
Nitrobenzene		ND	ug/L	2.0	0.37	EPA-8270C	ND		1
N-Nitrosodimethylamine		ND	ug/L	2.0	1.2	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine		ND	ug/L	2.0	0.58	EPA-8270C	ND		1
N-Nitrosodiphenylamine		ND	ug/L	2.0	0.57	EPA-8270C	ND		1
Phenanthrene		ND	ug/L	2.0	0.50	EPA-8270C	ND		1
Pyrene		ND	ug/L	2.0	0.45	EPA-8270C	ND		1
1,2,4-Trichlorobenzene		ND	ug/L	2.0	0.87	EPA-8270C	ND		1
4-Chloro-3-methylphenol		ND	ug/L	5.0	0.48	EPA-8270C	ND		1
2-Chlorophenol		ND	ug/L	2.0	0.44	EPA-8270C	ND		1
2,4-Dichlorophenol		ND	ug/L	2.0	0.63	EPA-8270C	ND		1
2,4-Dimethylphenol		ND	ug/L	2.0	0.60	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol		ND	ug/L	10	1.8	EPA-8270C	ND		1
2,4-Dinitrophenol		ND	ug/L	10	2.5	EPA-8270C	ND		1
2-Methylphenol		ND	ug/L	2.0	0.55	EPA-8270C	ND		1
3- & 4-Methylphenol		ND	ug/L	2.0	0.72	EPA-8270C	ND		1
2-Nitrophenol		ND	ug/L	2.0	0.68	EPA-8270C	ND		1
4-Nitrophenol		ND	ug/L	2.0	1.9	EPA-8270C	ND		1
Pentachlorophenol		ND	ug/L	10	1.8	EPA-8270C	ND		1
Phenol		ND	ug/L	2.0	0.49	EPA-8270C	ND		1
2,4,5-Trichlorophenol		ND	ug/L	5.0	0.66	EPA-8270C	ND		1
2,4,6-Trichlorophenol		ND	ug/L	5.0	0.51	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)		49.5	%	30 - 120 (LCL - UCL)		EPA-8270C			1
Phenol-d5 (Surrogate)		40.6	%	12 - 110 (LCL - UCL)		EPA-8270C			1
Nitrobenzene-d5 (Surrogate)		84.8	%	50 - 130 (LCL - UCL)		EPA-8270C			1
2-Fluorobiphenyl (Surrogate)		87.7	%	55 - 125 (LCL - UCL)		EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)		77.8	%	40 - 150 (LCL - UCL)		EPA-8270C			1
p-Terphenyl-d14 (Surrogate)		105	%	40 - 150 (LCL - UCL)		EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/10/17 10:00	11/14/17 11:50	MK1	MS-B1	1	B[K1106

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Las Vegas, NV 89118

**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1731836-01	<b>Client Sample Name:</b> EFF-11-07, 11/7/2017 1:10:00PM								
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
MBAS		0.032	mg/L	0.10	0.015	SM-5540C	ND	J	1
Total Cyanide		ND	mg/L	0.0050	0.0017	EPA-335.4	ND		2
Ammonia as NH3		ND	mg/L	0.13	0.025	EPA-350.1	ND		3
Total Sulfide		ND	mg/L	0.10	0.050	SM-4500SD	ND		4
Biochemical Oxygen Demand - Seeded		ND	mg/L	3.0	3.0	SM17-5210B			5

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	SM-5540C	11/08/17 17:15	11/08/17 17:15		JMN	MANUAL	1	B[K0969
2	EPA-335.4	11/14/17 12:07	11/16/17 15:38		RCC	KONE-1	1	B[K1436
3	EPA-350.1	11/13/17 10:44	11/14/17 16:08		JMH	SC-1	1	B[K1279
4	SM-4500SD	11/10/17 13:30	11/10/17 13:30		DIW	SPEC06	1	B[K1160
5	SM17-5210B	11/09/17 06:00	11/09/17 06:00		BUP	YSIPRO	3.050	B[K1423

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Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

### Organochlorine Pesticides (EPA Method 8081A)

<b>BCL Sample ID:</b> 1731836-02	<b>Client Sample Name:</b> RSW-001-11-07, 11/7/2017 11:55:00AM
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Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
Aldrin		ND	ug/L	0.0050	0.0019	EPA-8081A	ND		1
alpha-BHC		ND	ug/L	0.0050	0.0023	EPA-8081A	ND		1
beta-BHC		ND	ug/L	0.0050	0.0025	EPA-8081A	ND		1
delta-BHC		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
gamma-BHC (Lindane)		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
Chlordane (Technical)		ND	ug/L	0.50	0.15	EPA-8081A	ND		1
4,4'-DDD		ND	ug/L	0.0050	0.0025	EPA-8081A	ND		1
4,4'-DDE		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
4,4'-DDT		ND	ug/L	0.0050	0.0017	EPA-8081A	ND		1
Dieldrin		ND	ug/L	0.0050	0.0023	EPA-8081A	ND		1
Endosulfan I		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
Endosulfan II		ND	ug/L	0.0050	0.0030	EPA-8081A	ND		1
Endosulfan sulfate		ND	ug/L	0.0050	0.0043	EPA-8081A	ND		1
Endrin		ND	ug/L	0.0050	0.0036	EPA-8081A	ND		1
Endrin aldehyde		ND	ug/L	0.010	0.0039	EPA-8081A	ND		1
Heptachlor		ND	ug/L	0.0050	0.0020	EPA-8081A	ND		1
Heptachlor epoxide		ND	ug/L	0.0050	0.0042	EPA-8081A	ND		1
Methoxychlor		ND	ug/L	0.0050	0.0038	EPA-8081A	ND		1
Toxaphene		ND	ug/L	2.0	0.20	EPA-8081A	ND		1
TCMX (Surrogate)		68.6	%	40 - 140 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)		59.0	%	40 - 120 (LCL - UCL)		EPA-8081A			1

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8081A	11/09/17 12:00	11/13/17 20:05		HKS	GC-17	1	B[K1267

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**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### PCB Analysis (EPA Method 8082)

BCL Sample ID: 1731836-02		Client Sample Name: RSW-001-11-07, 11/7/2017 11:55:00AM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
PCB-1016		ND	ug/L	0.20	0.048	EPA-8082	ND		1
PCB-1221		ND	ug/L	0.20	0.077	EPA-8082	ND		1
PCB-1232		ND	ug/L	0.20	0.12	EPA-8082	ND		1
PCB-1242		ND	ug/L	0.20	0.063	EPA-8082	ND		1
PCB-1248		ND	ug/L	0.20	0.18	EPA-8082	ND		1
PCB-1254		ND	ug/L	0.20	0.066	EPA-8082	ND		1
PCB-1260		ND	ug/L	0.20	0.094	EPA-8082	ND		1
Total PCB's (Summation)		ND	ug/L	0.20	0.10	EPA-8082	ND		1
Decachlorobiphenyl (Surrogate)		70.0	%	30 - 120 (LCL - UCL)		EPA-8082			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8082	11/09/17 07:00	11/13/17 10:00	HKS	GC-15	1	B[K1098



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Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-02		Client Sample Name: RSW-001-11-07, 11/7/2017 11:55:00AM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
Acenaphthene		ND	ug/L	20	4.0	EPA-8270C	ND	A01	1
Acenaphthylene		ND	ug/L	20	3.4	EPA-8270C	ND	A01	1
Aldrin		ND	ug/L	20	4.5	EPA-8270C	ND	A01	1
Aniline		ND	ug/L	50	7.1	EPA-8270C	ND	A01	1
Anthracene		ND	ug/L	20	3.2	EPA-8270C	ND	A01	1
Benzidine		ND	ug/L	200	27	EPA-8270C	ND	A01	1
Benzo[a]anthracene		ND	ug/L	20	3.7	EPA-8270C	ND	A01	1
Benzo[b]fluoranthene		ND	ug/L	20	8.8	EPA-8270C	ND	A01	1
Benzo[k]fluoranthene		ND	ug/L	20	9.6	EPA-8270C	ND	A01	1
Benzo[a]pyrene		ND	ug/L	20	8.7	EPA-8270C	ND	A01	1
Benzo[g,h,i]perylene		ND	ug/L	20	12	EPA-8270C	ND	A01	1
Benzoic acid		ND	ug/L	100	20	EPA-8270C	ND	A01	1
Benzyl alcohol		ND	ug/L	20	4.4	EPA-8270C	ND	A01	1
Benzyl butyl phthalate		ND	ug/L	20	7.7	EPA-8270C	ND	A01	1
alpha-BHC		ND	ug/L	20	18	EPA-8270C	ND	A01	1
beta-BHC		ND	ug/L	20	14	EPA-8270C	ND	A01	1
delta-BHC		ND	ug/L	20	18	EPA-8270C	ND	A01	1
gamma-BHC (Lindane)		ND	ug/L	20	12	EPA-8270C	ND	A01	1
bis(2-Chloroethoxy)methane		ND	ug/L	20	4.5	EPA-8270C	ND	A01	1
bis(2-Chloroethyl) ether		ND	ug/L	20	8.6	EPA-8270C	ND	A01	1
bis(2-Chloroisopropyl)ether		ND	ug/L	20	5.8	EPA-8270C	ND	A01	1
bis(2-Ethylhexyl)phthalate		ND	ug/L	40	6.7	EPA-8270C	ND	A01	1
4-Bromophenyl phenyl ether		ND	ug/L	20	4.2	EPA-8270C	ND	A01	1
4-Chloroaniline		ND	ug/L	20	4.0	EPA-8270C	ND	A01	1
2-Chloronaphthalene		ND	ug/L	20	3.4	EPA-8270C	ND	A01	1
4-Chlorophenyl phenyl ether		ND	ug/L	20	4.6	EPA-8270C	ND	A01	1
Chrysene		ND	ug/L	20	4.2	EPA-8270C	ND	A01	1
4,4'-DDD		ND	ug/L	20	7.4	EPA-8270C	ND	A01	1
4,4'-DDE		ND	ug/L	30	12	EPA-8270C	ND	A01	1
4,4'-DDT		ND	ug/L	20	11	EPA-8270C	ND	A01	1
Dibenzo[a,h]anthracene		ND	ug/L	30	16	EPA-8270C	ND	A01	1
Dibenzofuran		ND	ug/L	20	3.2	EPA-8270C	ND	A01	1

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Las Vegas, NV 89118

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-02		Client Sample Name: RSW-001-11-07, 11/7/2017 11:55:00AM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
1,2-Dichlorobenzene		ND	ug/L	20	3.9	EPA-8270C	ND	A01	1
1,3-Dichlorobenzene		ND	ug/L	20	5.0	EPA-8270C	ND	A01	1
1,4-Dichlorobenzene		ND	ug/L	20	5.5	EPA-8270C	ND	A01	1
3,3-Dichlorobenzidine		ND	ug/L	100	6.5	EPA-8270C	ND	A01	1
Dieldrin		ND	ug/L	30	6.8	EPA-8270C	ND	A01	1
Diethyl phthalate		ND	ug/L	20	3.5	EPA-8270C	ND	A01	1
Dimethyl phthalate		ND	ug/L	20	4.0	EPA-8270C	ND	A01	1
Di-n-butyl phthalate		ND	ug/L	20	3.3	EPA-8270C	ND	A01	1
2,4-Dinitrotoluene		ND	ug/L	20	7.5	EPA-8270C	ND	A01	1
2,6-Dinitrotoluene		ND	ug/L	20	5.6	EPA-8270C	ND	A01	1
Di-n-octyl phthalate		ND	ug/L	20	6.1	EPA-8270C	ND	A01	1
1,2-Diphenylhydrazine		ND	ug/L	20	4.3	EPA-8270C	ND	A01	1
Endosulfan I		ND	ug/L	100	32	EPA-8270C	ND	A01	1
Endosulfan II		ND	ug/L	100	31	EPA-8270C	ND	A01	1
Endosulfan sulfate		ND	ug/L	30	25	EPA-8270C	ND	A01	1
Endrin		ND	ug/L	20	14	EPA-8270C	ND	A01	1
Endrin aldehyde		ND	ug/L	100	26	EPA-8270C	ND	A01	1
Fluoranthene		ND	ug/L	20	6.1	EPA-8270C	ND	A01	1
Fluorene		ND	ug/L	20	5.4	EPA-8270C	ND	A01	1
Heptachlor		ND	ug/L	20	9.4	EPA-8270C	ND	A01	1
Heptachlor epoxide		ND	ug/L	20	6.9	EPA-8270C	ND	A01	1
Hexachlorobenzene		ND	ug/L	20	4.8	EPA-8270C	ND	A01	1
Hexachlorobutadiene		ND	ug/L	20	4.8	EPA-8270C	ND	A01	1
Hexachlorocyclopentadiene		ND	ug/L	20	5.2	EPA-8270C	ND	A01	1
Hexachloroethane		ND	ug/L	20	9.0	EPA-8270C	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	ug/L	20	12	EPA-8270C	ND	A01	1
Isophorone		ND	ug/L	20	3.1	EPA-8270C	ND	A01	1
2-Methylnaphthalene		ND	ug/L	20	3.8	EPA-8270C	ND	A01	1
Naphthalene		ND	ug/L	20	2.7	EPA-8270C	ND	A01	1
2-Naphthylamine		ND	ug/L	200	8.3	EPA-8270C	ND	A01	1
2-Nitroaniline		ND	ug/L	20	6.0	EPA-8270C	ND	A01	1
3-Nitroaniline		ND	ug/L	20	9.2	EPA-8270C	ND	A01	1

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Las Vegas, NV 89118

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-02		Client Sample Name: RSW-001-11-07, 11/7/2017 11:55:00AM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
4-Nitroaniline		ND	ug/L	50	13	EPA-8270C	ND	A01	1
Nitrobenzene		ND	ug/L	20	3.7	EPA-8270C	ND	A01	1
N-Nitrosodimethylamine		ND	ug/L	20	12	EPA-8270C	ND	A01	1
N-Nitrosodi-N-propylamine		ND	ug/L	20	5.8	EPA-8270C	ND	A01	1
N-Nitrosodiphenylamine		ND	ug/L	20	5.7	EPA-8270C	ND	A01	1
Phenanthrene		ND	ug/L	20	5.0	EPA-8270C	ND	A01	1
Pyrene		ND	ug/L	20	4.5	EPA-8270C	ND	A01	1
1,2,4-Trichlorobenzene		ND	ug/L	20	8.7	EPA-8270C	ND	A01	1
4-Chloro-3-methylphenol		ND	ug/L	50	4.8	EPA-8270C	ND	A01	1
2-Chlorophenol		ND	ug/L	20	4.4	EPA-8270C	ND	A01	1
2,4-Dichlorophenol		ND	ug/L	20	6.3	EPA-8270C	ND	A01	1
2,4-Dimethylphenol		ND	ug/L	20	6.0	EPA-8270C	ND	A01	1
4,6-Dinitro-2-methylphenol		ND	ug/L	100	18	EPA-8270C	ND	A01	1
2,4-Dinitrophenol		ND	ug/L	100	25	EPA-8270C	ND	A01	1
2-Methylphenol		ND	ug/L	20	5.5	EPA-8270C	ND	A01	1
3- & 4-Methylphenol		ND	ug/L	20	7.2	EPA-8270C	ND	A01	1
2-Nitrophenol		ND	ug/L	20	6.8	EPA-8270C	ND	A01	1
4-Nitrophenol		ND	ug/L	20	19	EPA-8270C	ND	A01	1
Pentachlorophenol		ND	ug/L	100	18	EPA-8270C	ND	A01	1
Phenol		ND	ug/L	20	4.9	EPA-8270C	ND	A01	1
2,4,5-Trichlorophenol		ND	ug/L	50	6.6	EPA-8270C	ND	A01	1
2,4,6-Trichlorophenol		ND	ug/L	50	5.1	EPA-8270C	ND	A01	1
2-Fluorophenol (Surrogate)		47.0	%	30 - 120 (LCL - UCL)		EPA-8270C		A01	1
Phenol-d5 (Surrogate)		36.6	%	12 - 110 (LCL - UCL)		EPA-8270C		A01	1
Nitrobenzene-d5 (Surrogate)		82.2	%	50 - 130 (LCL - UCL)		EPA-8270C		A01	1
2-Fluorobiphenyl (Surrogate)		90.8	%	55 - 125 (LCL - UCL)		EPA-8270C		A01	1
2,4,6-Tribromophenol (Surrogate)		74.0	%	40 - 150 (LCL - UCL)		EPA-8270C		A01	1
p-Terphenyl-d14 (Surrogate)		86.6	%	40 - 150 (LCL - UCL)		EPA-8270C		A01	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/10/17 10:00	11/14/17 12:16	MK1	MS-B1	9.900	B[K1106

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

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

### Organochlorine Pesticides (EPA Method 8081A)

BCL Sample ID: 1731836-03		Client Sample Name: RSW-002-11-07, 11/7/2017 12:07:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
Aldrin		ND	ug/L	0.0050	0.0019	EPA-8081A	ND		1
alpha-BHC		ND	ug/L	0.0050	0.0023	EPA-8081A	ND		1
beta-BHC		ND	ug/L	0.0050	0.0025	EPA-8081A	ND		1
delta-BHC		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
gamma-BHC (Lindane)		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
Chlordane (Technical)		ND	ug/L	0.50	0.15	EPA-8081A	ND		1
4,4'-DDD		ND	ug/L	0.0050	0.0025	EPA-8081A	ND		1
4,4'-DDE		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
4,4'-DDT		ND	ug/L	0.0050	0.0017	EPA-8081A	ND		1
Dieldrin		ND	ug/L	0.0050	0.0023	EPA-8081A	ND		1
Endosulfan I		ND	ug/L	0.0050	0.0024	EPA-8081A	ND		1
Endosulfan II		ND	ug/L	0.0050	0.0030	EPA-8081A	ND		1
Endosulfan sulfate		ND	ug/L	0.0050	0.0043	EPA-8081A	ND		1
Endrin		ND	ug/L	0.0050	0.0036	EPA-8081A	ND		1
Endrin aldehyde		ND	ug/L	0.010	0.0039	EPA-8081A	ND		1
Heptachlor		ND	ug/L	0.0050	0.0020	EPA-8081A	ND		1
Heptachlor epoxide		ND	ug/L	0.0050	0.0042	EPA-8081A	ND		1
Methoxychlor		ND	ug/L	0.0050	0.0038	EPA-8081A	ND		1
Toxaphene		ND	ug/L	2.0	0.20	EPA-8081A	ND		1
TCMX (Surrogate)		85.5	%	40 - 140 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)		50.2	%	40 - 120 (LCL - UCL)		EPA-8081A			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8081A	11/09/17 12:00	11/13/17 20:20	HKS	GC-17	1	B[K1267

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

**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### PCB Analysis (EPA Method 8082)

BCL Sample ID: 1731836-03		Client Sample Name: RSW-002-11-07, 11/7/2017 12:07:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
PCB-1016		ND	ug/L	0.20	0.048	EPA-8082	ND		1
PCB-1221		ND	ug/L	0.20	0.077	EPA-8082	ND		1
PCB-1232		ND	ug/L	0.20	0.12	EPA-8082	ND		1
PCB-1242		ND	ug/L	0.20	0.063	EPA-8082	ND		1
PCB-1248		ND	ug/L	0.20	0.18	EPA-8082	ND		1
PCB-1254		ND	ug/L	0.20	0.066	EPA-8082	ND		1
PCB-1260		ND	ug/L	0.20	0.094	EPA-8082	ND		1
Total PCB's (Summation)		ND	ug/L	0.20	0.10	EPA-8082	ND		1
Decachlorobiphenyl (Surrogate)		68.3	%	30 - 120 (LCL - UCL)		EPA-8082			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8082	11/09/17 07:00	11/13/17 10:11	HKS	GC-15	1	B[K1098

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Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-03		Client Sample Name: RSW-002-11-07, 11/7/2017 12:07:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
Acenaphthene		ND	ug/L	20	4.0	EPA-8270C	ND	A01	1
Acenaphthylene		ND	ug/L	20	3.4	EPA-8270C	ND	A01	1
Aldrin		ND	ug/L	20	4.5	EPA-8270C	ND	A01	1
Aniline		ND	ug/L	50	7.1	EPA-8270C	ND	A01	1
Anthracene		ND	ug/L	20	3.2	EPA-8270C	ND	A01	1
Benzidine		ND	ug/L	200	27	EPA-8270C	ND	A01	1
Benzo[a]anthracene		ND	ug/L	20	3.7	EPA-8270C	ND	A01	1
Benzo[b]fluoranthene		ND	ug/L	20	8.8	EPA-8270C	ND	A01	1
Benzo[k]fluoranthene		ND	ug/L	20	9.6	EPA-8270C	ND	A01	1
Benzo[a]pyrene		ND	ug/L	20	8.7	EPA-8270C	ND	A01	1
Benzo[g,h,i]perylene		ND	ug/L	20	12	EPA-8270C	ND	A01	1
Benzoic acid		ND	ug/L	100	20	EPA-8270C	ND	A01	1
Benzyl alcohol		ND	ug/L	20	4.4	EPA-8270C	ND	A01	1
Benzyl butyl phthalate		ND	ug/L	20	7.7	EPA-8270C	ND	A01	1
alpha-BHC		ND	ug/L	20	18	EPA-8270C	ND	A01	1
beta-BHC		ND	ug/L	20	14	EPA-8270C	ND	A01	1
delta-BHC		ND	ug/L	20	18	EPA-8270C	ND	A01	1
gamma-BHC (Lindane)		ND	ug/L	20	12	EPA-8270C	ND	A01	1
bis(2-Chloroethoxy)methane		ND	ug/L	20	4.5	EPA-8270C	ND	A01	1
bis(2-Chloroethyl) ether		ND	ug/L	20	8.6	EPA-8270C	ND	A01	1
bis(2-Chloroisopropyl)ether		ND	ug/L	20	5.8	EPA-8270C	ND	A01	1
bis(2-Ethylhexyl)phthalate		ND	ug/L	40	6.7	EPA-8270C	ND	A01	1
4-Bromophenyl phenyl ether		ND	ug/L	20	4.2	EPA-8270C	ND	A01	1
4-Chloroaniline		ND	ug/L	20	4.0	EPA-8270C	ND	A01	1
2-Chloronaphthalene		ND	ug/L	20	3.4	EPA-8270C	ND	A01	1
4-Chlorophenyl phenyl ether		ND	ug/L	20	4.6	EPA-8270C	ND	A01	1
Chrysene		ND	ug/L	20	4.2	EPA-8270C	ND	A01	1
4,4'-DDD		ND	ug/L	20	7.4	EPA-8270C	ND	A01	1
4,4'-DDE		ND	ug/L	30	12	EPA-8270C	ND	A01	1
4,4'-DDT		ND	ug/L	20	11	EPA-8270C	ND	A01	1
Dibenzo[a,h]anthracene		ND	ug/L	30	16	EPA-8270C	ND	A01	1
Dibenzofuran		ND	ug/L	20	3.2	EPA-8270C	ND	A01	1

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Las Vegas, NV 89118

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-03		Client Sample Name: RSW-002-11-07, 11/7/2017 12:07:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
1,2-Dichlorobenzene		ND	ug/L	20	3.9	EPA-8270C	ND	A01	1
1,3-Dichlorobenzene		ND	ug/L	20	5.0	EPA-8270C	ND	A01	1
1,4-Dichlorobenzene		ND	ug/L	20	5.5	EPA-8270C	ND	A01	1
3,3-Dichlorobenzidine		ND	ug/L	100	6.5	EPA-8270C	ND	A01	1
Dieldrin		ND	ug/L	30	6.8	EPA-8270C	ND	A01	1
Diethyl phthalate		ND	ug/L	20	3.5	EPA-8270C	ND	A01	1
Dimethyl phthalate		ND	ug/L	20	4.0	EPA-8270C	ND	A01	1
Di-n-butyl phthalate		ND	ug/L	20	3.3	EPA-8270C	ND	A01	1
2,4-Dinitrotoluene		ND	ug/L	20	7.5	EPA-8270C	ND	A01	1
2,6-Dinitrotoluene		ND	ug/L	20	5.6	EPA-8270C	ND	A01	1
Di-n-octyl phthalate		ND	ug/L	20	6.1	EPA-8270C	ND	A01	1
1,2-Diphenylhydrazine		ND	ug/L	20	4.3	EPA-8270C	ND	A01	1
Endosulfan I		ND	ug/L	100	32	EPA-8270C	ND	A01	1
Endosulfan II		ND	ug/L	100	31	EPA-8270C	ND	A01	1
Endosulfan sulfate		ND	ug/L	30	25	EPA-8270C	ND	A01	1
Endrin		ND	ug/L	20	14	EPA-8270C	ND	A01	1
Endrin aldehyde		ND	ug/L	100	26	EPA-8270C	ND	A01	1
Fluoranthene		ND	ug/L	20	6.1	EPA-8270C	ND	A01	1
Fluorene		ND	ug/L	20	5.4	EPA-8270C	ND	A01	1
Heptachlor		ND	ug/L	20	9.4	EPA-8270C	ND	A01	1
Heptachlor epoxide		ND	ug/L	20	6.9	EPA-8270C	ND	A01	1
Hexachlorobenzene		ND	ug/L	20	4.8	EPA-8270C	ND	A01	1
Hexachlorobutadiene		ND	ug/L	20	4.8	EPA-8270C	ND	A01	1
Hexachlorocyclopentadiene		ND	ug/L	20	5.2	EPA-8270C	ND	A01	1
Hexachloroethane		ND	ug/L	20	9.0	EPA-8270C	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	ug/L	20	12	EPA-8270C	ND	A01	1
Isophorone		ND	ug/L	20	3.1	EPA-8270C	ND	A01	1
2-Methylnaphthalene		ND	ug/L	20	3.8	EPA-8270C	ND	A01	1
Naphthalene		ND	ug/L	20	2.7	EPA-8270C	ND	A01	1
2-Naphthylamine		ND	ug/L	200	8.3	EPA-8270C	ND	A01	1
2-Nitroaniline		ND	ug/L	20	6.0	EPA-8270C	ND	A01	1
3-Nitroaniline		ND	ug/L	20	9.2	EPA-8270C	ND	A01	1

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Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

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

BCL Sample ID: 1731836-03		Client Sample Name: RSW-002-11-07, 11/7/2017 12:07:00PM							
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
4-Nitroaniline		ND	ug/L	50	13	EPA-8270C	ND	A01	1
Nitrobenzene		ND	ug/L	20	3.7	EPA-8270C	ND	A01	1
N-Nitrosodimethylamine		ND	ug/L	20	12	EPA-8270C	ND	A01	1
N-Nitrosodi-N-propylamine		ND	ug/L	20	5.8	EPA-8270C	ND	A01	1
N-Nitrosodiphenylamine		ND	ug/L	20	5.7	EPA-8270C	ND	A01	1
Phenanthrene		ND	ug/L	20	5.0	EPA-8270C	ND	A01	1
Pyrene		ND	ug/L	20	4.5	EPA-8270C	ND	A01	1
1,2,4-Trichlorobenzene		ND	ug/L	20	8.7	EPA-8270C	ND	A01	1
4-Chloro-3-methylphenol		ND	ug/L	50	4.8	EPA-8270C	ND	A01	1
2-Chlorophenol		ND	ug/L	20	4.4	EPA-8270C	ND	A01	1
2,4-Dichlorophenol		ND	ug/L	20	6.3	EPA-8270C	ND	A01	1
2,4-Dimethylphenol		ND	ug/L	20	6.0	EPA-8270C	ND	A01	1
4,6-Dinitro-2-methylphenol		ND	ug/L	100	18	EPA-8270C	ND	A01	1
2,4-Dinitrophenol		ND	ug/L	100	25	EPA-8270C	ND	A01	1
2-Methylphenol		ND	ug/L	20	5.5	EPA-8270C	ND	A01	1
3- & 4-Methylphenol		ND	ug/L	20	7.2	EPA-8270C	ND	A01	1
2-Nitrophenol		ND	ug/L	20	6.8	EPA-8270C	ND	A01	1
4-Nitrophenol		ND	ug/L	20	19	EPA-8270C	ND	A01	1
Pentachlorophenol		ND	ug/L	100	18	EPA-8270C	ND	A01	1
Phenol		ND	ug/L	20	4.9	EPA-8270C	ND	A01	1
2,4,5-Trichlorophenol		ND	ug/L	50	6.6	EPA-8270C	ND	A01	1
2,4,6-Trichlorophenol		ND	ug/L	50	5.1	EPA-8270C	ND	A01	1
2-Fluorophenol (Surrogate)		34.0	%	30 - 120 (LCL - UCL)		EPA-8270C		A01	1
Phenol-d5 (Surrogate)		28.6	%	12 - 110 (LCL - UCL)		EPA-8270C		A01	1
Nitrobenzene-d5 (Surrogate)		65.2	%	50 - 130 (LCL - UCL)		EPA-8270C		A01	1
2-Fluorobiphenyl (Surrogate)		65.7	%	55 - 125 (LCL - UCL)		EPA-8270C		A01	1
2,4,6-Tribromophenol (Surrogate)		49.2	%	40 - 150 (LCL - UCL)		EPA-8270C		A01	1
p-Terphenyl-d14 (Surrogate)		60.6	%	40 - 150 (LCL - UCL)		EPA-8270C		A01	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	11/10/17 10:00	11/14/17 12:41	MK1	MS-B1	9.700	B[K1106

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**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

## Organochlorine Pesticides (EPA Method 8081A)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B[K1267]</b>						
Aldrin	B[K1267-BLK1	ND	ug/L	0.0050	0.0019	
alpha-BHC	B[K1267-BLK1	ND	ug/L	0.0050	0.0023	
beta-BHC	B[K1267-BLK1	ND	ug/L	0.0050	0.0025	
delta-BHC	B[K1267-BLK1	ND	ug/L	0.0050	0.0024	
gamma-BHC (Lindane)	B[K1267-BLK1	ND	ug/L	0.0050	0.0024	
Chlordane (Technical)	B[K1267-BLK1	ND	ug/L	0.50	0.15	
4,4'-DDD	B[K1267-BLK1	ND	ug/L	0.0050	0.0025	
4,4'-DDE	B[K1267-BLK1	ND	ug/L	0.0050	0.0024	
4,4'-DDT	B[K1267-BLK1	ND	ug/L	0.0050	0.0017	
Dieldrin	B[K1267-BLK1	ND	ug/L	0.0050	0.0023	
Endosulfan I	B[K1267-BLK1	ND	ug/L	0.0050	0.0024	
Endosulfan II	B[K1267-BLK1	ND	ug/L	0.0050	0.0030	
Endosulfan sulfate	B[K1267-BLK1	ND	ug/L	0.0050	0.0043	
Endrin	B[K1267-BLK1	ND	ug/L	0.0050	0.0036	
Endrin aldehyde	B[K1267-BLK1	ND	ug/L	0.010	0.0039	
Heptachlor	B[K1267-BLK1	ND	ug/L	0.0050	0.0020	
Heptachlor epoxide	B[K1267-BLK1	ND	ug/L	0.0050	0.0042	
Methoxychlor	B[K1267-BLK1	ND	ug/L	0.0050	0.0038	
Toxaphene	B[K1267-BLK1	ND	ug/L	2.0	0.20	
<b>TCMX (Surrogate)</b>	<b>B[K1267-BLK1</b>	<b>103</b>	<b>%</b>	<b>40 - 140 (LCL - UCL)</b>		
<b>Decachlorobiphenyl (Surrogate)</b>	<b>B[K1267-BLK1</b>	<b>83.3</b>	<b>%</b>	<b>40 - 120 (LCL - UCL)</b>		



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**Reported:** 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

## Organochlorine Pesticides (EPA Method 8081A)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B[K1267</b>										
Aldrin	B[K1267-BS1	LCS	0.13919	0.15000	ug/L	92.8		50 - 120		
gamma-BHC (Lindane)	B[K1267-BS1	LCS	0.14776	0.15000	ug/L	98.5		60 - 130		
4,4'-DDT	B[K1267-BS1	LCS	0.11893	0.15000	ug/L	79.3		60 - 130		
Dieldrin	B[K1267-BS1	LCS	0.13648	0.15000	ug/L	91.0		60 - 130		
Endrin	B[K1267-BS1	LCS	0.11343	0.15000	ug/L	75.6		60 - 130		
Heptachlor	B[K1267-BS1	LCS	0.12668	0.15000	ug/L	84.5		60 - 130		
TCMX (Surrogate)	B[K1267-BS1	LCS	0.31113	0.30000	ug/L	104		40 - 140		
Decachlorobiphenyl (Surrogate)	B[K1267-BS1	LCS	0.54706	0.60000	ug/L	91.2		40 - 120		



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Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

### Organochlorine Pesticides (EPA Method 8081A)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
<b>QC Batch ID: B[K1267]</b>		Used client sample: N									
Aldrin	MS	1730221-51	ND	0.14650	0.15000	ug/L		97.7		50 - 130	
	MSD	1730221-51	ND	0.13927	0.15000	ug/L	5.1	92.8	30	50 - 130	
gamma-BHC (Lindane)	MS	1730221-51	ND	0.15278	0.15000	ug/L		102		60 - 130	
	MSD	1730221-51	ND	0.15285	0.15000	ug/L	0.0	102	30	60 - 130	
4,4'-DDT	MS	1730221-51	ND	0.12936	0.15000	ug/L		86.2		60 - 130	
	MSD	1730221-51	ND	0.11781	0.15000	ug/L	9.3	78.5	30	60 - 130	
Dieldrin	MS	1730221-51	ND	0.14201	0.15000	ug/L		94.7		65 - 130	
	MSD	1730221-51	ND	0.13619	0.15000	ug/L	4.2	90.8	30	65 - 130	
Endrin	MS	1730221-51	ND	0.12126	0.15000	ug/L		80.8		60 - 130	
	MSD	1730221-51	ND	0.11003	0.15000	ug/L	9.7	73.4	30	60 - 130	
Heptachlor	MS	1730221-51	ND	0.13134	0.15000	ug/L		87.6		50 - 130	
	MSD	1730221-51	ND	0.12586	0.15000	ug/L	4.3	83.9	30	50 - 130	
TCMX (Surrogate)	MS	1730221-51	ND	0.32043	0.30000	ug/L		107		40 - 140	
	MSD	1730221-51	ND	0.32256	0.30000	ug/L	0.7	108		40 - 140	
Decachlorobiphenyl (Surrogate)	MS	1730221-51	ND	0.57810	0.60000	ug/L		96.4		40 - 120	
	MSD	1730221-51	ND	0.53290	0.60000	ug/L	8.1	88.8		40 - 120	

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Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

### PCB Analysis (EPA Method 8082)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B[K1098]</b>						
PCB-1016	B[K1098-BLK1	ND	ug/L	0.20	0.048	
PCB-1221	B[K1098-BLK1	ND	ug/L	0.20	0.077	
PCB-1232	B[K1098-BLK1	ND	ug/L	0.20	0.12	
PCB-1242	B[K1098-BLK1	ND	ug/L	0.20	0.063	
PCB-1248	B[K1098-BLK1	ND	ug/L	0.20	0.18	
PCB-1254	B[K1098-BLK1	ND	ug/L	0.20	0.066	
PCB-1260	B[K1098-BLK1	ND	ug/L	0.20	0.094	
Total PCB's (Summation)	B[K1098-BLK1	ND	ug/L	0.20	0.10	
<b>Decachlorobiphenyl (Surrogate)</b>	<b>B[K1098-BLK1</b>	<b>91.7</b>	<b>%</b>	<b>30 - 120 (LCL - UCL)</b>		



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### PCB Analysis (EPA Method 8082)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B[K1098]</b>										
PCB-1016	B[K1098-BS1	LCS	2.3200	2.5000	ug/L	92.8		60 - 120		
PCB-1260	B[K1098-BS1	LCS	2.4300	2.5000	ug/L	97.2		60 - 130		
Decachlorobiphenyl (Surrogate)	B[K1098-BS1	LCS	0.58000	0.60000	ug/L	96.7		30 - 120		



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Project Manager: Marlon Cartin

### PCB Analysis (EPA Method 8082)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent		Lab Quals
								Recovery	RPD	
<b>QC Batch ID: B[K1098]</b>		Used client sample: N								
PCB-1016	MS	1730221-47	ND	2.3000	2.5000	ug/L		92.0		60 - 120
	MSD	1730221-47	ND	2.3000	2.5000	ug/L	0	92.0	30	60 - 120
PCB-1260	MS	1730221-47	ND	2.4700	2.5000	ug/L		98.8		60 - 130
	MSD	1730221-47	ND	2.5000	2.5000	ug/L	1.2	100	30	60 - 130
Decachlorobiphenyl (Surrogate)	MS	1730221-47	ND	0.59000	0.60000	ug/L		98.3		30 - 120
	MSD	1730221-47	ND	0.61000	0.60000	ug/L	3.3	102		30 - 120





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

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B[K1106]</b>						
Acenaphthene	B[K1106-BLK1	ND	ug/L	2.0	0.40	
Acenaphthylene	B[K1106-BLK1	ND	ug/L	2.0	0.34	
Aldrin	B[K1106-BLK1	ND	ug/L	2.0	0.45	
Aniline	B[K1106-BLK1	ND	ug/L	5.0	0.71	
Anthracene	B[K1106-BLK1	ND	ug/L	2.0	0.32	
Benzidine	B[K1106-BLK1	ND	ug/L	20	2.7	
Benzo[a]anthracene	B[K1106-BLK1	ND	ug/L	2.0	0.37	
Benzo[b]fluoranthene	B[K1106-BLK1	ND	ug/L	2.0	0.88	
Benzo[k]fluoranthene	B[K1106-BLK1	ND	ug/L	2.0	0.96	
Benzo[a]pyrene	B[K1106-BLK1	ND	ug/L	2.0	0.87	
Benzo[g,h,i]perylene	B[K1106-BLK1	ND	ug/L	2.0	1.2	
Benzoic acid	B[K1106-BLK1	ND	ug/L	10	2.0	
Benzyl alcohol	B[K1106-BLK1	ND	ug/L	2.0	0.44	
Benzyl butyl phthalate	B[K1106-BLK1	ND	ug/L	2.0	0.77	
alpha-BHC	B[K1106-BLK1	ND	ug/L	2.0	1.8	
beta-BHC	B[K1106-BLK1	ND	ug/L	2.0	1.4	
delta-BHC	B[K1106-BLK1	ND	ug/L	2.0	1.8	
gamma-BHC (Lindane)	B[K1106-BLK1	ND	ug/L	2.0	1.2	
bis(2-Chloroethoxy)methane	B[K1106-BLK1	ND	ug/L	2.0	0.45	
bis(2-Chloroethyl) ether	B[K1106-BLK1	ND	ug/L	2.0	0.86	
bis(2-Chloroisopropyl)ether	B[K1106-BLK1	ND	ug/L	2.0	0.58	
bis(2-Ethylhexyl)phthalate	B[K1106-BLK1	ND	ug/L	4.0	0.67	
4-Bromophenyl phenyl ether	B[K1106-BLK1	ND	ug/L	2.0	0.42	
4-Chloroaniline	B[K1106-BLK1	ND	ug/L	2.0	0.40	
2-Chloronaphthalene	B[K1106-BLK1	ND	ug/L	2.0	0.34	
4-Chlorophenyl phenyl ether	B[K1106-BLK1	ND	ug/L	2.0	0.46	
Chrysene	B[K1106-BLK1	ND	ug/L	2.0	0.42	
4,4'-DDD	B[K1106-BLK1	ND	ug/L	2.0	0.74	
4,4'-DDE	B[K1106-BLK1	ND	ug/L	3.0	1.2	
4,4'-DDT	B[K1106-BLK1	ND	ug/L	2.0	1.1	
Dibenzo[a,h]anthracene	B[K1106-BLK1	ND	ug/L	3.0	1.6	
Dibenzofuran	B[K1106-BLK1	ND	ug/L	2.0	0.32	
1,2-Dichlorobenzene	B[K1106-BLK1	ND	ug/L	2.0	0.39	
1,3-Dichlorobenzene	B[K1106-BLK1	ND	ug/L	2.0	0.50	

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Project Number: N026919  
Project 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
<b>QC Batch ID: B[K1106]</b>						
1,4-Dichlorobenzene	B[K1106-BLK1	ND	ug/L	2.0	0.55	
3,3-Dichlorobenzidine	B[K1106-BLK1	ND	ug/L	10	0.65	
Dieldrin	B[K1106-BLK1	ND	ug/L	3.0	0.68	
Diethyl phthalate	B[K1106-BLK1	ND	ug/L	2.0	0.35	
Dimethyl phthalate	B[K1106-BLK1	ND	ug/L	2.0	0.40	
Di-n-butyl phthalate	B[K1106-BLK1	ND	ug/L	2.0	0.33	
2,4-Dinitrotoluene	B[K1106-BLK1	ND	ug/L	2.0	0.75	
2,6-Dinitrotoluene	B[K1106-BLK1	ND	ug/L	2.0	0.56	
Di-n-octyl phthalate	B[K1106-BLK1	ND	ug/L	2.0	0.61	
1,2-Diphenylhydrazine	B[K1106-BLK1	ND	ug/L	2.0	0.43	
Endosulfan I	B[K1106-BLK1	ND	ug/L	10	3.2	
Endosulfan II	B[K1106-BLK1	ND	ug/L	10	3.1	
Endosulfan sulfate	B[K1106-BLK1	ND	ug/L	3.0	2.5	
Endrin	B[K1106-BLK1	ND	ug/L	2.0	1.4	
Endrin aldehyde	B[K1106-BLK1	ND	ug/L	10	2.6	
Fluoranthene	B[K1106-BLK1	ND	ug/L	2.0	0.61	
Fluorene	B[K1106-BLK1	ND	ug/L	2.0	0.54	
Heptachlor	B[K1106-BLK1	ND	ug/L	2.0	0.94	
Heptachlor epoxide	B[K1106-BLK1	ND	ug/L	2.0	0.69	
Hexachlorobenzene	B[K1106-BLK1	ND	ug/L	2.0	0.48	
Hexachlorobutadiene	B[K1106-BLK1	ND	ug/L	2.0	0.48	
Hexachlorocyclopentadiene	B[K1106-BLK1	ND	ug/L	2.0	0.52	
Hexachloroethane	B[K1106-BLK1	ND	ug/L	2.0	0.90	
Indeno[1,2,3-cd]pyrene	B[K1106-BLK1	ND	ug/L	2.0	1.2	
Isophorone	B[K1106-BLK1	ND	ug/L	2.0	0.31	
2-Methylnaphthalene	B[K1106-BLK1	ND	ug/L	2.0	0.38	
Naphthalene	B[K1106-BLK1	ND	ug/L	2.0	0.27	
2-Naphthylamine	B[K1106-BLK1	ND	ug/L	20	0.83	
2-Nitroaniline	B[K1106-BLK1	ND	ug/L	2.0	0.60	
3-Nitroaniline	B[K1106-BLK1	ND	ug/L	2.0	0.92	
4-Nitroaniline	B[K1106-BLK1	ND	ug/L	5.0	1.3	
Nitrobenzene	B[K1106-BLK1	ND	ug/L	2.0	0.37	
N-Nitrosodimethylamine	B[K1106-BLK1	ND	ug/L	2.0	1.2	
N-Nitrosodi-N-propylamine	B[K1106-BLK1	ND	ug/L	2.0	0.58	

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Project: CH2M Hill  
Project Number: N026919  
Project 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
<b>QC Batch ID: B[K1106]</b>						
N-Nitrosodiphenylamine	B[K1106-BLK1	ND	ug/L	2.0	0.57	
Phenanthrene	B[K1106-BLK1	ND	ug/L	2.0	0.50	
Pyrene	B[K1106-BLK1	ND	ug/L	2.0	0.45	
1,2,4-Trichlorobenzene	B[K1106-BLK1	ND	ug/L	2.0	0.87	
4-Chloro-3-methylphenol	B[K1106-BLK1	ND	ug/L	5.0	0.48	
2-Chlorophenol	B[K1106-BLK1	ND	ug/L	2.0	0.44	
2,4-Dichlorophenol	B[K1106-BLK1	ND	ug/L	2.0	0.63	
2,4-Dimethylphenol	B[K1106-BLK1	ND	ug/L	2.0	0.60	
4,6-Dinitro-2-methylphenol	B[K1106-BLK1	ND	ug/L	10	1.8	
2,4-Dinitrophenol	B[K1106-BLK1	ND	ug/L	10	2.5	
2-Methylphenol	B[K1106-BLK1	ND	ug/L	2.0	0.55	
3- & 4-Methylphenol	B[K1106-BLK1	ND	ug/L	2.0	0.72	
2-Nitrophenol	B[K1106-BLK1	ND	ug/L	2.0	0.68	
4-Nitrophenol	B[K1106-BLK1	ND	ug/L	2.0	1.9	
Pentachlorophenol	B[K1106-BLK1	ND	ug/L	10	1.8	
Phenol	B[K1106-BLK1	ND	ug/L	2.0	0.49	
2,4,5-Trichlorophenol	B[K1106-BLK1	ND	ug/L	5.0	0.66	
2,4,6-Trichlorophenol	B[K1106-BLK1	ND	ug/L	5.0	0.51	
<b>2-Fluorophenol (Surrogate)</b>	<b>B[K1106-BLK1</b>	<b>46.2</b>	<b>%</b>	<b>30 - 120 (LCL - UCL)</b>		
<b>Phenol-d5 (Surrogate)</b>	<b>B[K1106-BLK1</b>	<b>31.7</b>	<b>%</b>	<b>12 - 110 (LCL - UCL)</b>		
<b>Nitrobenzene-d5 (Surrogate)</b>	<b>B[K1106-BLK1</b>	<b>80.9</b>	<b>%</b>	<b>50 - 130 (LCL - UCL)</b>		
<b>2-Fluorobiphenyl (Surrogate)</b>	<b>B[K1106-BLK1</b>	<b>81.7</b>	<b>%</b>	<b>55 - 125 (LCL - UCL)</b>		
<b>2,4,6-Tribromophenol (Surrogate)</b>	<b>B[K1106-BLK1</b>	<b>81.2</b>	<b>%</b>	<b>40 - 150 (LCL - UCL)</b>		
<b>p-Terphenyl-d14 (Surrogate)</b>	<b>B[K1106-BLK1</b>	<b>103</b>	<b>%</b>	<b>40 - 150 (LCL - UCL)</b>		

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Project Manager: Marlon Cartin

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

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B[K1106</b>										
Acenaphthene	B[K1106-BS1	LCS	40.748	50.000	ug/L	81.5		50 - 120		
1,4-Dichlorobenzene	B[K1106-BS1	LCS	56.536	50.000	ug/L	113		50 - 120		
2,4-Dinitrotoluene	B[K1106-BS1	LCS	60.221	50.000	ug/L	120		50 - 120		
Hexachlorobenzene	B[K1106-BS1	LCS	43.434	40.000	ug/L	109		60 - 120		
Hexachlorobutadiene	B[K1106-BS1	LCS	43.581	50.000	ug/L	87.2		40 - 110		
Hexachloroethane	B[K1106-BS1	LCS	50.539	50.000	ug/L	101		40 - 120		
Nitrobenzene	B[K1106-BS1	LCS	58.320	50.000	ug/L	117		50 - 120		
N-Nitrosodi-N-propylamine	B[K1106-BS1	LCS	48.990	50.000	ug/L	98.0		50 - 120		
Pyrene	B[K1106-BS1	LCS	40.376	50.000	ug/L	80.8		40 - 140		
1,2,4-Trichlorobenzene	B[K1106-BS1	LCS	51.127	50.000	ug/L	102		45 - 120		
4-Chloro-3-methylphenol	B[K1106-BS1	LCS	46.070	50.000	ug/L	92.1		50 - 120		
2-Chlorophenol	B[K1106-BS1	LCS	49.598	50.000	ug/L	99.2		50 - 120		
2-Methylphenol	B[K1106-BS1	LCS	37.318	50.000	ug/L	74.6		40 - 110		
3- & 4-Methylphenol	B[K1106-BS1	LCS	69.688	100.00	ug/L	69.7		40 - 110		
4-Nitrophenol	B[K1106-BS1	LCS	25.274	50.000	ug/L	50.5		10 - 110		
Pentachlorophenol	B[K1106-BS1	LCS	35.045	40.000	ug/L	87.6		30 - 130		
Phenol	B[K1106-BS1	LCS	22.716	50.000	ug/L	45.4		20 - 110		
2,4,6-Trichlorophenol	B[K1106-BS1	LCS	42.934	50.000	ug/L	85.9		54 - 120		
2-Fluorophenol (Surrogate)	B[K1106-BS1	LCS	22.854	40.000	ug/L	57.1		30 - 120		
Phenol-d5 (Surrogate)	B[K1106-BS1	LCS	15.602	40.000	ug/L	39.0		12 - 110		
Nitrobenzene-d5 (Surrogate)	B[K1106-BS1	LCS	33.467	40.000	ug/L	83.7		50 - 130		
2-Fluorobiphenyl (Surrogate)	B[K1106-BS1	LCS	34.114	40.000	ug/L	85.3		55 - 125		
2,4,6-Tribromophenol (Surrogate)	B[K1106-BS1	LCS	39.073	40.000	ug/L	97.7		40 - 150		
p-Terphenyl-d14 (Surrogate)	B[K1106-BS1	LCS	20.100	20.000	ug/L	100		40 - 150		

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Project Manager: Marlon Cartin

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

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Quals. Includes QC Batch ID: B[K1106 and Used client sample: N.

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

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
<b>QC Batch ID: B[K1106]</b>		Used client sample: N									
2-Fluorophenol (Surrogate)	MS	1730221-50	ND	26.669	40.000	ug/L		66.7		30 - 120	
	MSD	1730221-50	ND	26.640	40.000	ug/L	0.1	66.6		30 - 120	
Phenol-d5 (Surrogate)	MS	1730221-50	ND	17.750	40.000	ug/L		44.4		12 - 110	
	MSD	1730221-50	ND	17.870	40.000	ug/L	0.7	44.7		12 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1730221-50	ND	37.094	40.000	ug/L		92.7		50 - 130	
	MSD	1730221-50	ND	38.010	40.000	ug/L	2.4	95.0		50 - 130	
2-Fluorobiphenyl (Surrogate)	MS	1730221-50	ND	41.117	40.000	ug/L		103		55 - 125	
	MSD	1730221-50	ND	42.860	40.000	ug/L	4.2	107		55 - 125	
2,4,6-Tribromophenol (Surrogate)	MS	1730221-50	ND	46.790	40.000	ug/L		117		40 - 150	
	MSD	1730221-50	ND	51.580	40.000	ug/L	9.7	129		40 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1730221-50	ND	25.814	20.000	ug/L		129		40 - 150	
	MSD	1730221-50	ND	24.830	20.000	ug/L	3.9	124		40 - 150	



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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
<b>QC Batch ID: B[K0969]</b>						
MBAS	B[K0969-BLK1	ND	mg/L	0.10	0.015	
<b>QC Batch ID: B[K1160]</b>						
Total Sulfide	B[K1160-BLK1	ND	mg/L	0.10	0.050	
<b>QC Batch ID: B[K1279]</b>						
Ammonia as NH3	B[K1279-BLK1	ND	mg/L	0.13	0.025	
<b>QC Batch ID: B[K1423]</b>						
Biochemical Oxygen Demand - Seeded	B[K1423-BLK1	ND	mg/L	1.0	1.0	
<b>QC Batch ID: B[K1436]</b>						
Total Cyanide	B[K1436-BLK1	ND	mg/L	0.0050	0.0017	



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## Water Analysis (General Chemistry)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B[K0969]</b>										
MBAS	B[K0969-BS1]	LCS	0.21310	0.20000	mg/L	107		85 - 115		
<b>QC Batch ID: B[K1160]</b>										
Total Sulfide	B[K1160-BS1]	LCS	0.51491	0.50000	mg/L	103		90 - 110		
<b>QC Batch ID: B[K1279]</b>										
Ammonia as NH3	B[K1279-BS1]	LCS	1.2238	1.2160	mg/L	101		90 - 110		
<b>QC Batch ID: B[K1423]</b>										
Biochemical Oxygen Demand - Seeded	B[K1423-BS1]	LCS	178.04	198.00	mg/L	89.9		85 - 115		
<b>QC Batch ID: B[K1436]</b>										
Total Cyanide	B[K1436-BS1]	LCS	0.15399	0.15000	mg/L	103		90 - 110		





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

Reported: 11/30/2017 9:15  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

### Water Analysis (General Chemistry)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B[K0969]</b>		Used client sample: N								
MBAS	DUP	1731692-01	0.053000	0.053000		mg/L	0		20	J
	MS	1731692-01	0.053000	0.48060	0.40000	mg/L		107		80 - 120
	MSD	1731692-01	0.053000	0.48600	0.40000	mg/L	1.1	108	20	80 - 120
<b>QC Batch ID: B[K1160]</b>		Used client sample: N								
Total Sulfide	DUP	1731462-01	ND	ND		mg/L			10	
	MS	1731462-01	ND	0.41148	0.50000	mg/L		82.3		80 - 120
	MSD	1731462-01	ND	0.41683	0.50000	mg/L	1.3	83.4	10	80 - 120
<b>QC Batch ID: B[K1279]</b>		Used client sample: N								
Ammonia as NH3	DUP	1732109-02	0.087309	0.077338		mg/L	12.1		10	J,A02
	MS	1732109-02	0.087309	1.4223	1.3511	mg/L		98.8		90 - 110
	MSD	1732109-02	0.087309	1.4597	1.3511	mg/L	2.6	102	10	90 - 110
<b>QC Batch ID: B[K1423]</b>		Used client sample: N								
Biochemical Oxygen Demand - Seeded	DUP	1731807-02	9.3533	7.9097		mg/L	16.7		20	
<b>QC Batch ID: B[K1436]</b>		Used client sample: N								
Total Cyanide	DUP	1731184-07	ND	ND		mg/L			10	
	MS	1731184-07	ND	0.11841	0.10000	mg/L		118		90 - 110 Q03
	MSD	1731184-07	ND	0.11155	0.10000	mg/L	6.0	112	10	90 - 110 Q03

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Las Vegas, NV 89118

**Reported:** 11/30/2017 9:15  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A01 Detection and quantitation limits are raised due to sample dilution.
- A02 The difference between duplicate readings is less than the quantitation limit.
- Q03 Matrix spike recovery(s) is(are) not within the control limits.



Date of Report: 11/30/2017

Marlon Cartin

ASSET Laboratories

3151-3153 W. Post Rd

Las Vegas, NV 89118

Client Project: N026919

BCL Project: CH2M Hill

BCL Work Order: 1732408

Invoice ID: B285199

Enclosed are the results of analyses for samples received by the laboratory on 11/14/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000671214

Sincerely,

Contact Person: Vanessa Sandoval  
Client Service Rep

Authorized Signature

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

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



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# CHAIN-OF-CUSTODY RECORD



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

17-32408

QC Level: RTNE

**Subcontractor:**

BC Labs  
4100 Atlas Court  
Bakersfield, CA 93308

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

Field Sampler: James Dye

13-Nov-17

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA 8260B	
N026919-001N / EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	VOA	1	
N026919-002F / RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	VOA	1	
N026919-003F / RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	VOA	1	

# RUSH!

Report: "J" Hugged down to MDL  
E.D.D: "CH2M.Hill" Labspec 7

CHK BY	DISTRIBUTION
<i>[Signature]</i>	<input checked="" type="checkbox"/>
	SUB-OUT <input type="checkbox"/>

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

Please use PO#: N26919D. Please email Invoices and Account Receivable Statements to AssetAF@assetlaboratories.com. For questions, call Marion at (702)-307-2659. Please e-mail results to reports.l@assetlaboratories.com by: Same day TAT.

Please analyze for 2-CEVE by 8260. Please watch holding time up to 11/14/17.

Relinquished by: <i>[Signature]</i>	Date/Time: 11/13/2017 17:00	GSO #: 538351255	Date/Time: 11.14.17 09:33
Relinquished by: _____	Date/Time: _____	Received by: <i>[Signature]</i>	Date/Time: _____
		Received by: _____	Date/Time: _____



BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 17-32408

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

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

FREE LIQUID: YES  NO  W / S \_\_\_\_\_

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

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO

Emissivity: 95 Container: Amber Thermometer ID: 274 Date/Time: 11-14-17

Temperature: (A) 3.2 °C / (C) 2.4 °C Analyst Init: [Signature]

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6+</sup>										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL <u>0910</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>							
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: [Signature] Date/Time: 11-14-17 0947 Rev 21 05/23/2016

A = Actual / C = Corrected

[S:\WPDoc\WordPerfect\LAB\_DOCS\FORMS\ISAMRECrev 20]



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

**Reported:** 11/30/2017 14:27  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1732408-01	<b>COC Number:</b>	---	<b>Receive Date:</b>	11/14/2017 09:33
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 13:10
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	N026919-001N / EFF-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	James Dye	<b>Sample Type:</b>	Water
1732408-02	<b>COC Number:</b>	---	<b>Receive Date:</b>	11/14/2017 09:33
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 11:15
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	N026919-002F / RSW-001-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water
1732408-03	<b>COC Number:</b>	---	<b>Receive Date:</b>	11/14/2017 09:33
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 12:07
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	N026919-003F / RSW-002-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water



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

**Reported:** 11/30/2017 14:27  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1732408-01	<b>Client Sample Name:</b> N026919-001N / EFF-11-07, 11/7/2017 1:10:00PM, James Dye								
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
2-Chloroethyl vinyl ether		ND	ug/L	10	2.4	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)		103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)		101	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)		95.6	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	11/13/17 06:00	11/14/17 10:44		JPT	MS-V13	1	B[K1259

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

**Reported:** 11/30/2017 14:27  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Volatile Organic Analysis (EPA Method 8260B)

<b>BCL Sample ID:</b> 1732408-02	<b>Client Sample Name:</b> N026919-002F / RSW-001-11-07, 11/7/2017 11:15:00AM								
Constituent	Dry Basis Result	As Recvd Result	Units	As Received		Method	MB Bias	Lab Quals	Run #
				PQL	MDL				
2-Chloroethyl vinyl ether		ND	ug/L	10	2.4	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)		98.7	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)		96.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)		95.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	11/13/17 06:00	11/14/17 11:08		JPT	MS-V13	1	B[K1259



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

**Reported:** 11/30/2017 14:27  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1732408-03		Client Sample Name: N026919-003F / RSW-002-11-07, 11/7/2017 12:07:00PM							
Constituent	Dry Basis	As Recvd	Units	As Received		Method	MB Bias	Lab Quals	Run #
	Result	Result		PQL	MDL				
2-Chloroethyl vinyl ether		ND	ug/L	10	2.4	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)		103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)		97.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)		93.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-8260B	11/13/17 06:00	11/14/17 11:32		JPT	MS-V13	1	B[K1259

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Las Vegas, NV 89118

**Reported:** 11/30/2017 14:27  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

## Volatile Organic Analysis (EPA Method 8260B)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B[K1259]</b>						
2-Chloroethyl vinyl ether	B[K1259-BLK1	ND	ug/L	10	2.4	
1,2-Dichloroethane-d4 (Surrogate)	B[K1259-BLK1	104	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B[K1259-BLK1	97.6	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B[K1259-BLK1	94.1	%	80 - 120 (LCL - UCL)		



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**Reported:** 11/30/2017 14:27  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

## Volatile Organic Analysis (EPA Method 8260B)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B[K1259]</b>										
1,2-Dichloroethane-d4 (Surrogate)	B[K1259-BS1]	LCS	9.8800	10.000	ug/L	98.8		75 - 125		
Toluene-d8 (Surrogate)	B[K1259-BS1]	LCS	9.8500	10.000	ug/L	98.5		80 - 120		
4-Bromofluorobenzene (Surrogate)	B[K1259-BS1]	LCS	9.5600	10.000	ug/L	95.6		80 - 120		



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

**Reported:** 11/30/2017 14:27  
**Project:** CH2M Hill  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

## Volatile Organic Analysis (EPA Method 8260B)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent		Lab Quals
								Recovery	RPD	
<b>QC Batch ID: B[K1259]</b>		Used client sample: N								
1,2-Dichloroethane-d4 (Surrogate)	MS	1731394-01	ND	10.060	10.000	ug/L		101		75 - 125
	MSD	1731394-01	ND	9.7900	10.000	ug/L	2.7	97.9		75 - 125
Toluene-d8 (Surrogate)	MS	1731394-01	ND	9.9600	10.000	ug/L		99.6		80 - 120
	MSD	1731394-01	ND	9.8900	10.000	ug/L	0.7	98.9		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1731394-01	ND	9.7000	10.000	ug/L		97.0		80 - 120
	MSD	1731394-01	ND	9.8200	10.000	ug/L	1.2	98.2		80 - 120



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

**Reported:** 11/30/2017 14:27  
Project: CH2M Hill  
Project Number: N026919  
Project Manager: Marlon Cartin

**Notes And Definitions**

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



# LA Testing

520 Mission Street South Pasadena, CA 91030  
 Phone/Fax: (323) 254-9960 / (323) 254-9982  
<http://www.LATesting.com> / [pasadenalab@latesting.com](mailto:pasadenalab@latesting.com)

LA Testing Order ID: 321726283  
 Customer ID: ASLB42  
 Customer PO: N26919B  
 Project ID:

**Attn:** Marlon Cartin  
 Asset Laboratories  
 11060 Artesia Blvd  
 Suite C  
 Cerritos, CA 90703

Phone: (562) 219-7435  
 Fax:  
 Collected: 11/07/2017  
 Received: 11/08/2017  
 Analyzed: 11/15/2017

**Proj:** SFPP Norwalk

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10\mu\text{m}$ in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm <sup>2</sup> )	Area Analyzed (mm <sup>2</sup> )	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration MFL (million fibers per liter)	Confidence Limits	
EFF-11-07 321726283-0001	11/9/2017 10:05 AM	30	1288	0.2580	$\geq 0.5 \mu\text{m}$	None Detected	ND	0.17	<0.17	0.00 - 0.61
					$> 10 \mu\text{m}$ only	None Detected	ND	0.17	<0.17	0.00 - 0.61
RSW-001-11-07 321726283-0002	11/9/2017 10:05 AM	1	1288	0.2580	$\geq 0.5 \mu\text{m}$	None Detected	ND	5.00	<5.00	0.00 - 18.00
					$> 10 \mu\text{m}$ only	None Detected	ND	5.00	<5.00	0.00 - 18.00
RSW-002-11-07 321726283-0003	11/9/2017 10:05 AM	1	1288	0.2580	$\geq 0.5 \mu\text{m}$	None Detected	ND	5.00	<5.00	0.00 - 18.00
					$> 10 \mu\text{m}$ only	None Detected	ND	5.00	<5.00	0.00 - 18.00

Analyst(s)

Sherrie Ahmad (3)

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

Any questions please contact Jerry Drapala.

Initial report from: 11/15/2017 08:28:45

Sample collection and containers provided by the client, acceptable bottle blank level is defined as  $\leq 0.01\text{MFL} > 10\mu\text{m}$ . 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

**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 27, 2017

**Report Information:**

**Pace Project #: 10412060**  
**Sample Receipt Date: 11/22/2017**  
**Client Project #: N026919**  
**Client Sub PO #: N26919C**  
**State Cert #: N/A**

**Invoicing & Reporting Options:**

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

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

**This report has been reviewed by:**



December 27, 2017

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 three 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 38-94%. Except for one low value, which was flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

Values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. 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 the blank to contain a trace level of OCDD. This level was below the calibration range of the method. Sample levels similar to the corresponding blank level were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

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 90-110% with relative percent differences of 0.0-11.3%. These results were within the target ranges for the method. Matrix spikes were not prepared with the sample batch.

The responses obtained for the labeled HpCDF, HpCDD, and OCDD congeners in calibration standard analysis Y171226B\_18 were outside the target range. As specified in our procedures for this method, the averages of the daily response factors for these compounds were used in the calculations for the samples from this runshift. The affected values were flagged "Y" on the results tables. It should be noted that the accuracy of the native congener determinations was not impacted by these deviations.

## **REPORT OF LABORATORY ANALYSIS**

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## Minnesota Laboratory Certifications

<b>Authority</b>	<b>Certificate #</b>	<b>Authority</b>	<b>Certificate #</b>
A2LA	2926.01	Mississippi	MN00064
Alabama	40770	Montana	CERT0092
Alaska	MN00064	Nebraska	NE-OS-18-06
Alaska	UST-078	Nevada	MN00064
Arizona	AZ0014	New Jersey (NE)	MN002
Arkansas	88-0680	New York (NEL)	11647
CNMI Saipan	MP0003	New hampshire	2081
California	MN00064	North Carolina	27700
Colorado	MN00064	North Carolina	530
Connecticut	PH-0256	North Dakota	R-036
EPA Region 8	8TMS-L	Ohio	41244
Florida (NELAP)	E87605	Ohio VAP	CL101
Georgia (EDP)	959	Oklahoma	9507
Guam EPA	959	Oregon (ELAP)	MN200001
Hawaii	MN00064	Oregon (OREL)	MN300001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200011	Puerto Rico	MN00064
Indiana	C-MN-01	South Carolina	74003001
Iowa	368	Tennessee	TN02818
Kansas	E-10167	Texas	T104704192
Kentucky	90062	Utah (NELAP)	MN00064
Louisiana	03086	Virginia	460163
Louisiana	MN00064	Washington	C486
Maine	MN00064	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-L

## REPORT OF LABORATORY ANALYSIS

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Report No.....10412060

# **Appendix A**

## Sample Management

10412060

# CHAIN-OF-CUSTODY RECORD



QC Level: RTNE

**Subcontractor:**

Pace Analytical Services, Inc.  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414

TEL: (612) 607-1700  
FAX: (612) 607-6444  
Acct #:

Field Sampler James Dye

21-Nov-17

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA 8290	
N026919-001M / EFF-11-07	Wastewater	11/7/2017 1:10:00 PM	320ZA	1	001
N026919-002B / RSW-001-11-07	Wastewater	11/7/2017 11:55:00 AM	320ZA	1	002
N026919-003B / RSW-002-11-07	Wastewater	11/7/2017 12:07:00 PM	320ZA	1	003

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

Please use PO#: N26919. Please email invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, c  
Marion at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT.

Please analyze for Dioxins/Furans by 8290.

(Please follow attached SWS COC for reference)

Fedex #: 770809928469

Date/Time	Date/Time
Received by: Yoandry Rodriguez 11/21/17 12:00	11/22/17 9:45
Received by: [Signature]	

T=0.1°C

**CHAIN OF CUSTODY RECORD**

Contact us: 3151 W. Post Road, Las Vegas, NV 89118  
Nevada: P: 702.307.2659 F: 702.307.2691  
California: 11110 Artesia Blvd., Ste B, Cerritos, CA 91703  
P: 562.219.7435 F: 562.219.7436  
www.assetlaboratories.com

Page 1 of 1  
TO: PACE, MN

<b>Client:</b> ASSET Laboratories <b>Address:</b> 11110 Artesia Blvd Ste B <b>Address:</b> Cerritos, CA 90703 <b>Phone:</b> 562.219.7435 <b>Submitted By:</b> Hanah Glodowiza <b>Title:</b>		<b>Report to:</b> Marlon Carlin <b>Company:</b> Same <b>Email:</b> marlon@assetlaboratories.com <b>Address:</b> Same <b>Phone:</b> <b>Signature:</b> James Dye <small>I hereby authorize ASSET Labs to perform the tests indicated below</small> <b>Project Name:</b> SFPP Norwalk <b>Project Number:</b>		<b>Bill to:</b> Accounts Payable <b>Address:</b> Same <b>PO#</b> N26919C <b>Email to:</b> AssetLabs@assetlaboratories.com <b>Phone:</b> <b>Global ID:</b>		<b>QA/QC</b> <input type="checkbox"/> RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> Call Trans <input type="checkbox"/> Level III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Regulatory Specify State:		<b>EDD Requirement</b> <input type="checkbox"/> ESD EDD <input type="checkbox"/> Generator <input type="checkbox"/> Labptic <input type="checkbox"/> Others Specify:		<b>Sample Receipt Condition</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 1. Chilled <input type="checkbox"/> 2. Headspace <input type="checkbox"/> 3. Container intact <input type="checkbox"/> 4. Seal Present <input type="checkbox"/> 5. IR number <input type="checkbox"/> 6. Method of Cooling Sample Temp.	
<b>Matrix</b> <input type="checkbox"/> Ground <input type="checkbox"/> Pelable <input type="checkbox"/> NPDES <input type="checkbox"/> Surface <input type="checkbox"/> Water <input type="checkbox"/> Solid <input type="checkbox"/> Other Solid		<b>Analyses Requested</b> 2,3,7,8-TCDF and TCDD Equivalents (8290)		<b>Turn Around Time (TAT)</b> <input type="checkbox"/> A < 24 Hrs or Same Day TAT <input type="checkbox"/> B = Next Workday <input type="checkbox"/> C = 2 Workdays <input type="checkbox"/> D = 3 Workdays <input checked="" type="checkbox"/> E = Routine 5-7 Workdays *TAT Starts at 9 AM the following day if samples received after 3:00 PM.		<b>Special Instruction:</b>		<b>Container Type</b> <input type="checkbox"/> Tube <input type="checkbox"/> Jar <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> VOA <input type="checkbox"/> Teflar <input type="checkbox"/> Glass <input type="checkbox"/> Can			
<b>Item No.</b> 1 2 3 4 5 6 7 8 9 10 11 12		<b>Laboratory Work Order No.</b> EFF-11-07 RSW-001-11-07 RSW-002-11-07		<b>Date</b> 7-Nov 7-Nov 7-Nov		<b>Time</b> 1310 1155 1207		<b>Counter</b> Tracking No.		<b>Remarks</b>	
<b>Received by (Signature and Printed Name):</b> Hanah Glodowiza 11/7/17		<b>Date / Time</b> Date / Time		<b>Received by (Signature and Printed Name):</b> Date / Time		<b>Date / Time</b> Date / Time		<b>Received by (Signature and Printed Name):</b> Date / Time		<b>Date / Time</b> Date / Time	

White = Laboratory Copy

**Sample Condition Upon Receipt**      **Client Name:** ASSET Laboratories      **Project #:** **WO# : 10412060**

**Courier:**  Fed Ex     UPS     USPS     Client  
 Commercial     Pace     Speedee     Other: \_\_\_\_\_

**Tracking Number:** 7708-0992-8469



**Custody Seal on Cooler/Box Present?**  Yes  No      **Seals Intact?**  Yes  No

**Packing Material:**  Bubble Wrap     Bubble Bags     None     Other: PB      **Temp Blank?**  Yes  No

**Thermometer**  151401163      **Type of Ice:**  Wet     Blue     None     Samples on ice, cooling process has begun  
**Used:**  G87A9155100842

**Cooler Temp Read (°C):** 0.5      **Cooler Temp Corrected (°C):** 0.1      **Biological Tissue Frozen?**  Yes  No  N/A  
Temp should be above freezing to 6°C      **Correction Factor:** -0.4      **Date and Initials of Person Examining Contents:** 11/22/17 JD

**USDA Regulated Soil**  N/A, water sample

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?  Yes  No      Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

**If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.**

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH    Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): _____	

**CLIENT NOTIFICATION/RESOLUTION**      **Field Data Required?**  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

**Project Manager Review:** Nathan Boberg      **Date:** 11/22/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

## Reporting Flags

- A = Reporting Limit based on signal to noise
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interference present
- J = Estimated value
- Nn = Value obtained from additional analysis
- P = PCDE Interference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs
- \* = See Discussion

### REPORT OF LABORATORY ANALYSIS

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Report No.....10412060

Report No.....10412060\_8290FC\_DFR

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# **Appendix B**

## Sample Analysis Summary





### Method 8290 Sample Analysis Results

Client - Asset Laboratories

Client's Sample ID	N026919-001M / EFF-11-07		
Lab Sample ID	10412060001		
Filename	U171217A_14		
Injected By	BAL		
Total Amount Extracted	962 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/07/2017 13:10
ICAL ID	U171107	Received	11/22/2017 09:45
CCal Filename(s)	U171216B_19 & U171217A_17	Extracted	11/28/2017 13:50
Method Blank ID	BLANK-58895	Analyzed	12/17/2017 13:29

Native Isomers	Conc pg/L	EMPC pg/L	EDL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	1.2	2,3,7,8-TCDF-13C	2.00	73
Total TCDF	ND	----	1.2	2,3,7,8-TCDD-13C	2.00	73
				1,2,3,7,8-PeCDF-13C	2.00	72
2,3,7,8-TCDD	ND	----	1.3	2,3,4,7,8-PeCDF-13C	2.00	69
Total TCDD	ND	----	1.3	1,2,3,7,8-PeCDD-13C	2.00	71
				1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	----	2.7	1,2,3,6,7,8-HxCDF-13C	2.00	93
2,3,4,7,8-PeCDF	ND	----	2.8	2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	9.3	----	2.8 J	1,2,3,7,8,9-HxCDF-13C	2.00	77
				1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	ND	----	3.1	1,2,3,6,7,8-HxCDD-13C	2.00	78
Total PeCDD	ND	----	3.1	1,2,3,4,6,7,8-HpCDF-13C	2.00	78
				1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	4.0	----	1.7 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	82
1,2,3,6,7,8-HxCDF	2.3	----	1.7 J	OCDD-13C	4.00	63
2,3,4,6,7,8-HxCDF	ND	----	1.6			
1,2,3,7,8,9-HxCDF	ND	----	1.8	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	26	----	1.7 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.1	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	ND	----	1.0			
1,2,3,7,8,9-HxCDD	ND	----	1.1			
Total HxCDD	ND	----	1.1			
1,2,3,4,6,7,8-HpCDF	12	----	1.7 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	4.9	----	2.0 J	Equivalence: 0.81 pg/L		
Total HpCDF	25	----	1.9 J	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	1.2			
Total HpCDD	1.3	----	1.2 J			
OCDF	17	----	2.9 J			
OCDD	2.0	----	1.4 BJ			

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  
B = Less than 10x higher than method blank level

## REPORT OF LABORATORY ANALYSIS

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### Method 8290 Sample Analysis Results

Client - Asset Laboratories

Client's Sample ID	N026919-002B / RSW-001-11-07		
Lab Sample ID	10412060002		
Filename	U171217A_15		
Injected By	BAL		
Total Amount Extracted	954 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/07/2017 11:55
ICAL ID	U171107	Received	11/22/2017 09:45
CCal Filename(s)	U171216B_19 & U171217A_17	Extracted	11/28/2017 13:50
Method Blank ID	BLANK-58895	Analyzed	12/17/2017 14:13

Native Isomers	Conc pg/L	EMPC pg/L	EDL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	2.2	2,3,7,8-TCDF-13C	2.00	76
Total TCDF	54	----	2.2	2,3,7,8-TCDD-13C	2.00	77
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	----	1.9	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	ND	----	1.9	1,2,3,7,8-PeCDD-13C	2.00	76
				1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	4.4	----	4.1 J	1,2,3,6,7,8-HxCDF-13C	2.00	93
2,3,4,7,8-PeCDF	ND	----	4.2	2,3,4,6,7,8-HxCDF-13C	2.00	94
Total PeCDF	69	----	4.2	1,2,3,7,8,9-HxCDF-13C	2.00	82
				1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	ND	----	3.0	1,2,3,6,7,8-HxCDD-13C	2.00	82
Total PeCDD	ND	----	3.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	73
				1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	10	----	1.5 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	79
1,2,3,6,7,8-HxCDF	6.2	----	1.3 J	OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	6.6	----	0.84 J			
1,2,3,7,8,9-HxCDF	6.4	----	1.6 J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	69	----	1.3	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.3	2,3,7,8-TCDD-37Cl4	0.20	91
1,2,3,6,7,8-HxCDD	ND	----	0.94			
1,2,3,7,8,9-HxCDD	ND	----	1.1			
Total HxCDD	7.6	----	1.1 J			
1,2,3,4,6,7,8-HpCDF	36	----	2.9 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	12	----	3.6 J	Equivalence: 5.0 pg/L		
Total HpCDF	63	----	3.2	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	60	----	1.3			
Total HpCDD	120	----	1.3			
OCDF	83	----	3.0 J			
OCDD	680	----	2.8			

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

## REPORT OF LABORATORY ANALYSIS

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**Method 8290 Sample Analysis Results**

Client - Asset Laboratories

Client's Sample ID	N026919-003B / RSW-002-11-07		
Lab Sample ID	10412060003		
Filename	Y171226B_06		
Injected By	ZMS		
Total Amount Extracted	975 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/07/2017 12:07
ICAL ID	Y171107	Received	11/22/2017 09:45
CCal Filename(s)	Y171226B_02 & Y171226B_18	Extracted	11/28/2017 13:50
Method Blank ID	BLANK-58895	Analyzed	12/26/2017 20:20

Native Isomers	Conc pg/L	EMPC pg/L	EDL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	3.2	2,3,7,8-TCDF-13C	2.00	49
Total TCDF	ND	----	3.2	2,3,7,8-TCDD-13C	2.00	41
				1,2,3,7,8-PeCDF-13C	2.00	45
2,3,7,8-TCDD	ND	----	4.3	2,3,4,7,8-PeCDF-13C	2.00	45
Total TCDD	ND	----	4.3	1,2,3,7,8-PeCDD-13C	2.00	42
				1,2,3,4,7,8-HxCDF-13C	2.00	44
1,2,3,7,8-PeCDF	ND	----	2.4	1,2,3,6,7,8-HxCDF-13C	2.00	44
2,3,4,7,8-PeCDF	ND	----	1.5	2,3,4,6,7,8-HxCDF-13C	2.00	49
Total PeCDF	3.8	----	2.0 J	1,2,3,7,8,9-HxCDF-13C	2.00	46
				1,2,3,4,7,8-HxCDD-13C	2.00	42
1,2,3,7,8-PeCDD	ND	----	2.0	1,2,3,6,7,8-HxCDD-13C	2.00	38 R
Total PeCDD	ND	----	2.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	44 Y
				1,2,3,4,7,8,9-HpCDF-13C	2.00	52 Y
1,2,3,4,7,8-HxCDF	ND	----	2.4	1,2,3,4,6,7,8-HpCDD-13C	2.00	52 Y
1,2,3,6,7,8-HxCDF	----	2.6	2.1 PJ	OCDD-13C	4.00	48 Y
2,3,4,6,7,8-HxCDF	ND	----	2.2			
1,2,3,7,8,9-HxCDF	ND	----	3.4	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	11	----	2.5 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	2.0	2,3,7,8-TCDD-37Cl4	0.20	64
1,2,3,6,7,8-HxCDD	ND	----	2.1			
1,2,3,7,8,9-HxCDD	ND	----	2.0			
Total HxCDD	9.6	----	2.0 J			
1,2,3,4,6,7,8-HpCDF	10	----	4.2 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	6.3	Equivalence: 1.8 pg/L		
Total HpCDF	10	----	5.2 J	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	62	----	5.6			
Total HpCDD	120	----	5.6			
OCDF	64	----	8.6 J			
OCDD	730	----	4.4			

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  
R = Recovery outside target range  
P = PCDE Interference  
Y = Calculated using average of daily RFs

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**Method 8290 Blank Analysis Results**

Lab Sample ID	BLANK-58895	Matrix	Water
Filename	U171131A_06	Dilution	NA
Total Amount Extracted	1040 mL	Extracted	11/28/2017 13:50
ICAL ID	U171107	Analyzed	12/01/2017 09:25
CCal Filename(s)	U171130A_23 & U171131A_17	Injected By	SMT

Native Isomers	Conc pg/L	EMPC pg/L	EDL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	1.1	2,3,7,8-TCDF-13C	2.00	67
Total TCDF	ND	----	1.1	2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	62
2,3,7,8-TCDD	ND	----	1.4	2,3,4,7,8-PeCDF-13C	2.00	57
Total TCDD	ND	----	1.4	1,2,3,7,8-PeCDD-13C	2.00	64
				1,2,3,4,7,8-HxCDF-13C	2.00	65
1,2,3,7,8-PeCDF	ND	----	2.1	1,2,3,6,7,8-HxCDF-13C	2.00	69
2,3,4,7,8-PeCDF	ND	----	2.1	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	ND	----	2.1	1,2,3,7,8,9-HxCDF-13C	2.00	68
				1,2,3,4,7,8-HxCDD-13C	2.00	66
1,2,3,7,8-PeCDD	ND	----	3.6	1,2,3,6,7,8-HxCDD-13C	2.00	63
Total PeCDD	ND	----	3.6	1,2,3,4,6,7,8-HpCDF-13C	2.00	64
				1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	ND	----	1.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	75
1,2,3,6,7,8-HxCDF	ND	----	0.97	OCDD-13C	4.00	58
2,3,4,6,7,8-HxCDF	ND	----	0.93			
1,2,3,7,8,9-HxCDF	ND	----	1.3	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	1.1	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.0	2,3,7,8-TCDD-37Cl4	0.20	91
1,2,3,6,7,8-HxCDD	ND	----	0.90			
1,2,3,7,8,9-HxCDD	ND	----	1.1			
Total HxCDD	ND	----	1.0			
1,2,3,4,6,7,8-HpCDF	ND	----	1.5	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	2.2	Equivalence: 0.0031 pg/L		
Total HpCDF	ND	----	1.8	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	1.3			
Total HpCDD	ND	----	1.3			
OCDF	ND	----	1.9			
OCDD	3.1	----	2.8 J			

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

EMPC = Estimated Maximum Possible Concentration

EDL = Estimated Detection Limit

J = Estimated value

**REPORT OF LABORATORY ANALYSIS**

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**Method 8290 Laboratory Control Spike Results**

Lab Sample ID	LCS-58896	Matrix	Water
Filename	U171131A_01	Dilution	NA
Total Amount Extracted	1040 mL	Extracted	11/28/2017 13:50
ICAL ID	U171107	Analyzed	12/01/2017 05:42
CCal Filename(s)	U171130A_23 & U171131A_17	Injected By	SMT
Method Blank ID	BLANK-58895		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.19	93	2,3,7,8-TCDF-13C	2.0	77
Total TCDF				2,3,7,8-TCDD-13C	2.0	81
				1,2,3,7,8-PeCDF-13C	2.0	72
2,3,7,8-TCDD	0.20	0.19	94	2,3,4,7,8-PeCDF-13C	2.0	67
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	75
				1,2,3,4,7,8-HxCDF-13C	2.0	78
1,2,3,7,8-PeCDF	1.0	0.99	99	1,2,3,6,7,8-HxCDF-13C	2.0	79
2,3,4,7,8-PeCDF	1.0	0.91	91	2,3,4,6,7,8-HxCDF-13C	2.0	84
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	78
				1,2,3,4,7,8-HxCDD-13C	2.0	78
1,2,3,7,8-PeCDD	1.0	0.91	91	1,2,3,6,7,8-HxCDD-13C	2.0	79
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	78
				1,2,3,4,7,8,9-HpCDF-13C	2.0	77
1,2,3,4,7,8-HxCDF	1.0	1.0	101	1,2,3,4,6,7,8-HpCDD-13C	2.0	87
1,2,3,6,7,8-HxCDF	1.0	0.97	97	OCDD-13C	4.0	72
2,3,4,6,7,8-HxCDF	1.0	0.90	90			
1,2,3,7,8,9-HxCDF	1.0	0.92	92	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	0.99	99	2,3,7,8-TCDD-37Cl4	0.20	86
1,2,3,6,7,8-HxCDD	1.0	0.94	94			
1,2,3,7,8,9-HxCDD	1.0	0.99	99			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.0	101			
1,2,3,4,7,8,9-HpCDF	1.0	0.96	96			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.91	91			
Total HpCDD						
OCDF	2.0	2.0	102			
OCDD	2.0	2.0	102			

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**

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**Method 8290 Laboratory Control Spike Results**

Lab Sample ID	LCSD-58902	Matrix	Water
Filename	U171131A_02	Dilution	NA
Total Amount Extracted	1040 mL	Extracted	11/28/2017 13:50
ICAL ID	U171107	Analyzed	12/01/2017 06:27
CCal Filename(s)	U171130A_23 & U171131A_17	Injected By	SMT
Method Blank ID	BLANK-58895		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.20	101	2,3,7,8-TCDF-13C	2.0	69
Total TCDF				2,3,7,8-TCDD-13C	2.0	72
				1,2,3,7,8-PeCDF-13C	2.0	64
2,3,7,8-TCDD	0.20	0.20	100	2,3,4,7,8-PeCDF-13C	2.0	60
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	67
				1,2,3,4,7,8-HxCDF-13C	2.0	72
1,2,3,7,8-PeCDF	1.0	1.0	105	1,2,3,6,7,8-HxCDF-13C	2.0	74
2,3,4,7,8-PeCDF	1.0	0.93	93	2,3,4,6,7,8-HxCDF-13C	2.0	74
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	67
				1,2,3,4,7,8-HxCDD-13C	2.0	70
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	68
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	67
				1,2,3,4,7,8,9-HpCDF-13C	2.0	72
1,2,3,4,7,8-HxCDF	1.0	1.1	106	1,2,3,4,6,7,8-HpCDD-13C	2.0	82
1,2,3,6,7,8-HxCDF	1.0	0.95	95	OCDD-13C	4.0	65
2,3,4,6,7,8-HxCDF	1.0	0.95	95			
1,2,3,7,8,9-HxCDF	1.0	1.0	103	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	107	2,3,7,8-TCDD-37Cl4	0.20	73
1,2,3,6,7,8-HxCDD	1.0	1.0	101			
1,2,3,7,8,9-HxCDD	1.0	1.1	110			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	109			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	101			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.91	91			
Total HpCDD						
OCDF	2.0	2.1	104			
OCDD	2.0	2.0	100			

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

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**Method 8290**

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

Client                      Asset Laboratories

Spike 1 ID                LCS-58896                      Spike 2 ID                LCSD-58902  
Spike 1 Filename        U171131A\_01                      Spike 2 Filename        U171131A\_02

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	93	101	8.2
2,3,7,8-TCDD	94	100	6.2
1,2,3,7,8-PeCDF	99	105	5.9
2,3,4,7,8-PeCDF	91	93	2.2
1,2,3,7,8-PeCDD	91	95	4.3
1,2,3,4,7,8-HxCDF	101	106	4.8
1,2,3,6,7,8-HxCDF	97	95	2.1
2,3,4,6,7,8-HxCDF	90	95	5.4
1,2,3,7,8,9-HxCDF	92	103	11.3
1,2,3,4,7,8-HxCDD	99	107	7.8
1,2,3,6,7,8-HxCDD	94	101	7.2
1,2,3,7,8,9-HxCDD	99	110	10.5
1,2,3,4,6,7,8-HpCDF	101	109	7.6
1,2,3,4,7,8,9-HpCDF	96	101	5.1
1,2,3,4,6,7,8-HpCDD	91	91	0.0
OCDF	102	104	1.9
OCDD	102	100	2.0

%REC = Percent Recovered  
RPD = The difference between the two values divided by the mean value

**REPORT OF LABORATORY ANALYSIS**

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

November 28, 2017

Eric,

I have enclosed our report “NPDES Compliance Chronic Toxicity Testing of the SFPP Norwalk Pump station effluent” for the effluent samples collected on November 6, 8, and 10, 2017. As per your new NPDES permit, the test and the resultant data analysis conformed to the EPA’s Test of Significant Toxicity (TST) framework, with all testing of the effluent being performed only at the Instream Waste Concentration (IWC) of 100% effluent. The species tested consisted of:

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

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

Test Species	Test Endpoint	Percent (%) Effect	TST Analysis
<i>Menidia beryllina</i>	Survival	5.1%	“Pass” (= non-toxic)
	Growth	1.3%	“Pass” (= non-toxic)

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

Sincerely,

Kristin Worrell  
 Sr. Aquatic Ecotoxicologist

Cc: Benny Pataray, CH2M  
 Vladimir Carino, CH2M  
 Cameron Irvine, 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 27942.



# **NPDES Compliance Chronic Toxicity Testing of the SFPP Norwalk Pump station effluent**

Samples collected November 6, 8, and 10, 2017

Prepared For

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

Prepared By

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

**November 2017**



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

Samples collected November 6, 8, and 10, 2017

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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 to *Menidia beryllina*
- Appendix C Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the *Menidia beryllina*



## 1. INTRODUCTION

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

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

This test was performed using effluent samples collected November 6, 8, and 10, 2017. In order to assess the sensitivity of the test organisms to toxicant stress, a monthly reference toxicant test was also performed. This report describes the performance and results of this testing.

## 2. CHRONIC TOXICITY TEST PROCEDURES

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

### 2.1 Receipt and Handling of the Effluent Samples

On November 6, 8, and 10, 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.

Table 1. Initial water quality characteristics of the SFPP Norwalk effluent and receiving water samples.

Sample Collection Date	Sample Receipt Date	Sample ID	Temp (°C)	pH	D.O. (mg/L)	Salinity (ppt)	Alkalinity (mg/L)	Hardness (mg/L)	Conductivity (µS/cm)	Total Ammonia (mg/L N)
11/6/17	11/7/17	50 Downstream Coyote Creek	0.8	9.03	14.2	0.8	189	405	1571	<1.0
11/8/17	11/9/17	50 Downstream Coyote Creek	0.5	8.76	14.5	0.8	248	374	1674	<1.0
11/10/17	11/11/17	50 Downstream Coyote Creek	0.0	9.06	14.3	0.8	220	306	1444	<1.0
11/6/17	11/7/17	EFF-02-06	0.3	7.30	10.3	1.5	498	775	2769	<1.0
11/8/17	11/9/17	EFF-02-08	0.5	7.28	12.0	1.4	491	785	2736	<1.0
11/10/17	11/11/17	EFF-02-10	0.0	7.33	7.3	1.4	438	730	2707	<1.0



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

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

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

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

There were four replicates at each test treatment, each replicate consisting of 400 mL of test solution in a 600-mL glass beaker. The test was initiated by randomly allocating ten 11-day old fish into each replicate beaker. The beakers were randomly positioned in a temperature-controlled room at 25°C (with temperature being monitored daily) under a 16L:8D photoperiod. The fish were fed freshly-hatched brine shrimp nauplii twice daily.

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

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



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

In order to assess the sensitivity of the test organisms to toxic stress, a monthly reference toxicant test was performed. This reference toxicant test was performed similarly to the effluent toxicity test, except that test solutions consisted of Lab Water Control medium spiked with KCl at concentrations of 0.5, 1, 1.25, 1.5, and 2 g/L. The resulting test response data were analyzed to determine key dose-response point estimates (e.g., EC<sub>50</sub>); all statistical analyses were made using the CETIS<sup>®</sup> software. These response endpoints were then compared to the “typical response” ranges established by the mean  $\pm$  2 SD of the point estimates generated by the most recent previous reference toxicant tests performed by this lab.



### 3. RESULTS

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

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

Table 2. Effects of SFPP Norwalk effluent on <i>Menidia beryllina</i> survival and growth.		
Effluent Treatment	Mean % Survival	Mean Biomass Value (mg)
Lab Water Control	97.5	1.85
Receiving Water	97.5	1.92
100% Effluent	92.5	1.82
Summary of Key Statistics		
Percent (%) Effect =	5.1% reduction	1.3% reduction
TST Analysis =	“Pass” (= non-toxic)	“Pass” (= non-toxic)

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

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

Table 3. Reference toxicant testing: effects of KCl on <i>Menidia beryllina</i> survival and growth.		
KCl Treatment (g/L)	Mean % Survival	Mean Biomass Value (mg)
Lab Water Control	97.5	1.87
0.5	100	1.91
1	95	1.70
1.25	80	1.52
1.5	<b>30*</b>	0.62
2	<b>5*</b>	0.09
Summary of Key Statistics		
Survival EC <sub>50</sub> or Growth IC <sub>50</sub> =	1.42 g/L KCl	1.41 g/L KCl

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



#### 4. SUMMARY AND CONCLUSIONS

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

Test Species	Test Endpoint	Percent (%) Effect	TST Analysis
<i>Menidia beryllina</i>	Survival	5.1% reduction	“Pass” (= non-toxic)
	Growth	1.3% reduction	“Pass” (= non-toxic)

##### 4.1 QA/QC Summary

**Test Conditions** – The dissolved oxygen was measured as 4.1 mg/L and 4.6 mg/L in the 100% effluent treatment and 100% receiving water treatment, respectively on 11/9 during a late-afternoon check, so the test was aerated per EPA guidance to avoid a dissolved oxygen crash overnight. Otherwise, all other test conditions (pH, D.O., temperature, etc.) were within acceptable limits for these tests. All test analyses were performed according to laboratory Standard Operating Procedures.

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

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

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



## **Appendix A**

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





Pacific EcoRisk  
 2250 Cordelia Rd.  
 Fairfield, CA 94534  
 Tel: 707-207-7760 Fax: 707-207-7916  
 Kristin Worrell (kworrell@pacificcorisk.com)

CHAIN OF CUSTODY RECORD

DATE: 11/6/17  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: <b>Kinder Morgan Energy Partners</b> Attention: <b>Steve Defibaugh</b>		Report To: <b>Eric Davis</b>		Attention: <b>Steve Defibaugh - Ref. AFEW 81195</b>		Sampler Name: <b>Steve Defibaugh</b>	
Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b>		Copy To: <b>Steve Defibaugh</b>		Company Name: <b>Kinder Morgan Energy Partners</b>		Sampler Signature: <i>[Signature]</i>	
Email To: <b>steve_defibaugh@kindermorgan.com</b> <b>eric_davis@krm.com</b>		Purchase Order No.:		Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b>		Sample Date: <b>11/6/17</b>	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: <b>SFPP Norwalk</b>		ATL Project Manager: <b>Kristin Worrell</b>			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	CONTAINER TYPE	# OF CONTAINERS	PRESERVATIVE	VOLUME (mL)	COMMENTS											
					DATE	TIME																		
1	EFF-11-06	EFFLUENT	WW	C	11/6/17	11:25	2	Inland Silveride (Meridix Benzilina) (Survival and Growth Test Method 1006)	P	2	-	10000	Composite (start 11:25 AM 11/5/17 to 11:25 AM 11/6/17)											
2	REW-02	30 Downstream Coyote Creek	WW	G																				
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>11/5/17</u> <u>1700</u>	Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>11/7/17</u> <u>1043</u>	<b>Turn Around Time (TAT):</b> <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> E = 10 Workdays  <b>TAT Starts at 8 AM the following day if samples received after 3:00 PM.</b>	<b>Special Instruction:</b>
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

<b>Matrix:</b>			<b>Preservatives:</b>			<b>Container Type:</b>				
W = Water	WW = Wastewater		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	I = Na2S2O3	J = Jar	B = Tedlar	G = Glass		
Others/Specify:			Others/Specify:			M = Metal			P = Plastic	C = Can

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CHAIN OF CUSTODY RECORD

DATE: 11/6/17  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information: Company: <b>Kinder Morgan Energy Partners</b> Attention: <b>Steve Defibaugh</b> Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b> Email To: <b>steve_defibaugh@kindermorgan.com</b> <b>eric_davis@ch2m.com</b> Phone: <b>714-560-4802</b> Fax: <b>714-560-4801</b>		<b>Section B</b> Required Project Information: Report To: <b>Eric Davis</b> Copy To: <b>Steve Defibaugh</b> Purchase Order No.: Project Name: <b>SFPP Norwalk</b>		<b>Section C</b> Invoice Information: Attention: <b>Steve Defibaugh - Ref. AFE# 83195</b> Company: <b>Kinder Morgan Energy Partners</b> Name: Address: <b>1100 Town &amp; Country Road</b> <b>Orange, CA 92868</b> ATL Project Manager: <b>Kristin Worrell</b>		<b>Section D</b> Sampler Information: Sampler Name: <b>Vlad Canino</b> Sampler: <b>Vlad Canino</b> Signature: <b>Vlad Canino</b> Sample Date: <b>11/6/17</b>	
---	--	--	--	---	--	---	--

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test	CONTAINER TYPE		P	# OF CONTAINERS	PRESERVATIVE	VOLUME (mL)	Comments
					DATE	TIME									
1															
2	RSW-02-11-06	50 Downstream Coyote Creek	WW	G	11/6/17	15:33	2	Inland Silveride (Meridia Beryllina) (Survival and Growth Test Method 1006)			X				
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Relinquished by (Signature and Printed Name): <i>Vlad Canino</i>	Date / Time: <b>11/6/17</b> <b>1700</b>	Relinquished by (Signature and Printed Name): <i>Miranda P.</i>	Date / Time: <b>11/7/17</b> <b>11:27</b>	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> E = 10 Workdays  TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):	Date / Time:	Relinquished by (Signature and Printed Name):	Date / Time:		
Relinquished by (Signature and Printed Name):	Date / Time:	Relinquished by (Signature and Printed Name):	Date / Time:		

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

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CHAIN OF CUSTODY RECORD  
 DATE: 11/8/17  
 PAGE: 1 of 1

Section A	Section B	Section C	Section D
Required Client Information: Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh Address: 1100 Town & Country Road Orange, CA 92868 Email To: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a> Phone: 714-560-4802	Required Project Information: Report To: Eric Davis Copy To: Steve Defibaugh Purchase Order No.: Project Name: SPPP Norwalk	Invoice Information: Attention: Steve Defibaugh - Ref. AFE# 81195 Company: Kinder Morgan Energy Partners Address: 1100 Town & Country Road Orange, CA 92868 ATL Project Manager: Kristin Worrell	Sampler Information: Sampler Name: <i>Madimir Carino</i> Sampler Signature: <i>[Signature]</i> Sample Date: <i>11/8/17</i>

Section E		Required Sample Information		CONTAINER TYPE		P	Analysis Test		Comments
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	2	Analysis Test		
1	EFF- <i>11_08</i>	EFFLUENT	WW	C	DATE	TIME	TOTAL # OF CONTAINERS	Analysis Test	Composite sample from 9:15 AM 11/7/17 to 9:15 AM 11/8/17
2	<del>15W-02</del>	<del>50 Downstream Coyote Creek</del>	<del>WW</del>	<del>C</del>	<del>11/8/17</del>	<del>9:15</del>	<del>2</del>	<del>X</del>	
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Relinquished by (Signature and Printed Name): <i>[Signature]</i>	Date / Time: <i>11/8/17 1700</i>	Relinquished by (Signature and Printed Name): <i>[Signature]</i>	Date / Time: <i>11/8/17 0915</i>	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> E = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):	Date / Time:	Relinquished by (Signature and Printed Name):	Date / Time:		
Relinquished by (Signature and Printed Name):	Date / Time:	Relinquished by (Signature and Printed Name):	Date / Time:		

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

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CHAIN OF CUSTODY RECORD

DATE: 11/8/17  
 PAGE: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	Section D Sampler Information:
Company: Kinder Morgan Energy Partners Attention: Steve Deifbaugh	Report To: Eric Davis	Attention: Steve Deifbaugh - Ref. AFE# 81195	Sampler Name: <del>Steve Deifbaugh</del> VLAD CARINLO
Address: 1100 Town & Country Road Orange, CA 92868	Copy To: Steve Deifbaugh	Company: Kinder Morgan Energy Partners	Sampler Signature: <i>[Signature]</i>
Email To: <a href="mailto:steve_deifbaugh@kindermorgan.com">steve_deifbaugh@kindermorgan.com</a> <a href="mailto:eric_davis@ch2m.com">eric_davis@ch2m.com</a>	Purchase Order No.:	Address: 1100 Town & Country Road Orange, CA 92868	Sample Date: 11/8/17
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: SFPP Norwalk	ATL Project Manager: Kristin Worrell	

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	CONTAINER TYPE	# OF CONTAINERS	PRESERVATIVE	VOLUME (mL)	P	Analysis Test	Comments
					DATE	TIME								
1	EFF	EFFLUENT	WW	C			2		2		10000		Inland Silveride (Meridia Beryllina) (Survival and Growth Test Method 1006)	
2	RSW-02 <u>11-08</u>	50 Downstream Coyote Creek	WW	G	<u>11/8/17</u>	<u>1027</u>	2		2			X		Grab Sample
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>11/8/17</u> <u>1027</u>	Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>11/8/17</u> <u>0915</u>	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> E = 10 Workdays  TAT Starts at 8 AM the following day if samples received after 8:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

Matrix:			Preservatives:			Container Type:				
W = Water	WW = Wastewater		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:			M = Metal			P = Plastic	C = Can

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CHAIN OF CUSTODY RECORD

DATE: 11-10-17  
 PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFE# 81195		Sampler Name: Nils Orliczky	
Address: 1100 Town & Country Road Orange, CA 92868		Copy To: Steve Defibaugh		Company Name: Kinder Morgan Energy Partners		Sampler Signature: <i>[Signature]</i>	
Email To: <a href="mailto:steve_defibaugh@kindermorgan.com">steve_defibaugh@kindermorgan.com</a> <a href="mailto:eric_davis@kch2m.com">eric_davis@kch2m.com</a>		Purchase Order No.:		Address: 1100 Town & Country Road Orange, CA 92868		Sample Date: <u>11-10-17</u>	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: SFPP Norwalk		ATL Project Manager: Kristin Worrell			

Section E Required Sample Information													
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	CONTAINER TYPE		TOTAL # OF CONTAINERS	Analysis Test: Inland Silveride (Meridix Berylline) Survival and Growth Test Method 1006	P				
					# OF CONTAINERS	PRESERVATIVE				VOLUME (ml)			
					DATE	TIME							
1	EFF-11-10	EFFLUENT	WW	C	11-10-17	0930	2	X					
2	RSW-02-11-10	50 Downstream Coyote Creek	WW	G	11-10-17	1250	2	X					
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>11-10-17</u>	Relinquished by (Signature and Printed Name): <i>[Signature]</i> Date / Time: <u>11/11/17 1045</u>	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> E = 10 Workdays TAT Starts at 8 AM the following day if samples received after 9:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

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

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CHAIN OF CUSTODY RECORD

DATE: 11-10-17  
 PAGE: 1 of 1

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Sampler Information:	
Company: Kinder Morgan Energy Partners Attention: Steve Defibaugh		Report To: Eric Davis		Attention: Steve Defibaugh - Ref. AFER 81195		Sampler Name: Nils Orliczky	
Address: 1100 Town & Country Road Orange, CA 92868		Copy To: Steve Defibaugh		Company Name: Kinder Morgan Energy Partners		Sampler Signature:	
Email To: steve_defibaugh@kindermorgan.com mike_defibaugh@kindermorgan.com		Purchase Order No.:		Address: 1100 Town & Country Road Orange, CA 92868		Date: 11-10-17	
Phone: 714-560-4802 Fax: 714-560-4801		Project Name: SFPP Norwalk		ATL Project Manager: Kristin Worrell			

ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLING		TOTAL # OF CONTAINERS	Analysis Test Inland SilverSides (Meridia Beryllina) Survival and Growth Test Method 1006	CONTAINER TYPE	# OF CONTAINERS	PRESERVATIVE	VOLUME (mL)	Comments
					DATE	TIME							
1	EFF-11-10	EFFLUENT	WW	C	11-10-17	0930	2	X	P	2	-	10000	
2	RSW-02-11-10	50 Downstream Coyote Creek	WW	G	11-07-17	1250	2	X	Z				
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

Relinquished by (Signature and Printed Name):  Nils Orliczky	Date / Time: 11-10-17 1605	Relinquished by (Signature and Printed Name):  SB	Date / Time: 11/11/17 1045	<b>Turn Around Time (TAT):</b> <input type="checkbox"/> A = Same Day <input type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input type="checkbox"/> E = 5 Workdays <input checked="" type="checkbox"/> E = 10 Workdays <b>TAT Starts at 8 AM the following day if samples received after 3:00 PM.</b>	Special Instruction:
Relinquished by (Signature and Printed Name):	Date / Time:	Relinquished by (Signature and Printed Name):	Date / Time:		
Relinquished by (Signature and Printed Name):	Date / Time:	Relinquished by (Signature and Printed Name):	Date / Time:		

<b>Matrix:</b>			<b>Preservatives:</b>			<b>Container Type:</b>				
W = Water	WW = Wastewater		H = HQ	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:			M = Metal			P = Plastic	C = Can

## **Appendix B**

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



# CETIS Summary Report

Report Date: 17 Nov-17 10:00 (p 1 of 1)  
 Test Code: 74956 | 06-3980-1524

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

<b>Batch ID:</b> 18-3612-6673	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b> Simin Delijani
<b>Start Date:</b> 07 Nov-17 14:45	<b>Protocol:</b> EPA/821/R/02/014 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Nov-17 08:25	<b>Species:</b> Menidia beryllina	<b>Brine:</b> Crystal Sea
<b>Duration:</b> 6d 18h	<b>Source:</b> Aquatic Indicators, FL	<b>Age:</b> 11

<b>Sample ID:</b> 11-5209-3667	<b>Code:</b> Effluent	<b>Client:</b> CH2M Hill
<b>Sample Date:</b> 06 Nov-17 11:25	<b>Material:</b> Effluent	<b>Project:</b> 27942
<b>Receipt Date:</b> 07 Nov-17 10:43	<b>Source:</b> SFPP Norwalk Station	
<b>Sample Age:</b> 27h (0.3 °C)	<b>Station:</b> EFF-11-06	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
19-5113-1119	7d Survival Rate	TST-Welch's t Test	5.4E-04	Receiving Water passed 7d survival rate
18-1099-3170	7d Survival Rate	TST-Welch's t Test	0.0018	100% passed 7d survival rate
20-3682-3045	Mean Dry Biomass-mg	TST-Welch's t Test	0.0014	Receiving Water passed mean dry biomass-
04-6245-3539	Mean Dry Biomass-mg	TST-Welch's t Test	0.0020	100% passed mean dry biomass-mg

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	0.975	0.895	1.000	0.900	1.000	0.025	0.050	5.13%	0.00%
0	R	4	0.975	0.895	1.000	0.900	1.000	0.025	0.050	5.13%	0.00%
100		4	0.925	0.845	1.000	0.900	1.000	0.025	0.050	5.41%	5.13%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	1.85	1.58	2.11	1.71	2.08	0.0835	0.167	9.05%	0.00%
0	R	4	1.92	1.68	2.15	1.75	2.09	0.0748	0.15	7.81%	-3.79%
100		4	1.82	1.7	1.94	1.71	1.89	0.0383	0.0766	4.20%	1.29%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LW	1.000	0.900	1.000	1.000
0	R	0.900	1.000	1.000	1.000
100		1.000	0.900	0.900	0.900

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LW	1.86	1.74	2.08	1.71
0	R	1.85	2.09	1.98	1.75
100		1.89	1.71	1.83	1.85

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LW	10/10	9/10	10/10	10/10
0	R	9/10	9/9	10/10	10/10
100		10/10	9/10	9/10	9/10



**CETIS Analytical Report**

Report Date: 15 Nov-17 14:43 (p 1 of 4)  
 Test Code: 74956 | 06-3980-1524

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

Analysis ID: 18-1099-3170      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 15 Nov-17 14:43      Analysis: Parametric Bioequivalence-Two Sample      Official Results: Yes

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

**TST-Welch's t Test**

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Lab Water Contr		100*	5.13	0.727	5	CDF	0.0018	Non-Significant Effect

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0132797	0.0132797	1	2	0.2070	Non-Significant Effect
Error	0.039839	0.0066398	6			
Total	0.0531187		7			

**Distributional Tests**

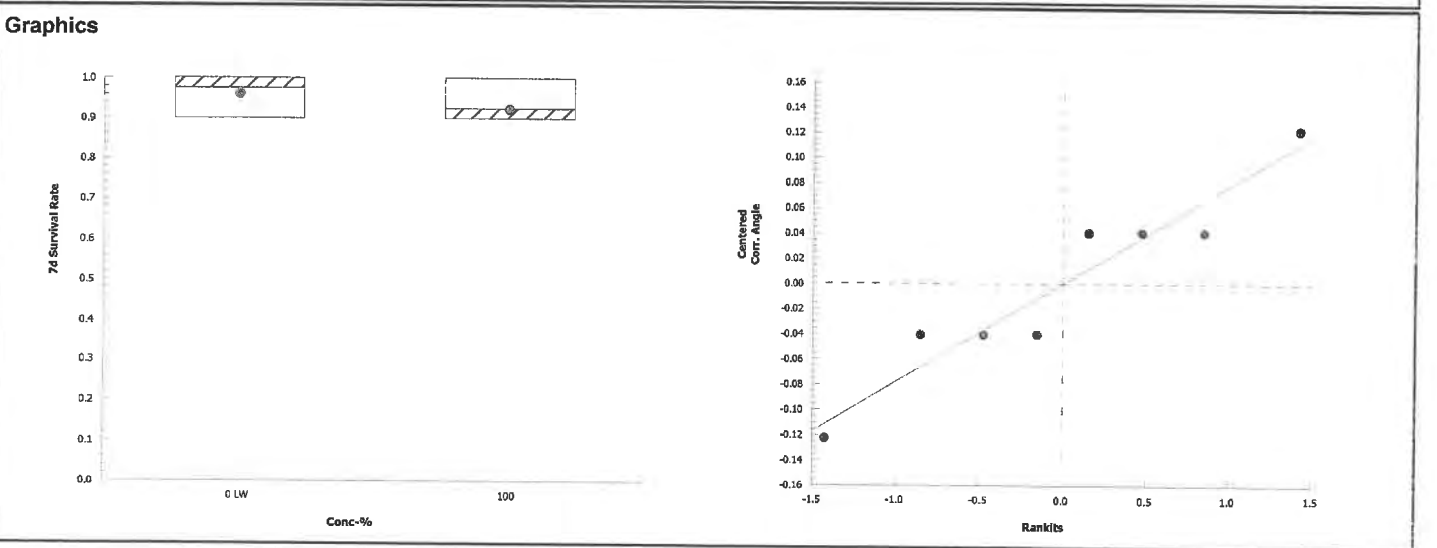
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	47.5	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.931	0.645	0.5224	Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	0.975	0.895	1.000	1.000	0.900	1.000	0.025	5.13%	0.00%
100		4	0.925	0.845	1.000	0.900	0.900	1.000	0.025	5.41%	5.13%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.37	1.24	1.5	1.41	1.25	1.41	0.0407	5.94%	0.00%
100		4	1.29	1.16	1.42	1.25	1.25	1.41	0.0407	6.32%	5.94%



# CETIS Analytical Report

Report Date: 15 Nov-17 14:43 (p 2 of 4)  
 Test Code: 74956 | 06-3980-1524

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

Analysis ID: 19-5113-1119      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 15 Nov-17 14:43      Analysis: Parametric Bioequivalence-Two Sample      Official Results: Yes

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

**TST-Welch's t Test**

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Lab Water Contr		Receiving Water	6.76	0.727	5	CDF	5.4E-04	Non-Significant Effect

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	9.391E-06	9.391E-06	1	0.00144	0.9710	Non-Significant Effect
Error	0.039189	0.0065315	6			
Total	0.0391984		7			

**Distributional Tests**

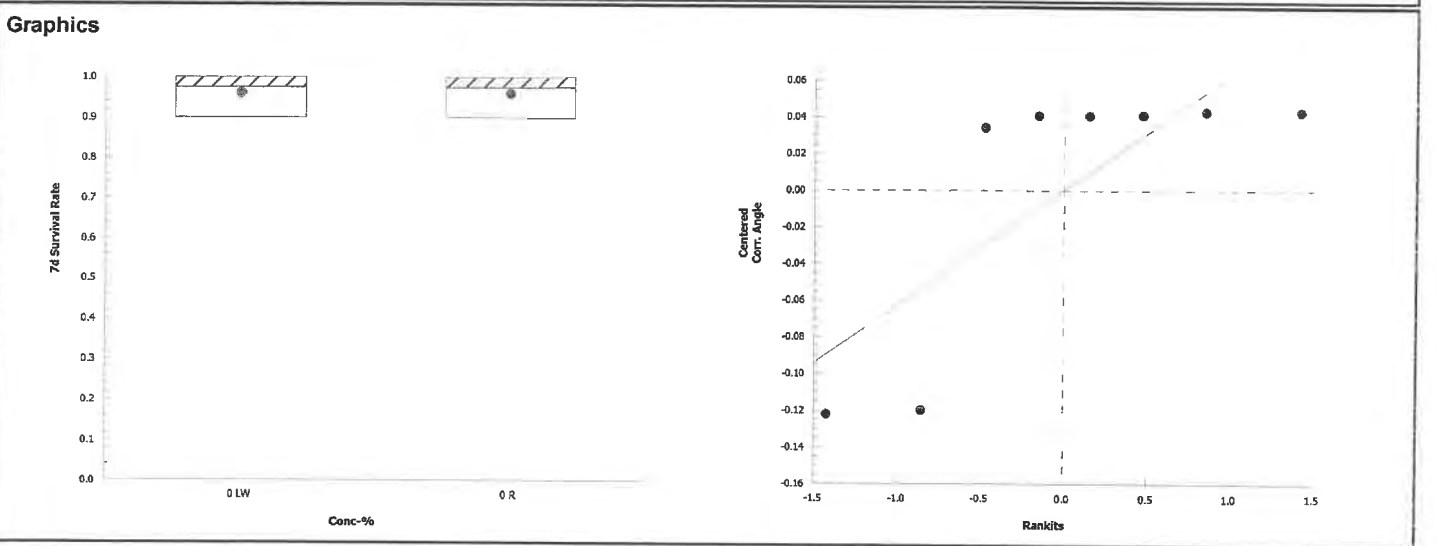
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.03	47.5	0.9789	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.594	0.645	1.4E-04	Non-Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	0.975	0.895	1.000	1.000	0.900	1.000	0.025	5.13%	0.00%
0	R	4	0.975	0.895	1.000	1.000	0.900	1.000	0.025	5.13%	0.00%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.37	1.24	1.5	1.41	1.25	1.41	0.0407	5.94%	0.00%
0	R	4	1.37	1.24	1.5	1.41	1.25	1.41	0.0401	5.85%	0.16%



# CETIS Analytical Report

Report Date: 15 Nov-17 14:41 (p 2 of 2)  
 Test Code: 74956 | 06-3980-1524

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

Analysis ID: 04-6245-3539      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.2  
 Analyzed: 15 Nov-17 14:41      Analysis: Parametric Bioequivalence-Two Sample      Official Results: Yes

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

**TST-Welch's t Test**

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Lab Water Contr		100*	5.96	0.741	4	CDF	0.0020	Non-Significant Effect

**ANOVA Table**

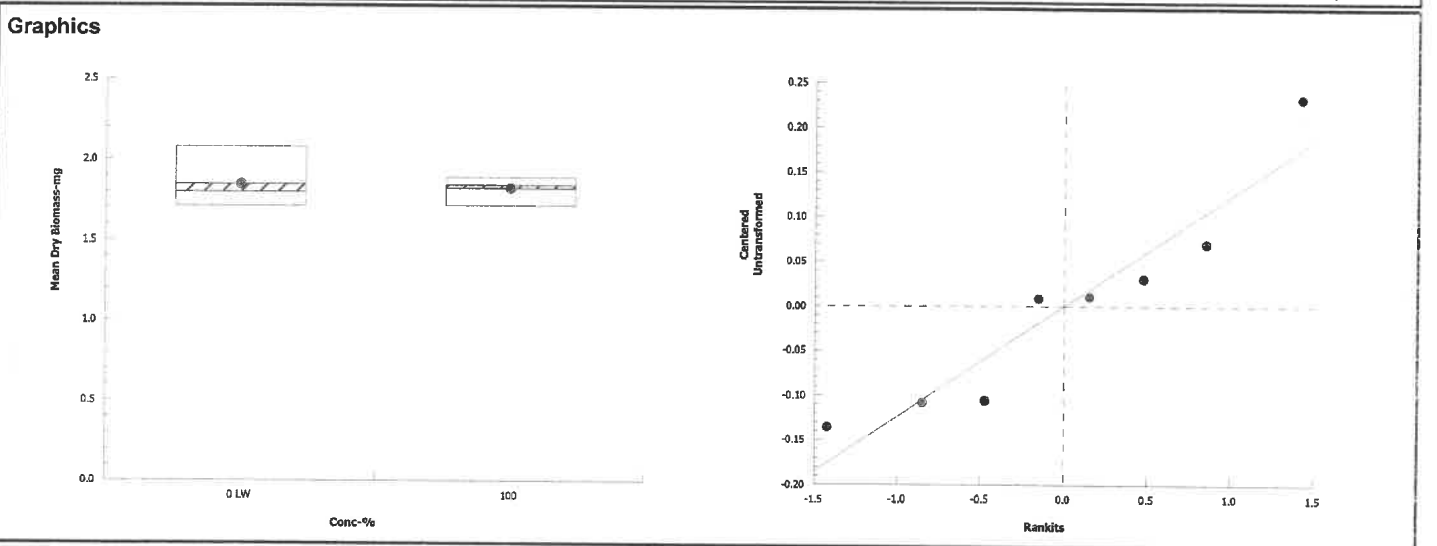
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0011282	0.0011282	1	0.0668	0.8046	Non-Significant Effect
Error	0.101281	0.0168802	6			
Total	0.102409		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	4.75	47.5	0.2328	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.907	0.645	0.3314	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.85	1.58	2.11	1.8	1.71	2.08	0.0835	9.05%	0.00%
100		4	1.82	1.7	1.94	1.84	1.71	1.89	0.0383	4.20%	1.29%



**CETIS Analytical Report**

Report Date: 15 Nov-17 14:41 (p 1 of 2)  
 Test Code: 74956 | 06-3980-1524

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

Analysis ID: 20-3682-3045      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.2  
 Analyzed: 15 Nov-17 14:41      Analysis: Parametric Bioequivalence-Two Sample      Official Results: Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	Receiving Water passed mean dry biomass-m

**TST-Welch's t Test**

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:25%)
Lab Water Contr		Receiving Water	5.45	0.727	5	CDF	0.0014	Non-Significant Effect

**ANOVA Table**

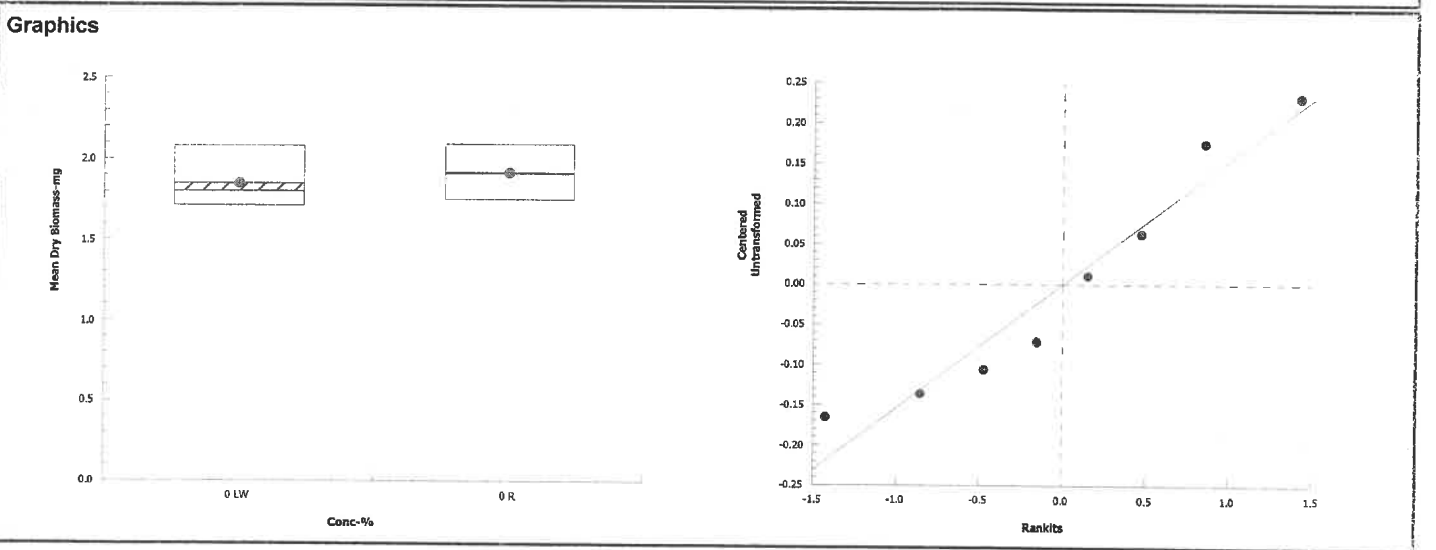
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0098079	0.0098079	1	0.39	0.5553	Non-Significant Effect
Error	0.150906	0.0251511	6			
Total	0.160714		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.24	47.5	0.8615	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.924	0.645	0.4647	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LW	4	1.85	1.58	2.11	1.8	1.71	2.08	0.0835	9.05%	0.00%
0	R	4	1.92	1.68	2.15	1.91	1.75	2.09	0.0748	7.81%	-3.79%



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

Client: CH2M SFPP Norwalk Station Organism Log#: 10602 Age: 11d  
 Test Material: Effluent Organism Supplier: Aquatic Indicators  
 Test ID#: 74956 Project #: 27942 Control/Diluent: Crystal Sea @ 25 ppt  
 Test Date: 11/7/17 Randomization: 4.3.2 Control Water Batch: 1242

Treatment (% Effluent)	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)		# Live Organisms				SIGN-OFF
		new	old	new	old	new	old	A	B	C	D	
Lab Control	25.0	7.97		7.0		24.6		10	10	10	10	Date: 11/7/17 Sample ID: <del>47956/47955</del> 47956/47955
Receiving Water	25.2	8.02 7.23 11/7/17		9.3 8.1 11/7		24.7 25.0 16/11/17		10	10	10	10	Test Solution Prep: <del>11/7/17</del> JL New WQ: KB
100%	25.2	7.23 8.02		8.1 9.3		25.0 24.7		10	10	10	10	Initiation Time: 1445 Initiation Signoff: SF
Meter ID	100A	PH23		RD11		EC08						
Lab Control	25.0	7.85	7.61	7.6	4.7	25.1	25.3	10	10	10	10	Date: 11/9/17 Sample ID: <del>47956/47955</del> 47956/47955
Receiving Water	25.0	8.40	8.22 11/9/17 11/9/17	8.9	4.7	24.9	25.5 11/9/17 25.3	9	10	10	10	Test Solution Prep: JL New WQ: RJP
100%	25.0	7.54	7.95	8.0	4.7	24.2	25.3	10	10	10	10	Renewal Time: 1430 Renewal Signoff: JL
Meter ID	102A	PH23	PH19	RD09	RD09	EC12	EC12					Old WQ: A
Lab Control	25.1	7.82	7.44	8.0	5.5	24.5	25.8	10	10	10	10	Date: 11/9/17 Sample ID: <del>47991/47990</del> 47991/47990
Receiving Water	25.2	8.19	8.19	8.6	5.9	25.2 11/9/17 25.4	25.0	9	10	10	10	Test Solution Prep: 16V New WQ: RJP
100%	25.3	7.26	7.64	8.2	7.0	24.8 11/9/17 25.4	24.4	10	10	10	10	Renewal Time: 1150 Renewal Signoff: ARF
Meter ID	81A	PH23	PH21	RD09	RD12	EC08	EC12					Old WQ: RJP
Lab Control	24.5	8.14	7.54	7.7	4.9	24.5	27.5	10	10	10	10	Date: 11/10/17 Sample ID: <del>47991/47990</del> 47991/47990
Receiving Water	24.6	8.29	8.15	8.2	5.9	24.1	26.9	9	10	10	10	Test Solution Prep: TK New WQ: JN
100%	24.6	7.53	7.93	8.5	5.8	24.3	26.3	10	10	10	10	Renewal Time: 1430 Renewal Signoff: TK
Meter ID	100A	PH19	PH19	RD12	RD12	EC10	EC10					Old WQ: A

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

Client: CH2M SFPP Norwalk Station      Organism Log#: 10602      Age: 11d  
 Test Material: Effluent      Organism Supplier: Aquatic Indicators  
 Test ID#: 74956      Project #: 27942      Control/Diluent: Crystal Sea @ 25 ppt  
 Test Date: 11/7/17      Control Water Batch: 1242

Treatment (% Effluent)	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)		# Live Organisms				SIGN-OFF
		new	old	new	old	new	old	A	B	C	D	
Lab Control	24.8	7.95	7.70	8.0	6.0	24.8	28.5	10	9	10	10	Date: 11/11/17 Sample ID: RW/eff 48020/48021 Test Solution Prep: TK New WQ: N
Receiving Water	24.7	8.29	8.19	10.0	5.6	25.3	28.2	9	10	10	10	Renewal Time: 1435 Renewal Signoff: SMC Old WQ: MYL
100%	24.4	7.43	7.92	8.6	5.9	24.9	26.8	10	10	10	10	Date: 11/12/17 Sample ID: RW/eff 48020/48021 Test Solution Prep: EP New WQ: KP
Meter ID	81A	PH15	PH19	RD10	RD11	EC12	EC12					Renewal Time: 1120 Renewal Signoff: JL Old WQ: W
Lab Control	24.2	7.97	7.75	7.8	5.8	24.8	27.5	10	9	10	10	Date: 11/13/17 Sample ID: RW/eff 48020/48021 Test Solution Prep: TK New WQ: FT
Receiving Water	24.2	8.33	8.19	9.0	6.1	25.0	27.2	9	10	10	10	Renewal Time: 1320 Renewal Signoff: EP Old WQ: TF
100%	24.0	7.47	7.93	7.6	6.2	24.8	26.8	10	9	10	10	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
Meter ID	113A	PH9	PH19	RD09	RD09	EC08	EC08					Termination Signoff: WC Old WQ: LB
Lab Control	25.0	8.11	7.69	7.9	6.8	24.4	26.6	10	9	10	10	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
Receiving Water	24.7	8.31	8.11	9.0	6.5	24.7	26.3	9	9	10	10	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
100%	24.5	7.39	7.83	7.9	6.4	24.5	27.4	10	9	10	9	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
Meter ID	109A	PH19	PH 21	RD12	RD11	EC10	EC11					Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
Lab Control	25.1		7.95		6.9		27.62	10	9	10	10	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
Receiving Water	24.9		8.26		7.0		25.8	9	9	10	10	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
100%	24.8		7.99		7.0		25.9	10	9	9	9	Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB
Meter ID	103A		PH19		RD11		EC12					Termination Date: 11/14/17 Termination Time: 0825 Termination Signoff: WC Old WQ: LB

## Chronic Inland Silverside Dry Weight and Biomass Data

Client: CH2M SFPP Norwalk Station Test ID #: 74956 Project # 27942  
 Sample: Effluent Tare Weight Date: 11/17/17 Sign-off: LT  
 Test Date: 11/17/17 Final Weight Date: 11/15/17 Sign-off: NTB

Pan ID	Concentration	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Control	A	410.82	429.539	10	1.86
2		B	416.38	433.78	10	1.74
3		C	398.80	419.58	10	2.08
4		D	397.61	414.71	10	1.71
5	Receiving Water	A	411.58	430.03	10	1.85
6		B	400.93	419.75	9	2.09
7		C	398.68	418.47	10	1.98
8		D	403.19	420.69	10	1.75
9	100%	A	411.13	430.05	10	1.89
10		B	411.37	428.51	10	1.71
11		C	411.00	429.31	10	1.83
12		D	406.44	424.97	10	1.85
QA 1			403.10	403.09		
QA 2			398.88	398.68		
Balance ID			BAL04	Bal 04		

## **Appendix C**

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



**CETIS Summary Report**

**Report Date:** 17 Nov-17 08:47 (p 1 of 2)  
**Test Code:** 75054 | 18-9243-4706

Chronic Larval Fish Survival and Growth Test			Pacific EcoRisk
<b>Batch ID:</b> 11-3994-0654	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b> Jessica Okutsu	
<b>Start Date:</b> 07 Nov-17 10:05	<b>Protocol:</b> EPA/821/R/02/014 (2002)	<b>Diluent:</b> Laboratory Water	
<b>Ending Date:</b> 14 Nov-17 08:30	<b>Species:</b> Menidia beryllina	<b>Brine:</b> Crystal Sea	
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Indicators, FL	<b>Age:</b> 11	

<b>Sample ID:</b> 20-1339-5474	<b>Code:</b> KCI	<b>Client:</b> Reference Toxicant
<b>Sample Date:</b> 07 Nov-17 10:05	<b>Material:</b> Potassium chloride	<b>Project:</b> 28047
<b>Receipt Date:</b> 07 Nov-17 10:05	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a (24.5 °C)	<b>Station:</b> In House	

Multiple Comparison Summary							
Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
10-7059-4040	7d Survival Rate	Steel Many-One Rank Sum Test	1.25	1.5	1.369		23.4%
09-7268-5166	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	1.25	> 1.25	n/a		19.6%

Point Estimate Summary							
Analysis ID	Endpoint	Point Estimate Method	Level	g/L	95% LCL	95% UCL	TU ✓
09-6023-7614	7d Survival Rate	Regression: Log-Normal (Probit)	EC5	1.05	0.845	1.16	
			EC10	1.12	0.94	1.22	
			EC15	1.17	1.01	1.27	
			EC20	1.21	1.06	1.31	
			EC25	1.25	1.11	1.34	
			EC40	1.35	1.24	1.45	
			EC50	1.42	1.32	1.53	
08-2372-8791	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	0.756	n/a	1.28	
			IC10	1.01	0.0798	1.41	
			IC15	1.14	0.565	1.37	
			IC20	1.25	0.835	1.35	
			IC25	1.28	1.01	1.4	
			IC40	1.36	1.24	1.62	
			IC50	1.41	1.29	1.72	

7d Survival Rate Summary											
Conc-g/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	0.975	0.895	1.000	0.900	1.000	0.025	0.050	5.13%	0.00%
0.5		4	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	-2.56%
1		4	0.950	0.858	1.000	0.900	1.000	0.029	0.058	6.08%	2.56%
1.25		4	0.800	0.509	1.000	0.600	1.000	0.091	0.183	22.82%	17.95%
1.5		4	0.300	0.000	0.836	0.100	0.800	0.168	0.337	112.22%	69.23%
2		4	0.050	0.000	0.142	0.000	0.100	0.029	0.058	115.47%	94.87%

Mean Dry Biomass-mg Summary											
Conc-g/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LW	4	1.87	1.51	2.22	1.66	2.16	0.112	0.225	12.05%	0.00%
0.5		4	1.91	1.66	2.16	1.78	2.14	0.0797	0.159	8.35%	-2.32%
1		4	1.7	1.45	1.96	1.49	1.87	0.0796	0.159	9.35%	8.73%
1.25		4	1.52	1.01	2.03	1.2	1.84	0.161	0.323	21.22%	18.51%
1.5		4	0.621	-0.315	1.56	0.21	1.48	0.294	0.589	94.74%	66.72%
2		4	0.0935	-0.0795	0.267	0	0.203	0.0544	0.109	116.31%	94.99%

**CETIS Summary Report**

**Report Date:** 17 Nov-17 08:47 (p 2 of 2)  
**Test Code:** 75054 | 18-9243-4706

Chronic Larval Fish Survival and Growth Test						Pacific EcoRisk
<b>7d Survival Rate Detail</b>						
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	0.900	1.000	1.000	1.000	
0.5		1.000	1.000	1.000	1.000	
1		1.000	0.900	1.000	0.900	
1.25		0.700	0.600	0.900	1.000	
1.5		0.100	0.800	0.200	0.100	
2		0.000	0.100	0.100	0.000	
<b>Mean Dry Biomass-mg Detail</b>						
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	1.73	1.91	2.16	1.66	
0.5		1.85	1.86	1.78	2.14	
1		1.87	1.49	1.69	1.76	
1.25		1.29	1.2	1.84	1.76	
1.5		0.21	1.48	0.543	0.256	
2		0	0.171	0.203	0	
<b>7d Survival Rate Binomials</b>						
Conc-g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	LW	9/10	10/10	10/10	10/10	
0.5		10/10	10/10	10/10	10/10	
1		10/10	9/10	10/10	9/10	
1.25		7/10	6/10	9/10	10/10	
1.5		1/10	8/10	2/10	1/10	
2		0/10	1/10	1/10	0/10	

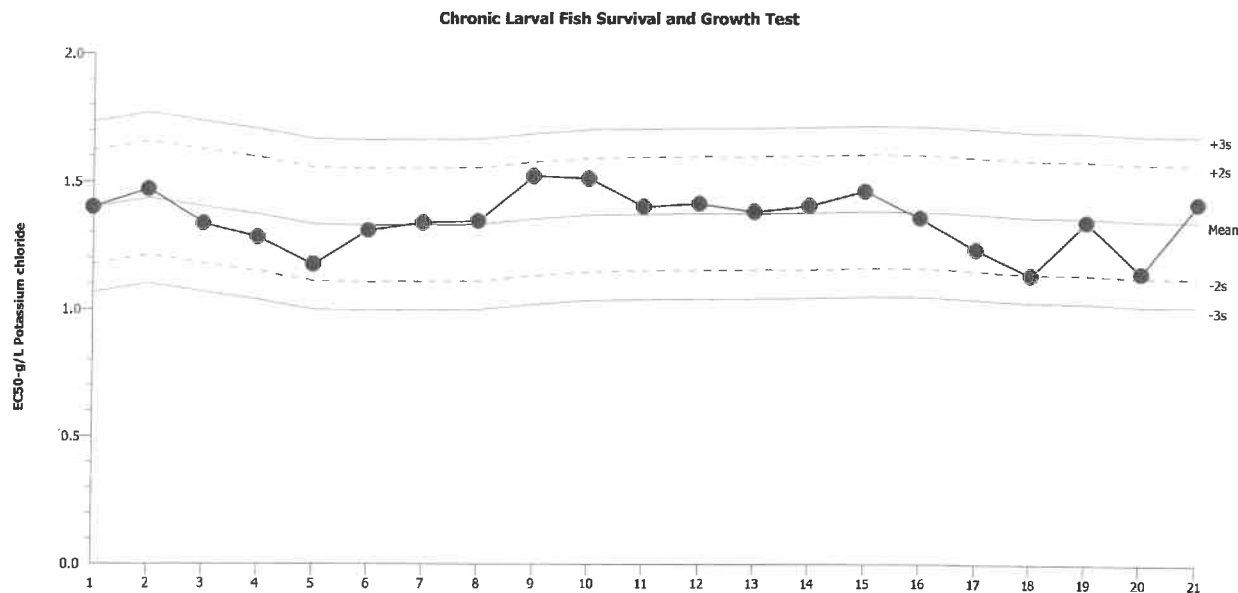
Chronic Larval Fish Survival and Growth Test

Pacific EcoRisk

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

Organism: Menidia beryllina (Inland Silverside)  
Endpoint: 7d Survival Rate

Material: Potassium chloride  
Source: Reference Toxicant-REF



Mean: 1.349      Count: 20      -2s Warning Limit: 1.126      -3s Action Limit: 1.014  
Sigma: 0.1115      CV: 8.27%      +2s Warning Limit: 1.572      +3s Action Limit: 1.683

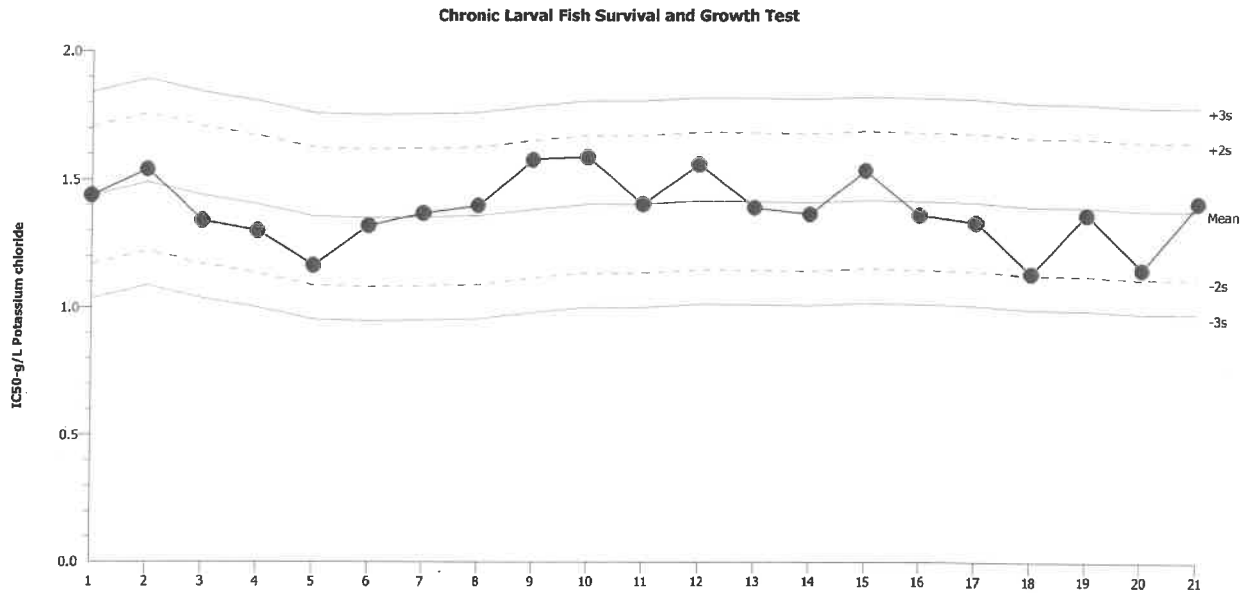
Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2016	Apr	21	14:30	1.401	0.05156	0.4624			11-0396-9359	06-2353-9329
2		May	17	17:26	1.471	0.1218	1.093			16-1029-2368	11-0924-4635
3		Jun	14	16:20	1.335	-0.01369	-0.1228			01-7714-8063	01-8731-4560
4		Aug	11	11:00	1.282	-0.06673	-0.5985			13-8865-1126	07-8914-4891
5		Sep	15	15:00	1.175	-0.1738	-1.559			01-0258-4616	14-9982-6942
6		Oct	20	14:15	1.308	-0.04124	-0.3698			15-1275-8596	02-1621-8501
7		Nov	9	13:55	1.338	-0.01091	-0.09783			05-9589-4435	11-3608-2942
8			11	14:50	1.345	-0.00362	-0.03243			16-4947-4914	05-3176-6608
9			15	15:51	1.522	0.1725	1.547			18-8138-0840	07-2242-1159
10	2017	Mar	7	13:10	1.513	0.1636	1.468			19-7207-0550	17-7555-0314
11			24	14:20	1.402	0.05307	0.4759			17-7243-9145	18-5577-7629
12		May	2	12:45	1.416	0.06656	0.5969			14-0438-7078	16-0746-2201
13			19	13:10	1.383	0.0339	0.3041			21-1581-5922	17-5501-5509
14			23	10:40	1.406	0.05708	0.5119			09-4030-1551	04-9394-1219
15		Jun	13	13:15	1.463	0.1137	1.02			16-8527-5805	04-5231-1664
16			20	13:04	1.359	0.00959	0.08601			02-1261-5541	03-3113-5359
17		Jul	11	10:18	1.235	-0.1142	-1.024			20-4939-4691	11-0676-3637
18		Aug	17	15:44	1.135	-0.2143	-1.922			20-3561-1179	08-6234-3573
19			22	15:05	1.345	-0.00382	-0.03422			06-8198-8843	16-7413-1190
20		Nov	2	10:45	1.144	-0.2048	-1.837			03-4560-3600	19-4668-3217
21			7	10:05	1.419	0.06962	0.6244			18-9243-4706	09-6023-7614

Chronic Larval Fish Survival and Growth Test

Pacific EcoRisk

Test Type: Growth-Survival (7d)      Organism: Menidia beryllina (Inland Silverside)      Material: Potassium chloride  
 Protocol: EPA/821/R/02/014 (2002)      Endpoint: Mean Dry Biomass-mg      Source: Reference Toxicant-REF



Mean: 1.38      Count: 20      -2s Warning Limit: 1.111      -3s Action Limit: 0.9763  
 Sigma: 0.1344      CV: 9.74%      +2s Warning Limit: 1.648      +3s Action Limit: 1.783

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2016	Apr	21	14:30	1.438	0.05818	0.4329			11-0396-9359	02-6199-6490
2		May	17	17:26	1.54	0.1599	1.19			16-1029-2368	17-9189-5139
3		Jun	14	16:20	1.337	-0.04255	-0.3166			01-7714-8063	09-3544-1499
4		Aug	11	11:00	1.298	-0.08159	-0.6071			13-8865-1126	18-0939-3159
5		Sep	15	15:00	1.163	-0.2167	-1.612			01-0258-4616	17-7855-4939
6		Oct	20	14:15	1.319	-0.06139	-0.4568			15-1275-8596	19-6097-2551
7		Nov	9	13:55	1.367	-0.01281	-0.09533			05-9589-4435	10-9991-8437
8			11	14:50	1.398	0.01757	0.1307			16-4947-4914	07-4049-8496
9			15	15:51	1.575	0.1953	1.453			18-8138-0840	05-5810-6920
10	2017	Mar	7	13:10	1.584	0.2039	1.517			19-7207-0550	04-4128-1602
11			24	14:20	1.402	0.02165	0.1611			17-7243-9145	19-9836-7382
12		May	2	12:45	1.556	0.1761	1.31			14-0438-7078	05-2314-8444
13			19	13:10	1.389	0.008803	0.0655			21-1581-5922	15-6959-3465
14			23	10:40	1.363	-0.01689	-0.1257			09-4030-1551	10-1409-2736
15		Jun	13	13:15	1.534	0.1542	1.148			16-8527-5805	05-9270-2793
16			20	13:04	1.357	-0.02306	-0.1715			02-1261-5541	10-3181-4973
17		Jul	11	10:18	1.328	-0.05155	-0.3835			20-4939-4691	01-7228-9213
18		Aug	17	15:44	1.131	-0.249	-1.853			20-3561-1179	06-4422-7422
19			22	15:05	1.362	-0.01775	-0.132			06-8198-8843	03-3856-9823
20		Nov	2	10:45	1.148	-0.2319	-1.725			03-4560-3600	08-3277-2632
21			7	10:05	1.41	0.0303	0.2255			18-9243-4706	08-2372-8791

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

Client: Reference Toxicant  
 Test Material: Potassium Chloride  
 Test ID#: 75054 Project #: 28047  
 Test Date: 11/7/17 Randomization: 4.6.1

Organism Log#: 10602 Age: 112  
 Organism Supplier: Aquatic Ind.  
 Control/Diluent: DI + Crystal Sea @ 25 ppt  
 Control Water Batch: 1242

Treatment (g KCl/L)	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)	# Live Organisms				SIGN-OFF
		new	old	new	old		A	B	C	D	
Control	24.5	8.04		8.0		24.8	10	10	10	10	Date: 11/7/17
0.5	24.5	8.06		8.0		25.6	10	10	10	10	RT Stock Batch #: 60
1	24.5	8.06		8.0		26.2	10	10	10	10	Test Solution Prep: JBL
1.25	24.5	8.06		8.1		26.5	10	10	10	10	New WQ: CO
1.5	24.5	8.05		8.1		26.7	10	10	10	10	Initiation Time: 1005
2	24.5	8.05		8.2		27.3	10	10	10	10	Initiation Signoff: CO
Meter ID	113A	pH23		RD11		EC08					
Control	25.0	7.89	7.55	8.2	6.2	24.7	10	10	10	10	Date: 11/8/17
0.5	25.3	7.90	7.60	8.1	6.2	25.4	10	10	10	10	RT Stock Batch #: 60
1	25.2	7.91	7.62	8.1	6.3	26.2	10	10	10	9	Test Solution Prep: ARF
1.25	25.2	7.91	7.62	8.2	6.1	26.5	10	10	10	10	New WQ: NB
1.5	25.2	7.91	7.60	8.2	5.7	26.7	10	10	10	10	Renewal Time: 1120
2	25.4	7.91	7.52	8.2	5.2	27.3	7	9	1	0	Renewal Signoff: ARF
Meter ID	113A	pH23	pH23	RD09	RD09	EC11					Old WQ: RAP
Control	25.3	7.91	7.66	7.8	6.1	24.8	9	10	10	10	Date: 11/9/17
0.5	25.4	7.93	7.60	7.9	5.5	25.5	10	10	10	10	RT Stock Batch #: 60
1	25.4	7.93	7.59	7.9	5.6	26.0	10	10	10	9	Test Solution Prep: SD
1.25	25.3	7.92	7.58	7.7	5.5	26.2	9	10	10	10	New WQ: H
1.5	25.3	7.92	7.53	7.9	5.0	26.5	7	10	6	10	Renewal Time: 0930
2	25.4	7.92	7.54	8.0	5.0	27.2	3	3	1	-	Renewal Signoff: CO
Meter ID	109A	pH19	pH21	RD09	RD12	EC08					Old WQ: SJB
Control	25.8	8.03	7.56	7.9	5.6	24.7	9	10	10	10	Date: 11/10/17
0.5	25.6	8.02	7.53	8.0	5.3	25.3	10	10	10	10	RT Stock Batch #: 60
1	25.9	8.01	7.55	8.1	5.2	25.9	10	10	10	9	Test Solution Prep: SMC
1.25	25.5	8.02	7.52	8.2	5.1	26.0	8	8	9	10	New WQ: TA
1.5	26.5	8.00	7.54	8.2	5.2	26.5	1	8	2	7	Renewal Time: 1100
2	25.7	8.00	7.58	8.2	5.2	27.3	3	1	1	-	Renewal Signoff: SMC
Meter ID	113A	pH23	pH19	RD10	RD12	EC12					Old WQ: TA

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

Client: Reference Toxicant  
 Test Material: Potassium Chloride  
 Test ID#: 75054 Project #: 28047  
 Test Date: 11/7/17 Randomization: 4.6.1

Organism Log#: 10602 Age: 11d.  
 Organism Supplier: Aquatic Ind.  
 Control/Diluent: DI + Crystal Sea @ 25 ppt  
 Control Water Batch: 1242

Treatment (g KCl/L)	Temp (°C)	pH		D.O. (mg/L)		Salinity (ppt)	# Live Organisms				SIGN-OFF
		new	old	new	old		A	B	C	D	
Control	25.5	8.09	7.54	7.8	5.8	24.6	9	10	10	10	Date: 11/11/17
0.5	25.4	8.12	7.93	7.8	5.7	25.3	10	10	10	10	RT Stock Batch #: 60
1	25.5	8.12	7.53	7.9	5.8	25.9	10	10	10	9	Test Solution Prep: TK
1.25	25.4	8.12	7.54	8.0	5.8	26.2	8	8	9	10	New WQ: CO
1.5	25.3	8.12	7.58	8.0	6.1	26.5	1	8	2	4	Renewal Time: 0930
2	25.5	8.11	7.54	8.1	5.9	27.1	3	1	1	-	Renewal Signoff: JD
Meter ID	100A	PH23	PH15	RD09	RD10	EC10					Old WQ: N
Control	25.5	8.03	7.66	7.9	5.1	24.6	9	10	10	10	Date: 11/12/17
0.5	25.5	8.02	7.63	7.9	5.1	25.3	10	10	10	10	RT Stock Batch #: 60
1	25.9	8.04	7.66	7.9	5.1	26.1	10	10	10	9	Test Solution Prep: SD
1.25	25.9	8.04	7.69	8.0	5.3	26.4	8	8	9	10	New WQ: KO
1.5	25.5	8.04	7.66	8.0	5.4	26.7	1	8	2	3	Renewal Time: 1045
2	25.9	8.04	7.63	8.1	4.8	27.3	0	1	1	-	Renewal Signoff: EP
Meter ID	109A	PH19	PH19	RD09	RD09	EC08					Old WQ: KO
Control	25.6	8.02	7.57	8.0	6.1	24.5	9	10	10	10	Date: 11/13/17
0.5	25.6	8.01	7.61	8.0	6.1	25.3	10	10	10	10	RT Stock Batch #: 61
1	25.3	8.01	7.60	8.1	6.0	25.9	10	10	10	9	Test Solution Prep: EP
1.25	25.7	8.00	7.59	8.1	5.6	26.2	8	7	9	10	New WQ: TF
1.5	25.6	8.00	7.61	8.1	5.7	26.4	1	8	2	1	Renewal Time: 1130
2	25.3	8.00	7.65	8.1	5.9	27.0	-	1	1	-	Renewal Signoff: JBL
Meter ID	103A	PH21	PH19	RD11	RD12	EC11					Old WQ: KP
Control	24.8		7.61		6.0	28.9	9	10	10	10	Date: 11/14/17
0.5	25.0		7.62		4.8	27.5	10	10	10	10	Termination Time: 0830
1	25.4		7.64		6.0	26.8	10	9	10	9	Termination Signoff: SK
1.25	25.6		7.69		6.3	26.9	7	6	9	10	Old WQ: WR
1.5	25.4		7.72		6.2	27.5	1	8	2	1	
2	25.4		7.75		6.2	27.6	-	1	1	-	
Meter ID	109A		PH19		RD11	EC12					

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

Client: Reference Toxicant Test ID #: 75054 Project #: 28047  
 Sample: Potassium Chloride Tare Weight Date: 11/7/17 Sign-off: LZ  
 Test Date: 11/9/17 Final Weight Date: 11/15/17 Sign-off: STB

Pan ID	Concentration	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Control	A	415.68	432.93	<del>10</del> 10	1.7250
2		B	411.43	430.58	10	1.9150
3		C	414.27	435.90	10	2.1030
4		D	408.88	425.51	10	1.6630
5	0.5	A	412.29	430.78	10	1.8490
6		B	412.90	431.54	10	1.8640
7		C	408.32	426.15	10	1.7830
8		D	407.34	428.77	10	2.1430
9	1	A	412.85	431.58	10	1.8730
10		B	413.97	428.90	10	1.4930
11		C	411.17	428.08	10	1.6910
12		D	410.17	427.74	10	1.7570
13	1.25	A	410.53	423.45	10	1.2920
14		B	413.96	425.94	10	1.1980
15		C	411.87	430.25	10	1.8380
16		D	410.75	428.31	10	1.7560
17	1.5	A	<del>408.17</del> 410.79 <sup>LZ</sup> <sub>11/7/17</sub>	410.27	10	0.2100
18		B	<del>407.71</del> 410.05 <sup>LZ</sup> <sub>11/7/17</sub>	422.47	10	1.4760
19		C	<del>410.89</del> 411.57 <sup>LZ</sup> <sub>11/7/17</sub>	416.32	10	0.5430
20		D	<del>410.07</del> 406.53 <sup>LZ</sup> <sub>11/7/17</sub>	412.63	10	0.2560
21	2	A	411.62	-	10	0.0000
22		B	406.54	409.25	10	0.1710
23		C	409.13	411.16	10	0.2030
24		D	407.83	-	10	0.0000
QA1			413.82	413.80		
QA2			415.31	415.28		
QA3			419.15	419.15		
Balance ID			BAL04	BAL04		



Date of Report: 02/14/2018

Marlon Cartin

ASSET Laboratories

3151-3153 W. Post Rd

Las Vegas, NV 89118

Client Project: N026919

BCL Project: Cerritos

BCL Work Order: 1804583

Invoice ID: B294109

Enclosed are the results of analyses for samples received by the laboratory on 2/9/2018. 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

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1804583-01	<b>COC Number:</b>	---	<b>Receive Date:</b>	02/09/2018 08:38
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 11:55
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	N026919-002H / RSW-001-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water
1804583-02	<b>COC Number:</b>	---	<b>Receive Date:</b>	02/09/2018 08:38
	<b>Project Number:</b>	---	<b>Sampling Date:</b>	11/07/2017 12:07
	<b>Sampling Location:</b>	---	<b>Sample Depth:</b>	---
	<b>Sampling Point:</b>	N026919-003H / RSW-002-11-07	<b>Lab Matrix:</b>	Water
	<b>Sampled By:</b>	---	<b>Sample Type:</b>	Water

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1804583-01	<b>Client Sample Name:</b> N026919-002H / RSW-001-11-07, 11/7/2017 11:55:00AM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	ND	mg/L	0.0050	0.0017	EPA-335.4	ND	A26,S05	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-335.4	02/12/18 09:15	02/14/18 09:08	JNC	KONE-1	1	B004627

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1804583-02	<b>Client Sample Name:</b> N026919-003H / RSW-002-11-07, 11/7/2017 12:07:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	ND	mg/L	0.0050	0.0017	EPA-335.4	ND	A26,S05	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-335.4	02/12/18 09:15	02/14/18 08:54	JNC	KONE-1	1	B004627

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B004627</b>						
Total Cyanide	B004627-BLK1	ND	mg/L	0.0050	0.0017	

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B004627</b>										
Total Cyanide	B004627-BS1	LCS	0.15440	0.15000	mg/L	103		90 - 110		

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

## Water Analysis (General Chemistry)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
<b>QC Batch ID: B004627</b>		Used client sample: N									
Total Cyanide	DUP	1804346-02	ND	ND		mg/L			10		
	MS	1804346-02	ND	0.10153	0.10000	mg/L		102		90 - 110	
	MSD	1804346-02	ND	0.10344	0.10000	mg/L	1.9	103	10	90 - 110	

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

**Reported:** 02/14/2018 11:40  
**Project:** Cerritos  
**Project Number:** N026919  
**Project Manager:** Marlon Cartin

**Notes And Definitions**

- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A26 Sample received past holding time.
- S05 The sample holding time was exceeded.



# INSTRUMENT CALIBRATION REPORT



**Pine Environmental Services LLC**

1340 Reynolds Avenue, Suite 108  
Irvine, CA 92614  
Toll-free: 888-620-7463

## Pine Environmental Services, Inc.

**Instrument ID** 28522  
**Description** Horiba U-52  
**Calibrated** 11/2/2017 1:59:12PM

**Manufacturer** Horiba  
**Model Number** U-5000  
**Serial Number/ Lot Number** mefsmad2  
**Location** California  
**Department**

**State Certified**  
**Status** Pass  
**Temp °C** 23  
  
**Humidity %** 45

### Calibration Specifications

Group # 1				Range Acc % 0.0000			
Group Name PH				Reading Acc % 3.0000			
Stated Accy Pct of Reading				Plus/Minus 0.00			
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
7.01 / 7.01	PH	7.01	PH	7.00	7.00	-0.14%	Pass
4.01 / 4.01	PH	4.01	PH	4.00	4.00	-0.25%	Pass
Group # 2				Range Acc % 0.0000			
Group Name Turbidity				Reading Acc % 3.0000			
Stated Accy Pct of Reading				Plus/Minus 0.00			
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
0.00 / 0.00	NTU	0.00	NTU	0.00	0.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
Group # 3				Range Acc % 0.0000			
Group Name Conductivity				Reading Acc % 3.0000			
Stated Accy Pct of Reading				Plus/Minus 0.000			
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
0.718 / 0.718	ms/cm	0.718	ms/cm	0.718	0.718	0.00%	Pass
5.000 / 5.000	ms/cm	5.000	ms/cm	5.000	5.000	0.00%	Pass
80.000 / 80.000	ms/cm	80.000	ms/cm	80.000	80.000	0.00%	Pass
Group # 4				Range Acc % 0.0000			
Group Name Redox (ORP)				Reading Acc % 3.0000			
Stated Accy Pct of Reading				Plus/Minus 0.00			
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass
Group # 5				Range Acc % 0.0000			
Group Name Dissolved Oxygen Zero				Reading Acc % 3.0000			
Stated Accy Pct of Reading				Plus/Minus 0.00			

# INSTRUMENT CALIBRATION REPORT



**Pine Environmental Services LLC**

1340 Reynolds Avenue, Suite 108  
Irvine, CA 92614  
Toll-free: 888-620-7463

## Pine Environmental Services, Inc.

**Instrument ID** 28522  
**Description** Horiba U-52  
**Calibrated** 11/2/2017 1:59:12PM

<b>Group # 5</b>				<b>Range Acc %</b>	0.0000		
<b>Group Name</b> Dissolved Oxygen Zero				<b>Reading Acc %</b>	3.0000		
<b>Stated Accy</b> Pct of Reading				<b>Plus/Minus</b>	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>End As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
0.00 / 0.00	mg/L	0.00	mg/L	0.00	0.00	0.00%	Pass
<b>Group # 6</b>				<b>Range Acc %</b>	0.0000		
<b>Group Name</b> Temperature DO Span				<b>Reading Acc %</b>	0.0000		
<b>Stated Accy</b> Plus / Minus				<b>Plus/Minus</b>	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>End As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
20.00 / 20.00	degrees C	8.84	mg/L	8.84	8.84	0.00%	Pass

<u>Test Instruments Used During the Calibration</u>					<u>(As Of Cal Entry Date)</u>	
<u>Test Standard ID</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number / Lot Number</u>	<u>Last Cal Date / Opened Date</u>	<u>Next Cal Date / Expiration Date</u>
CA 240MV 2855	CA ORP 240 mV	Hanna		Lot# 2855		11/20/2017
CA 800NTU	CA TURB 800	Horiba		201046-4		1/6/2018
CA COND 5000 (LOT# 9964)	CA COND 5000	Aurical		11702		6/11/2018
CA COND 718 (LOT# 9963)	CA COND 718	Aurical		11698		6/30/2018
CA COND 80,000 (LOT#9974)	CA COND 80,000	Aurical		11783		7/23/2018
CA PH 4 (LOT# 1206598)	CA PH 4 (LOT# 1206598)	Aurical		11767		12/16/2017
CA PH 7 (LOT# 10021)	PH 7 (LOT# 10021)	Aurical		10656		10/17/2018

**Notes about this calibration**

**Calibration Result** Calibration Successful  
**Who Calibrated** Tony Nguyen

# INSTRUMENT CALIBRATION REPORT



**Pine Environmental Services LLC**

1340 Reynolds Avenue, Suite 108

Irvine, CA 92614

Toll-free: 888-620-7463

## **Pine Environmental Services, Inc.**

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**Instrument ID** 28522

**Description** Horiba U-52

**Calibrated** 11/2/2017 1:59:12PM

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All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

**Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment**  
**Please call 800-301-9663 for Technical Assistance**

### CH2M Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	Project Engineer	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 5/30/17	
SFPP Norwalk Pump Station	Norwalk, CA	Eric Davis	Vladmir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
11-6-17	1200	<input checked="" type="radio"/> Grab, <input type="radio"/> Composite, <input type="radio"/> Flow-through, <input type="radio"/> Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2	LOCATION (circle one):			
Wilsortizky		<input checked="" type="radio"/> Effluent (EFF-001) <input type="radio"/> Upstream (RSW-001) <input type="radio"/> Downstream (RSW-002) <input type="radio"/> Mid-Point			
<b>EQUIPMENT</b>					
Multimeter	Make: <u>Hanba</u>				
	Model: <u>U-52</u>				
	Serial Number: <u>28522</u>				
<b>CALIBRATION</b>					
Date of Calibration:	<u>11-6-17</u>	Time:	<u>1205</u>		
Calibration Standard:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	<u>3.99 pH</u>	4	<u>3/20/18</u>	<input checked="" type="radio"/> Yes	No
	<u>4.50 uS/cm</u>	7	<u>12/31/17</u>	<input checked="" type="radio"/> Yes	No
	<u>131.9 DO mg/L</u>	10	<u>12/31/17</u>	<input checked="" type="radio"/> Yes	No
DO Calibration	Equipment Reading: <u>131.9</u>	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
Temp. Calibration	Equipment Reading: <u>18.39</u>	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
Cond. Calibration	Equipment Reading: <u>4.50</u>	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		1st <u>(comp)</u>	2nd <u>(comp)</u>		
TIME		<u>1301</u>	<u>1329</u>		
pH <u>(6.5 &lt; pH &lt; 8.5)</u>		<u>7.26</u>	<u>7.31</u>		
TEMP (°C) <u>( &lt; 30°C )</u>		<u>19.81</u>	<u>19.87</u>		
SALINITY (ppt)		<u>1.3</u>	<u>1.3</u>		
COND (mS/cm or uS/cm; Specific Cond.) Circle or Note Units Used		<u>2.53</u>	<u>2.52</u>		
DISSOLVED OXYGEN (mg/L)		<u>126.7</u>	<u>127.1</u>		
<b>OBSERVATIONS</b>					

18.39  
7.16  
4.50

**KINDER MORGAN**

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

[Signature]

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

11-6-17

### CH2M Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	Project Engineer	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 5/30/17	
SFPP Norwalk Pump Station	Norwalk, CA	Eric Davis	Vladmir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
11-6-17		Grab, Composite, Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2	LOCATION (circle one):			
		Effluent (EFF-001)	Upstream (RSW-001)	<u>Downstream (RSW-002)</u>	Mid-Point
<b>EQUIPMENT</b>					
Multimeter	Make:	Horiba			
	Model:	U-52			
	Serial Number:	28532			
<b>CALIBRATION</b>					
Date of Calibration:	11-6-17	Time:			
Calibration Standard:	<input checked="" type="radio"/> Yes    No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	3.99	4	3-20-17	<input checked="" type="radio"/> Yes	No
	7.16	7	12-31-17	<input checked="" type="radio"/> Yes	No
		10	12-31-17	Yes	No
DO Calibration	Equipment Reading:	131.9	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes	No
Temp. Calibration	Equipment Reading:	18.39	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes	No
Cond. Calibration	Equipment Reading:	4.50	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes	No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		1st	(grab)	2nd	
TIME		16:33			
pH		9.52			
TEMP (°C)		19.82			
SALINITY (ppt)		0.7			
COND (mS/cm or uS/cm; Specific Cond.) <i>Circle or Note Units Used</i>		1.38			
DISSOLVED OXYGEN (%)		1 mg/L    101.3% / 16.02 mg/L			
<b>OBSERVATIONS</b>					
Polywags and algae in the water. Water was green in color. Ducks swimming in the water.					

**KINDER MORGAN**

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

Vladimir Carino

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

11/6/17

### CH2M Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	Project Engineer	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 5/30/17	
SFPP Norwalk Pump Station	Norwalk, CA	Eric Davis	Vladmir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
11/7/17	11:00	Grab, Composite, Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2	LOCATION (circle one):			
Vlad Carino		Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
<b>EQUIPMENT</b>					
Multimeter	Make: Horiba				
	Model: U-52				
	Serial Number: 28522				
<b>CALIBRATION</b>					
Date of Calibration:	11/7/17	Time:	1100		
Calibration Standard:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	2pt 4 & 7	4	3/2018	Yes	No
		7	12/2017	Yes	No
		<del>10</del>		<del>Yes</del>	<del>No</del>
Calibration pH	Equipment Reading: 3.96	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
Temp. Calibration NTU	Equipment Reading: 0.0	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
Cond. Calibration mg/cm	Equipment Reading: 4.51	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		RSW-001 1st v (grab)		RSW-002 2nd v (grab)	
TIME		11:55		12:07	
pH		8.00		9.09	
TEMP (°C)		19.36		18.94	
SALINITY (ppt)		0.8		0.8	
COND (mS/cm or uS/cm; Specific Cond.) <i>Circle or Note Units Used</i>		1.56		1.56	
DISSOLVED OXYGEN (%)	1mg/L	193.9% / 17.28 mg/L		146.2% / 13.14 mg/L	
<b>OBSERVATIONS</b>					

Auto cal sol'n exp 3/2018

**KINDER MORGAN** Signed: Vlad Carino Date: 11/7/17

### CH2M Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	Project Engineer	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 5/30/17	
SFPP Norwalk Pump Station	Norwalk, CA	Eric Davis	Vladimir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
11/7/17	11:00	Grab, Composite, Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2	LOCATION (circle one):			
Vlad Carino		Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
<b>EQUIPMENT</b>					
Multimeter	Make:	Horiba			
	Model:	U52			
	Serial Number:	28522			
<b>CALIBRATION</b>					
Date of Calibration:	11/7/17	Time:	11:00		
Calibration Standard:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	2 pt 4 & 7	4	3/2018	<input checked="" type="radio"/> Yes	<input type="radio"/> No
		7	12/2017	<input checked="" type="radio"/> Yes	<input type="radio"/> No
		<del>10</del>		<input type="radio"/> Yes	<del><input type="radio"/> No</del>
DO Calibration	pH	Equipment Reading:	3.96	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Temp. Calibration	NTU	Equipment Reading:	0.0	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Cond. Calibration	mS/cm	Equipment Reading:	4.51	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes <input type="radio"/> No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		(grab)	1st	2nd	
TIME			1310	_____	
pH (6.5 < pH < 8.5)			7.67	_____	
TEMP (°C) (< 30°C)			21.1	_____	
SALINITY (ppt)			1.4	_____	
COND (mS/cm or uS/cm; Specific Cond.) <i>Circle or Note Units Used</i>			2.67	_____	
DISSOLVED OXYGEN (%)			7.9% / 0.68 mg/L	_____	
<b>OBSERVATIONS</b>					

Auto Cal sol'n exp 3/2018

**KINDER MORGAN**

Signed: *Vladimir Carino* Date: 11/7/17

### CH2M Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	Project Engineer	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 5/30/17	
SFPP Norwalk Pump Station	Norwalk, CA	Eric Davis	Vladimir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
11-8-17	0700	Grab, Composite, Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2	LOCATION (circle one):			
Vlad Carino	—	Effluent (EFF-001)	Upstream (RSW-001)	Downstream (RSW-002)	Mid-Point
<b>EQUIPMENT</b>					
Multimeter	Make: Horiba				
	Model: U52				
	Serial Number: 28522				
<b>CALIBRATION</b>					
Date of Calibration:	11-8-17	Time:	7:14		
Calibration Standard:	<input checked="" type="radio"/> Yes    No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	2pt 4 & 7	4	3/2018	Yes	No
		7	12/2017	Yes	No
		<del>10</del>	<del>—</del>	<del>Yes</del>	<del>No</del>
pH Calibration	Equipment Reading: 3.81	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes	No	
NTU Calibration	Equipment Reading: 0.0	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes	No	
Cond. Calibration	Equipment Reading: 4.53	Calibrated to or within 10%?	<input checked="" type="radio"/> Yes	No	
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		(Comp) EFF-001	(Grab) RSW-002		
TIME		9:15	10:27		
pH (6.5 < pH < 8.5)		7.05	8.62		
TEMP (°C) (< 30°C)		16.39	18.48		
SALINITY (ppt)		1.3	0.8		
COND (mS/cm or uS/cm; Specific Cond.) <i>Circle or Note Units Used</i>		2.60	1.55		
DISSOLVED OXYGEN (%) / (mg/L)		36.2% / 3.41 mg/L	208.3% / 18.87 mg/L		
<b>OBSERVATIONS</b>					

AutoCal Solution for Horiba U-52  
(3/2018)

**KINDER MORGAN**  
Signed: Vlad Carino Date: 11/8/17



### CH2M Field Meter Calibration and Log Form

Site Name	Site Location	Project Manager	Project Engineer	Norwalk Effluent Monitoring Form SFPP Norwalk Pump Station Norwalk, CA Form Revised 5/30/17	
SFPP Norwalk Pump Station	Norwalk, CA	Eric Davis	Vladmir Carino		
Date	Time	SAMPLE TYPE (circle one):		Discharge Permit	Expiration Date
11-10-17	0930 / 1230	<input checked="" type="radio"/> Grab <input type="radio"/> Composite <input type="radio"/> Flow-through, Other		R4-2016-0309	11/1/2021
O&M Technician#1	O&M Technician#2	LOCATION (circle one):			
		<input checked="" type="radio"/> Effluent (EFF-001) <input type="radio"/> Upstream (RSW-001) <input checked="" type="radio"/> Downstream (RSW-002) <input type="radio"/> Mid-Point			
<b>EQUIPMENT</b>					
Multimeter	Make:	Horiba			
	Model:	U-52			
	Serial Number:	L7YF4305			
<b>CALIBRATION</b>					
Date of Calibration:	11-10-17	Time:	0920 / 1230		
Calibration Standard:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Standard	Expiration Date	Calibrated Within 0.2 pH units?	
pH Calibration Standard	7.01	<input checked="" type="radio"/> A	1-20-19	<input checked="" type="radio"/> Yes	<input type="radio"/> No
	9.98	<input type="radio"/> B	12-31-17	<input checked="" type="radio"/> Yes	<input type="radio"/> No
		<input type="radio"/> C			
pH Calibration	Equipment Reading: 3.86 / 3.97	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	<input type="radio"/> No
NTU Calibration	Equipment Reading: 0.9 / 0.0	Calibrated to or within 10%?		<input checked="" type="radio"/> Yes	<input type="radio"/> No
Cond. Calibration	Equipment Reading: 11.65 / 13.04	Calibrated to or within 10%?		<input type="radio"/> Yes	<input type="radio"/> No
<b>FIELD PARAMETERS</b>		<b>FIELD MEASUREMENTS</b>			
		(comp) EFF-001	(grab) RSW-002		
TIME		0930	1250		
pH		7.47	7.72		
TEMP (°C)		19.43	18.01		
SALINITY (ppt)		1.2	0.7		
COND (mS/cm or uS/cm; Specific Cond.) Circle or Note Units Used		2.58	1.34		
DISSOLVED OXYGEN (%) / (mg/L)		83.6% 7.3(mg/L)	261.7% 22.99mg/L		
<b>OBSERVATIONS</b>					
algae, live polywag, SEWRRA odor (RSW-002)					

AutoCal Solution  
for Horiba U-52

**KINDER MORGAN**

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

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

11-10-17

December 27, 2017

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

TEL:

FAX:

Workorder No.: N027588

RE: SFPP Norwalk

Attention: Eric Davis

Enclosed are the results for sample(s) received on December 15, 2017 by ASSET Laboratories .  
The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in  
accordance with the applicable laboratory certifications.

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

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

Sincerely,



Quennie Manimtim

Laboratory Director

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



**ASSET LABORATORIES**  
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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EPA ID CA01638

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

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**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N027588

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**CASE NARRATIVE**

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**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.

Samples were analyzed within method holding time.

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



**CLIENT:** CH2MHill  
**Project:** SFPP Norwalk  
**Lab Order:** N027588  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N027588-001A	EFF-12-15	Wastewater	12/15/2017 12:45:00 PM	12/15/2017	12/27/2017
N027588-001B	EFF-12-15	Wastewater	12/15/2017 12:45:00 PM	12/15/2017	12/27/2017
N027588-001C	EFF-12-15	Wastewater	12/15/2017 12:45:00 PM	12/15/2017	12/27/2017
N027588-001D	EFF-12-15	Wastewater	12/15/2017 12:45:00 PM	12/15/2017	12/27/2017



**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 27-Dec-17

**CLIENT:** CH2MHill  
**Lab Order:** N027588  
**Project:** SFPP Norwalk  
**Lab ID:** N027588-001

**Client Sample ID:** EFF-12-15  
**Collection Date:** 12/15/2017 12:45:00 PM  
**Matrix:** WASTEWATER

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

**EPA 3510C**

**EPA 8270C**

RunID:	NV00922-MS3_171226A	QC Batch:	66160	PrepDate:	12/21/2017	Analyst:	MJM
Phenol	0.96	0.33	1.0	J	µg/L	1	12/26/2017 01:38 PM
Surr: 1,2-Dichlorobenzene-d4	93.0	0	16-120		%REC	1	12/26/2017 01:38 PM
Surr: Phenol-d5	29.0	0	15-120		%REC	1	12/26/2017 01:38 PM

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 8260B**

RunID:	NV00922-MS5_171216A	QC Batch:	P17VW232	PrepDate:	Analyst:	QBM
1,1-Dichloroethane	ND	0.45	0.50	ug/L	1	12/16/2017 11:54 AM
1,2-Dichloroethane	ND	0.29	0.50	ug/L	1	12/16/2017 11:54 AM
Benzene	ND	0.34	1.0	ug/L	1	12/16/2017 11:54 AM
Ethylbenzene	ND	0.31	1.0	ug/L	1	12/16/2017 11:54 AM
m,p-Xylene	ND	0.23	1.0	ug/L	1	12/16/2017 11:54 AM
MTBE	ND	0.34	1.0	ug/L	1	12/16/2017 11:54 AM
o-Xylene	ND	0.31	1.0	ug/L	1	12/16/2017 11:54 AM
Tert-Butanol	ND	2.4	5.0	ug/L	1	12/16/2017 11:54 AM
Toluene	ND	0.46	2.0	ug/L	1	12/16/2017 11:54 AM
Xylenes, Total	ND	1.5	2.0	ug/L	1	12/16/2017 11:54 AM
Surr: 1,2-Dichloroethane-d4	110	0	72-119	%REC	1	12/16/2017 11:54 AM
Surr: 4-Bromofluorobenzene	104	0	76-119	%REC	1	12/16/2017 11:54 AM
Surr: Dibromofluoromethane	109	0	85-115	%REC	1	12/16/2017 11:54 AM
Surr: Toluene-d8	103	0	81-120	%REC	1	12/16/2017 11:54 AM

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID:	NV00922-GC3_171218B	QC Batch:	66102	PrepDate:	12/18/2017	Analyst:	SS
TPH-Diesel (C13-C22)	ND	15	25	ug/L	1	12/18/2017 11:32 PM	
TPH-Oil (C23-C36)	ND	14	25	ug/L	1	12/18/2017 11:32 PM	
Surr: Octacosane	90.2	0	26-152	%REC	1	12/18/2017 11:32 PM	
Surr: p-Terphenyl	90.6	0	57-132	%REC	1	12/18/2017 11:32 PM	

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID:	NV00922-GC4_171216A	QC Batch:	E17VW108	PrepDate:	Analyst:	QBM
TPH-Gasoline (C4-C12)	ND	16	50	ug/L	1	12/16/2017 12:29 PM
Surr: Chlorobenzene - d5	116	0	74-138	%REC	1	12/16/2017 12:29 PM

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



**ASSET LABORATORIES**  
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ELAP Cert 2676 | NV Cert NV00922  
ORELAP/NELAP Cert 4046

"Serving Clients with Passion and Professionalism"

**ASSET Laboratories**

**ANALYTICAL RESULTS**

Print Date: 27-Dec-17

**CLIENT:** CH2MHill  
**Lab Order:** N027588  
**Project:** SFPP Norwalk  
**Lab ID:** N027588-001

**Client Sample ID:** EFF-12-15  
**Collection Date:** 12/15/2017 12:45:00 PM  
**Matrix:** WASTEWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 245.1**

RunID: <b>NV00922-AA1_171218A</b>	QC Batch: <b>66101</b>			PrepDate: <b>12/18/2017</b>		Analyst: <b>MG</b>
Mercury	ND	0.018	0.050	µg/L	1	12/18/2017 03:07 PM

**TOTAL METALS BY ICPMS**

**EPA 200.8**

RunID: <b>NV00922-ICP7_171218A</b>	QC Batch: <b>66100</b>			PrepDate: <b>12/18/2017</b>		Analyst: <b>CEI</b>
Copper	ND	0.26	0.50	µg/L	1	12/18/2017 04:34 PM
Lead	ND	0.037	0.50	µg/L	1	12/18/2017 04:34 PM
Zinc	ND	0.27	1.0	µg/L	1	12/18/2017 04:34 PM

**TOTAL TPH**

**EPA 8015B**

RunID: <b>NV00922-GC3_171218B</b>	QC Batch: <b>R120918</b>			PrepDate:		Analyst: <b>SS</b>
Total TPH	ND	16	50	ug/L	1	12/18/2017

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



**ASSET LABORATORIES**  
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>MB-66100</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120906</b>						
Client ID: <b>PBW</b>	Batch ID: <b>66100</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870664</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50									
Lead	ND	0.50									
Zinc	ND	1.0									

Sample ID: <b>LCS-66100</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120906</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>66100</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870665</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	9.928	0.50	10.00	0	99.3	85	115				
Lead	9.932	0.50	10.00	0	99.3	85	115				
Zinc	101.583	1.0	100.0	0	102	85	115				

Sample ID: <b>N027588-001B-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120906</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>66100</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870668</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.50						0	0	20	
Lead	ND	0.50						0	0	20	
Zinc	ND	1.0						0	0	20	

Sample ID: <b>N027588-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>200.8_W_SFPP</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120906</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>66100</b>	TestNo: <b>EPA 200.8</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870670</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.819	0.50	10.00	0	78.2	75	125				
Lead	10.507	0.50	10.00	0	105	75	125				
Zinc	106.269	1.0	100.0	0	106	75	125				

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.8\_W\_SFPP**

Sample ID: <b>N027588-001B-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8_W_SFPP</b> Units: <b>µg/L</b>			Prep Date: <b>12/18/2017</b>		RunNo: <b>120906</b>		
Client ID: <b>ZZZZZ</b>		Batch ID: <b>66100</b>		TestNo: <b>EPA 200.8</b>			Analysis Date: <b>12/18/2017</b>		SeqNo: <b>2870671</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.993	0.50	10.00	0	79.9	75	125	7.819	2.19	20	
Lead	10.473	0.50	10.00	0	105	75	125	10.51	0.326	20	
Zinc	105.234	1.0	100.0	0	105	75	125	106.3	0.978	20	

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_LL**

Sample ID: <b>MB-66101</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120904</b>						
Client ID: <b>PBW</b>	Batch ID: <b>66101</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870650</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.050

Sample ID: <b>LCS-66101</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120904</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>66101</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870651</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.173 0.050 2.500 0 86.9 85 115

Sample ID: <b>N027588-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120904</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>66101</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870652</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.200 0.050 2.500 0 88.0 75 125

Sample ID: <b>N027588-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120904</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>66101</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870653</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.205 0.050 2.500 0 88.2 75 125 2.200 0.231 20

Sample ID: <b>N027588-001B-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>245.1_W_LL</b>	Units: <b>µg/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120904</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>66101</b>	TestNo: <b>EPA 245.1</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2870654</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.039 0.050 0 0 20 J

**Qualifiers:**

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



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**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

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

Sample ID: <b>MB-66102</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>12/18/2017</b>	RunNo: <b>120918</b>						
Client ID: <b>PBW</b>	Batch ID: <b>66102</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2871367</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	25									
TPH-Oil (C23-C36)	13.643	25									J
Surr: Octacosane	84.000		80.00		105	26	152				
Surr: p-Terphenyl	85.382		80.00		107	57	132				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPTOT**

Sample ID: <b>MB-R120918</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120918</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R120918</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>12/18/2017</b>	SeqNo: <b>2873124</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	13.643	50									

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | E Value above quantitation range       | H Holding times for preparation or analysis exceeded |
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**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID: <b>E171216LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120887</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E17VW108</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2869397</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	929.000	50	1000	0	92.9	67	136				
Surr: Chlorobenzene - d5	56068.000		50000		112	74	138				

Sample ID: <b>E171216MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120887</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E17VW108</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2869398</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	50									
Surr: Chlorobenzene - d5	56685.000		50000		113	74	138				

Sample ID: <b>N027588-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120887</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW108</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2869401</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	804.000	50	1000	0	80.4	67	136	893.0	10.5	30	
Surr: Chlorobenzene - d5	50465.000		50000		101	74	138		0	0	

Sample ID: <b>N027588-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120887</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E17VW108</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2869402</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	893.000	50	1000	0	89.3	67	136				
Surr: Chlorobenzene - d5	56480.000		50000		113	74	138				

**Qualifiers:**

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



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**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171216LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120898</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>P17VW232</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2870158</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	21.710	0.50	20.00	0	109	69	133				
1,2-Dichloroethane	19.230	0.50	20.00	0	96.2	69	132				
Benzene	21.530	1.0	20.00	0	108	81	122				
Ethylbenzene	20.720	1.0	20.00	0	104	73	127				
m,p-Xylene	43.060	1.0	40.00	0	108	76	128				
MTBE	21.340	1.0	20.00	0	107	65	123				
o-Xylene	21.640	1.0	20.00	0	108	80	121				
Tert-Butanol	110.570	5.0	100.0	0	111	70	130				
Toluene	20.760	2.0	20.00	0	104	77	122				
Xylenes, Total	64.700	2.0	60.00	0	108	75	125				
Surr: 1,2-Dichloroethane-d4	24.470		25.00		97.9	72	119				
Surr: 4-Bromofluorobenzene	27.030		25.00		108	76	119				
Surr: Dibromofluoromethane	26.090		25.00		104	85	115				
Surr: Toluene-d8	26.090		25.00		104	81	120				

Sample ID: <b>N027588-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120898</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P17VW232</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2870159</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	22.240	0.50	20.00	0	111	69	133				
1,2-Dichloroethane	19.010	0.50	20.00	0	95.1	69	132				
Benzene	22.350	1.0	20.00	0	112	81	122				
Ethylbenzene	21.210	1.0	20.00	0	106	73	127				
m,p-Xylene	43.200	1.0	40.00	0	108	76	128				
MTBE	21.610	1.0	20.00	0	108	65	123				
o-Xylene	21.860	1.0	20.00	0	109	80	121				
Tert-Butanol	111.290	5.0	100.0	0	111	70	130				
Toluene	21.260	2.0	20.00	0	106	77	122				
Xylenes, Total	65.060	2.0	60.00	0	108	75	125				
Surr: 1,2-Dichloroethane-d4	24.790		25.00		99.2	72	119				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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| J Analyte detected below quantitation limits                   | ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits               |
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**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N027588-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>120898</b>			
Client ID: <b>ZZZZZ</b>		Batch ID: <b>P17VW232</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>12/16/2017</b>		SeqNo: <b>2870159</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	26.700		25.00		107	76	119				
Surr: Dibromofluoromethane	25.970		25.00		104	85	115				
Surr: Toluene-d8	25.950		25.00		104	81	120				

Sample ID: <b>N027588-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>120898</b>			
Client ID: <b>ZZZZZ</b>		Batch ID: <b>P17VW232</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>12/16/2017</b>		SeqNo: <b>2870160</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	22.450	0.50	20.00	0	112	69	133	22.24	0.940	20	
1,2-Dichloroethane	19.860	0.50	20.00	0	99.3	69	132	19.01	4.37	20	
Benzene	22.130	1.0	20.00	0	111	81	122	22.35	0.989	20	
Ethylbenzene	21.050	1.0	20.00	0	105	73	127	21.21	0.757	20	
m,p-Xylene	42.970	1.0	40.00	0	107	76	128	43.20	0.534	20	
MTBE	23.400	1.0	20.00	0	117	65	123	21.61	7.95	20	
o-Xylene	21.990	1.0	20.00	0	110	80	121	21.86	0.593	20	
Tert-Butanol	126.730	5.0	100.0	0	127	70	130	111.3	13.0	20	
Toluene	21.190	2.0	20.00	0	106	77	122	21.26	0.330	20	
Xylenes, Total	64.960	2.0	60.00	0	108	75	125	65.06	0.154	20	
Surr: 1,2-Dichloroethane-d4	25.430		25.00		102	72	119		0		
Surr: 4-Bromofluorobenzene	26.520		25.00		106	76	119		0		
Surr: Dibromofluoromethane	26.710		25.00		107	85	115		0		
Surr: Toluene-d8	25.590		25.00		102	81	120		0		

Sample ID: <b>P171216MB3</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>120898</b>			
Client ID: <b>PBW</b>		Batch ID: <b>P17VW232</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>12/16/2017</b>		SeqNo: <b>2870163</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
Benzene	ND	1.0									

**Qualifiers:**

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



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

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

"Serving Clients with Passion and Professionalism"

**CLIENT:** CH2MHill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P171216MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>120898</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P17VW232</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>12/16/2017</b>	SeqNo: <b>2870163</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
MTBE	ND	1.0									
o-Xylene	ND	1.0									
Tert-Butanol	ND	5.0									
Toluene	ND	2.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	25.540		25.00		102	72	119				
Surr: 4-Bromofluorobenzene	25.530		25.00		102	76	119				
Surr: Dibromofluoromethane	26.440		25.00		106	85	115				
Surr: Toluene-d8	25.790		25.00		103	81	120				

**Qualifiers:**

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



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**CLIENT:** CH2Mhill  
**Work Order:** N027588  
**Project:** SFPP Norwalk

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270WATER\_SIMEXT**

Sample ID: <b>LCS-66160</b>	SampType: <b>LCS</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>12/21/2017</b>	RunNo: <b>121060</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>66160</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>12/26/2017</b>	SeqNo: <b>2878807</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.300	1.0	6.000	0	38.3	24	120				
Surr: 1,2-Dichlorobenzene-d4	0.890		1.000		89.0	16	120				
Surr: Phenol-d5	0.320		1.000		32.0	15	120				

Sample ID: <b>LCSD-66160</b>	SampType: <b>LCSD</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>12/21/2017</b>	RunNo: <b>121060</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>66160</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>12/26/2017</b>	SeqNo: <b>2878808</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	2.340	1.0	6.000	0	39.0	24	120	2.300	1.72	20	
Surr: 1,2-Dichlorobenzene-d4	0.830		1.000		83.0	16	120		0		
Surr: Phenol-d5	0.310		1.000		31.0	15	120		0		

Sample ID: <b>MB-66160</b>	SampType: <b>MBLK</b>	TestCode: <b>8270WATER_</b>	Units: <b>µg/L</b>	Prep Date: <b>12/21/2017</b>	RunNo: <b>121060</b>						
Client ID: <b>PBW</b>	Batch ID: <b>66160</b>	TestNo: <b>EPA 8270C EPA 3510C</b>		Analysis Date: <b>12/26/2017</b>	SeqNo: <b>2878809</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	0.960	1.0									J
Surr: 1,2-Dichlorobenzene-d4	0.910		1.000		91.0	16	120				
Surr: Phenol-d5	0.240		1.000		24.0	15	120				

**Qualifiers:**

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



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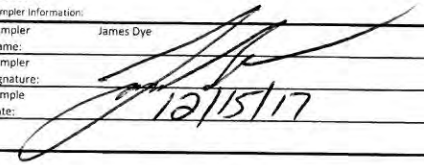





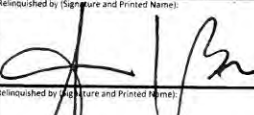
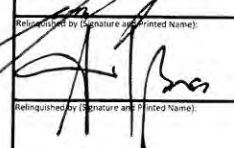
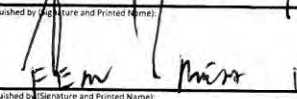
Asset Laboratories  
 3151 W. Post Road  
 Las Vegas, NV 89118  
 Tel: 702-307-2659 Fax: 702-307-2691  
 Marlon Cartin (marlon@assetlaboratories.com)

CHAIN OF CUSTODY RECORD

DATE: 12/15/17  
 PAGE: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Sampler Information:	
Company: <b>Kinder Morgan Energy Partners</b> Attention: <b>Steve Defibaugh</b>	Report To: <b>Eric Davis</b>	Attention: <b>Steve Defibaugh - Ref. AFE# 81195</b>	Sampler Name: <b>James Dye</b>		 Date: 12/15/17		
Address: <b>1100 Town &amp; Country Road Orange, CA 92868</b>	Copy To: <b>Steve Defibaugh</b>	Company Name: <b>Kinder Morgan Energy Partners</b>	Sampler: <b>James Dye</b>				
Email To: <b>steve_defibaugh@kindermorgan.com</b> <b>eric.davis@rh2m.com</b>	Purchase Order No.:	Address: <b>1100 Town &amp; Country Road Orange, CA 92868</b>	Sample: <b>James Dye</b>				
Phone: 714-560-4802 Fax: 714-560-4801	Project Name: <b>SFPP Norwalk</b>	ATL Project Manager: <b>Marlon Cartin</b>	Date: <b>12/15/17</b>				

Section E Required Sample Information			CONTAINER TYPE			Analysis Test					Comments	
ITEM #	SAMPLE ID	LOCATION/ DESCRIPTION	MATRIX	SAMPLE TYPE (G-GRAB C-COMP)	TOTAL # OF CONTAINERS	PRESERVATIVE						Analysis Test
						V	V	A	P	A		
1	EFF-12-15	EFFLUENT	WW	G	11	H	H	N	N	N	BTEX, 1,1-DCA, 1,2-DCA, MTBE, TBA (8260B) TPH-gas (8015B) TPH-L, TPH-oli, Total TPH (8015B) Cu, Pb, Zn (200.0); Hg (245.1) Phenol (8270)	N027588-01 Report metals, TPH and VOC preliminary data on 24-hr TAT Report total Xylenes
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

Relinquished by (Signature and Printed Name):  Date / Time: 12/15/17 1330	Relinquished by (Signature and Printed Name):  Date / Time: 12/15/17 1430	Turn Around Time (TAT): <input type="checkbox"/> A = Same Day <input checked="" type="checkbox"/> B = 24 Hours <input type="checkbox"/> C = 48 Hours <input type="checkbox"/> D = 72 Hours <input checked="" type="checkbox"/> E = 5 Workdays <input type="checkbox"/> E = 10 Workdays TAT Starts at 8 AM the following day if samples received after 3:00 PM.	Special Instruction:
Relinquished by (Signature and Printed Name):  Date / Time: 12/15/17 1442	Relinquished by (Signature and Printed Name):  Date / Time: 12/16/17 8:30		
Relinquished by (Signature and Printed Name):	Relinquished by (Signature and Printed Name):		

12 H2 50°C CSO 8797

Matrix:		Preservatives:			Container Type:			
W = Water	WW = Wastewater	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:			M = Metal	P = Plastic	C = Can	

# ASSET Laboratories

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

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


Cooler Received/Opened On: 12/15/2017 Workorder: N027588  
 Rep sample Temp (Deg C): 5.0 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Golden State Overnight  
 Last 4 digits of Tracking No.: 8797 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

For:

Checklist Completed By: FR  12/18/2017

Reviewed By:  12/18/2017

# ASSET Laboratories

## WORK ORDER Summary

18-Dec-17

**WorkOrder:** N027588

**Client ID:** CH2HI03

**Project:** SFPP Norwalk

**QC Level:** RTNE

**Date Received:** 12/15/2017

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N027588-001A	EFF-12-15	12/15/2017 12:45:00 PM	12/18/2017	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
			12/18/2017		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VW
N027588-001B			12/18/2017			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			12/18/2017		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			12/18/2017		EPA 245.1	MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			12/18/2017			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N027588-001C			12/22/2017		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: 8270C - SIM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			12/22/2017		EPA 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N027588-001D			12/18/2017		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			12/18/2017		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			12/18/2017		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N027588-002A	FOLDER	12/18/2017	12/18/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			12/18/2017		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



800-322-5555  
www.gso.com

**Ship From**

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

Tracking #: 538778797

**SDS**



**Ship To**

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

**LVS**  
**LAS VEGAS**

**A**

**COD:** \$0.00

**Weight:** 0 lb(s)

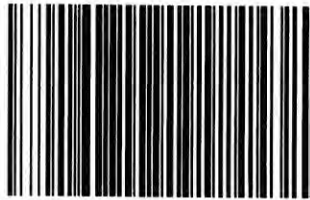
**Reference:**

**C89102A**

**Delivery Instructions:**

HOLD FOR PICKUP

**Signature Type:** NOT REQUIRED



76718833

1 of 1

Print Date: 12/15/2017 5:31 PM

**LABEL INSTRUCTIONS:**

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

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

Step 2: Fold this page in half.

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

**TERMS AND CONDITIONS:**

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

12 #2 5.0°C

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 eight normal environmental samples. Samples were collected between October 12 and December 15, 2017. Analyses were performed by Asset Laboratories in Cerritos, California; Pace Laboratory in Minneapolis, Minnesota; BC Laboratories in Bakersfield, California and LA Testing in Pasadena, California. The sample results were reported as six sample delivery groups (SDGs):

Sample Delivery Groups
N026441
N026580
N026684
N026793
N026919
N027588

Twenty-one 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 all other laboratories. Samples were analyzed for the following analytes/method:

Parameter	Method
Asbestos	EPA 600/R-94/134
Turbidity	SM2130B
Total suspended solids	SM2540D
Settleable solids	SW2540F
Sulfide	SM4500S2-D
Biochemical oxygen demand	SM5210B
MBAS	SM5540C
Oil and grease	E1664
Metals	E200.7/E200.8/E245.1
Anions	E300.0
Cyanide	E335.4
Ammonia	E350.1

Parameter	Method
Hexavalent chromium	SW7199
Total petroleum hydrocarbons – gasoline, diesel and motor oil ranges	SW8015B
Pesticides	SW8081A
Polychlorinated biphenyls	SW8082
Volatile organic compounds	SW8260B
Semi-volatile organic compounds	SW8270C
Dioxins and furans	SW8290

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 the following exceptions:

The cyanide analysis of samples RSW-001-11-07 and RSW-002-11-07 by Method E335.4 was analyzed past the holding time criterion of 14 days; samples were collected on November 7, 2017 and were analyzed on February 14, 2018. The samples were stored in the refrigerator at less than six degrees Celsius between collection and analysis.

Data validation criteria typically designate rejecting non-detect data more than two times past the analytical holding time. However, because data are available to show 2017 concentrations are within historical ranges; the data are qualified as estimated with a low bias and flagged “UJ”. Cyanide samples collected in the receiving water since 2010 were not detected for cyanide with the exception of one low-level detection in November 2016.

## **Method Blanks**

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

TPH-motor oil was detected less than the reporting limit (RL) in a method blank for Method SW8015B. One associated result was detected less than five times the blank concentration and was qualified as not detected and flagged "U" in sample EFF-10-12.

OCDD was detected less than the RL in a method blank for Method SW8290. Three associated results were detected less than five times the blank concentration and were qualified as not detected and flagged "U" in samples RSW-001-11-07, RSW-002-11-07 and EFF-11-07.

Mercury was detected less than the RL in a method blank for Method E245.1. Three associated results were detected less than five times the blank concentration and were qualified as not detected and flagged "U" in samples RSW-001-11-07, RSW-002-11-07 and EFF-11-07.

Phenol was detected less than the RL 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-12-15.

## **Surrogates**

All surrogate recovery criteria were met.

## **Internal Standards**

The recovery of a labeled internal standard was less than the lower control limit in sample RSW-002-11-07 for Method SW8290. One associated nondetected result was qualified as estimated and flagged "UJ".

## **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/or MSDs of samples RSW-002-11-07, EFF-10-31 and EFF-10-17, indicating the associated sample results are possibly biased low. One associated detected result was qualified as estimated and flagged "J"; two associated nondetected results were qualified as estimated and flagged "UJ".

The recovery of nitrate was greater than the upper control limit in the MS and MSD of sample EFF-11-07, indicating the associated sample result is possibly biased high. One associated detected result was qualified as estimated and flagged "J".

## **Sample Quantitation**

One result for Method SW8290 was reported as an estimated maximum possible concentration in sample RSW-002-11-07. The detected result was qualified as estimated and flagged "J".



**Chain-of-Custody**

Each sample was documented in a completed COC and received at the laboratory in good condition.

Samples EFF-11-07, RSW-001-11-07 and RSW-002-11-07 were subcontracted to BC Laboratories and were received over temperature at 12.6 degrees Celsius. All results for Methods SM4500S2-D, SM5210B, SM5540C, E335.4, E350.1, SW8081A and SW8270C were qualified as estimated. Detected results were flagged "J" and nondetected results were 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

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

DW 1704927509

SC PPW 8/28/2017

Form Approved. OMB No. 2050-0033

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number  
CAT080033962

2. Page 1 of 1

3. Emergency Response Phone  
(800) 483-3718

4. Manifest Tracking Number  
011241362 FLE

5. Generator's Name and Mailing Address  
Spp, L.P. Norwalk Station  
1100 Town And Country Road Attn: Karina Hankins  
Orange, CA 92868

Generator's Site Address (if different than mailing address)

15306 Norwalk Boulevard  
Norwalk, CA 90651

Generator's Phone: (714) 560-4887 ATTN: Karina Hankins

6. Transporter 1 Company Name  
Clean Harbors Environmental Services, Inc.

U.S. EPA ID Number  
MAD039322250

7. Transporter 2 Company Name

U.S. EPA ID Number  
CAD044429835

8. Designated Facility Name and Site Address  
Clean Harbors Wilmington LLC  
1737 East Denni Street  
Wilmington, CA 90744

U.S. EPA ID Number  
CAD044429835

Facility's Phone: (310) 835-9998

9a. HM 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))

10. Containers

11. Total Quantity

12. Unit Wt./Vol.

13. Waste Codes

1. NON-RCRA HAZARDOUS WASTE, SOLID, (FILTERS)

No.

Type

300 P

181

2.

3.

4.

14. Special Handling Instructions and Additional Information

1. CHL424321 1x55

FILTERS

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name

Signature

Month Day Year

X JAMES DYK

X [Signature]

10 | 9 | 17

16. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter signature (for exports only):

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Signature

Month Day Year

George Hernandez

[Signature]

10 | 9 | 17

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

18b. Alternate Facility (or Generator)

Manifest Reference Number:

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)

Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. H141

2.

3.

4.

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No.

**CAT080033962**

Manifest Document No.

2. Page **11** of

3. Generator's Name and Mailing Address

**Sfpp, L.P. Norwalk Station  
1100 Town And Country Road Attn: Karina Hankins  
Orange CA 92668**

Site Address :  
**15306 Norwalk Boulevard  
Norwalk, CA 90651**

4. Generator's Phone ( **(714) 560-4887**

**ATTN: Karina Hankins**

5. Transporter 1 Company Name

**Clean Harbors Environmental Services, Inc.**

6. US EPA ID Number

**MAD039322250**

A. State Transporter's ID

B. Transporter 1 Phone **(781) 792-5000**

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address

**Clean Harbors Wilmington LLC  
1737 East Denni Street  
Wilmington, CA 90744**

10. US EPA ID Number

**CAD044429835**

E. State Facility's ID

F. Facility's Phone  
**(310) 835-9998**

11. WASTE DESCRIPTION

Containers

No.

Type

13. Total Quantity

14. Unit Wt./Vol.

a. **NON HAZARDOUS, NON D.O.T. REGULATED, (SOIL)**

1

DM

500

P

b. **NON D.O.T. REGULATED, (PIPELINE FILTERS)**

1

PM

200

P

G. Additional Descriptions for Materials Listed Above

**11a.CH1418957 1X55  
11b.CH1424321 1X55**

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

**SOIL**

**FILTERS**

**EMERGENCY PHONE #: (800) 483-3718**

**GENERATOR: Sfpp, L.P. Norwalk Station**

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name

**X JAMES DYK**

Signature

*[Signature]*

Date

Month Day Year  
**10 9 17**

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

**George Hernandez**

Signature

*[Signature]*

Date

Month Day Year  
**10 9 17**

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name

Signature

Date



Month Day Year

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <b>NOT REQUIRED</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 624-9136</b>	4. Waste Tracking Number <b>NH 0206994</b>	
5. Generator's Name and Mailing Address <b>SPPP, LP (NORWALK STATION) 1100 TOWN AND COUNTRY RD. ORANGE CA 92868</b>		Generator's Site Address (if different than mailing address) <b>15306 NORWALK BLVD NORWALK, CA 90650</b>			
6. Transporter 1 Company Name <b>PATRIOT ENVIRONMENTAL SERVICES</b>		U.S. EPA ID Number <b>CAD053866794</b>			
7. Transporter 2 Company Name		U.S. EPA ID Number			
8. Designated Facility Name and Site Address <b>CROSBY &amp; OVERTON 1630 WEST 17 TH STREET LONG BEACH CA 90813</b>		U.S. EPA ID Number <b>CAD028409019</b>			
Facility's Phone: <b>800-827-6729</b>					
GENERATOR	9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
		No.	Type		
	1. <b>NON HAZARDOUS WASTE, LIQUID (WASTEWATER W/TRACE ARSENIC &amp; HYDROCARBONS)</b>	<b>02</b>	<b>TP</b>	<b>500</b>	<b>G</b>
	2. <i>Non Hazardous Waste, Liquid (Waste Water) w/trace Arsenic and Hydrocarbons</i>	<i>01</i>	<i>DM</i>	<i>40</i>	<i>6</i>
	3.				
4.					
13. Special Handling Instructions and Additional Information <b>WEAR APPROPRIATE PPE WHEN HANDLING WASTE</b> <b>9b1.) PROFILE NUMBER:105188</b>  <b>PATRIOT JOB NUMBER:01-17-001723</b>					
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
Generator's/Offeror's Printed/Typed Name <b>X JAMES DYK</b>		Signature 		Month <b>11</b>	Day <b>2</b>
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit:		Year <b>17</b>	
16. Transporter Acknowledgment of Receipt of Materials		Date leaving U.S.:			
TRANSPORTER	Transporter 1 Printed/Typed Name <b>X PEDRO SOTO JR.</b>	Signature 		Month <b>11</b>	Day <b>2</b>
	Transporter 2 Printed/Typed Name	Signature		Year <b>17</b>	
DESIGNATED FACILITY	17. Discrepancy				
	17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection				
	17b. Alternate Facility (or Generator)		Manifest Reference Number:		
Facility's Phone:		U.S. EPA ID Number			
17c. Signature of Alternate Facility (or Generator)				Month	Day
				Year	
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name		Signature		Month	Day
				Year	

5. Generator's Name and Mailing Address  
**SPPP, LP (NORWALK STATION)**  
**1100 TOWN AND COUNTRY RD. ATTN: KARINA HANKINS**  
**ORANGE CA 92868**

Generator's Site Address (if different than mailing address)  
**15306 NORWALK BLVD**  
**NORWALK, CA 90650**

Generator's Phone: **714-560-4400**

6. Transporter 1 Company Name  
**PATRIOT ENVIRONMENTAL SERVICES**

U.S. EPA ID Number  
**CAD053866794**

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address  
**CROSBY & OVERTON**  
**1630 WEST 17 TH STREET**  
**LONG BEACH CA 90813**

U.S. EPA ID Number  
**CAD028409019**


Facility's Phone: **800-827-6729**

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. <b>NON HAZARDOUS WASTE, LIQUID ( DRILLING, WELL DEVELOPMENT, AND DECON WATER)</b>	<b>1</b>	<b>TT</b>	<b>3900</b>	<b>G</b>
2.				
3.				
4.				


13. Special Handling Instructions and Additional Information  
**WEAR APPROPRIATE PPE WHEN HANDLING WASTE**  
**9b1.) PROFILE NUMBER: 106187**

**PATRIOT JOB NUMBER:01-17-001761**

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name **JAMES DYK** Signature  Month **11** Day **15** Year **17**

15. International Shipments  Import to U.S.  Export from U.S. Port of entry/exit: \_\_\_\_\_ Date leaving U.S.: \_\_\_\_\_

16. Transporter Acknowledgment of Receipt of Materials  
 Transporter Signature (for exports only): \_\_\_\_\_  
 Transporter 1 Printed/Typed Name **Jose Velasquez** Signature  Month **11** Day **15** Year **17**  
 Transporter 2 Printed/Typed Name \_\_\_\_\_ Signature \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

17. Discrepancy  
 17a. Discrepancy Indication Space  Quantity  Type  Residue  Partial Rejection  Full Rejection  
 Manifest Reference Number: \_\_\_\_\_ U.S. EPA ID Number \_\_\_\_\_

17b. Alternate Facility (or Generator) \_\_\_\_\_ U.S. EPA ID Number \_\_\_\_\_  
 Facility's Phone: \_\_\_\_\_  
 17c. Signature of Alternate Facility (or Generator) \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a  
 Printed/Typed Name \_\_\_\_\_ Signature \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

GENERATOR  
INT'L  
TRANSPORTER  
DESIGNATED FACILITY

**CC Labels - Printed in the USA**  
**1-800-997-6966**

**DESIGNATED FACILITY TO GENERATOR**

**Reorder Part# MANIFEST-C6NHWC**  
**913-897-8966**

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number NOT REQUIRED		2. Page 1 of 1		3. Emergency Response Phone (800) 624-9136		4. Waste Tracking Number NH 0203380	
5. Generator's Name and Mailing Address SPP, LP (NORWALK STATION) 1100 TOWN AND COUNTRY RD. ORANGE CA 92668 Generator's Phone: 714-560-4400					6. Generator's Site Address (if different from mailing address) 15306 NORWALK BLVD NORWALK, CA 90650				
6. Transporter 1 Company Name PATRIOT ENVIRONMENTAL SERVICES					U.S. EPA ID Number CAD053886794				
7. Transporter 2 Company Name					U.S. EPA ID Number				
8. Designated Facility Name and Site Address CROSBY & OVERTON 1630 WEST 17 TH STREET LONG BEACH CA 90813 Facility's Phone: 800-827-6729					U.S. EPA ID Number CAD028409019				
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity		12. Unit Wt./Vol.			
		No. Type		Quantity		Wt./Vol.			
NON HAZARDOUS WASTE, LIQUID ( DRILLING, WELL DEVELOPMENT, AND DECON WATER)		1 TT		2700		G			
13. Special Handling Instructions and Additional Information WEAR APPROPRIATE PPE WHEN HANDLING WASTE 961.) PROFILE NUMBER:106187		PATRIOT JOB NUMBER:01-17-001761							
14. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled, and are in full respect of proper condition for transport according to applicable international and national governmental regulations.									
Generator's/Owner's Printed/Typed Name JAMES DUKE					Signature		Month Day Year 11/16/17		
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. <input type="checkbox"/> Port of entry/exit Date leaving U.S.									
Transporter 1 Signature (for exports only)					Signature				
Transporter 1 Printed/Typed Name Jose de la Cruz					Signature		Month Day Year 11/16/17		
Transporter 2 Printed/Typed Name					Signature		Month Day Year		
17. Discrepancy									
17a. Discrepancy Indicator: Spot <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Receive <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
17b. Alternate Facility (for Generator)					Master Bill Number				
Facility's Phone					U.S. EPA ID Number				
17c. Signature of Alternate Facility (for Generator)					Month Day Year				
18. Designated Facility Owner or Operator, Certification of receipt of materials covered by the manifest except as noted in item 17a									
Printed/Typed Name					Signature		Month Day Year		

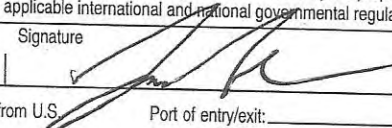
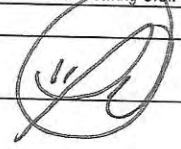
GENERATOR

TRANSPORTER (INT'L)

DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

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

<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <b>NOT REQUIRED</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 624-9136</b>	4. Waste Tracking Number <b>NH 0203376</b>	
5. Generator's Name and Mailing Address <b>SFPP, LP (NORWALK STATION) 1100 TOWN AND COUNTRY RD. ATTN: KARINA HANKINS ORANGE CA 92868</b> Generator's Phone: <b>714-560-4400</b>		Generator's Site Address (if different than mailing address) <b>15306 NORWALK BLVD NORWALK, CA 90650</b>			
6. Transporter 1 Company Name <b>PATRIOT ENVIRONMENTAL SERVICES</b>			U.S. EPA ID Number <b>CAD053866794</b>		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address <b>CROSBY &amp; OVERTON 1630 WEST 17 TH STREET LONG BEACH CA 90813</b> Facility's Phone: <b>800-827-6729</b>			U.S. EPA ID Number <b>CAD028409019</b>		
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
		No.	Type		
1. <b>NON HAZARDOUS WASTE, LIQUID ( DRILLING, WELL DEVELOPMENT, AND DECON WATER)</b>		<b>1</b>	<b>TT</b>	<b>4700</b>	<b>G</b>
2.					
3.					
4.					
13. Special Handling Instructions and Additional Information <b>WEAR APPROPRIATE PPE WHEN HANDLING WASTE 9b1.) PROFILE NUMBER:106187</b>  <b>PATRIOT JOB NUMBER:01-17-001761</b>					
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
Generator's/Offeror's Printed/Typed Name <b>JAMES DYER</b>		Signature 		Month Day Year <b>11   17   17</b>	
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:			
16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name <b>Jose Velasquez</b>		Signature 		Month Day Year <b>11   17   17</b>	
Transporter 2 Printed/Typed Name		Signature		Month Day Year	
17. Discrepancy					
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
17b. Alternate Facility (or Generator)			Manifest Reference Number: U.S. EPA ID Number		
Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)				Month Day Year	
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name		Signature		Month Day Year	

GENERATOR

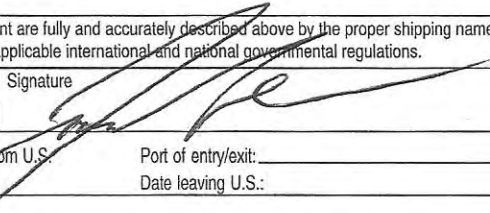

INT'L

TRANSPORTER

DESIGNATED FACILITY



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

<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <b>NOT REQUIRED</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 624-9136</b>	4. Waste Tracking Number <b>NH 0203378</b>	
5. Generator's Name and Mailing Address <b>SFPP, LP (NORWALK STATION) 1100 TOWN AND COUNTRY RD. ATTN: KARINA HANKINS ORANGE CA 92868</b> Generator's Phone: <b>714-560-4400</b>		Generator's Site Address (if different than mailing address) <b>15306 NORWALK BLVD NORWALK, CA 90650</b>			
6. Transporter 1 Company Name <b>PATRIOT ENVIRONMENTAL SERVICES</b>			U.S. EPA ID Number <b>CAD053866794</b>		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address <b>CROSBY &amp; OVERTON 1630 WEST 17 TH STREET LONG BEACH CA 90813</b> Facility's Phone: <b>800-827-6729</b>			U.S. EPA ID Number <b>CAD028409019</b>		
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
		No.	Type		
1. <b>NON HAZARDOUS WASTE, LIQUID ( DRILLING, WELL DEVELOPMENT, AND DECON WATER)</b>		<b>01</b>	<b>TT</b>	<b>4800</b>	<b>G</b>
2.					
3.					
4.					
13. Special Handling Instructions and Additional Information <b>WEAR APPROPRIATE PPE WHEN HANDLING WASTE 9b1.) PROFILE NUMBER:106187</b> <span style="float:right;"><b>PATRIOT JOB NUMBER:01-17-001761</b></span>					
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
Generator's/Offoror's Printed/Typed Name <b>JAMES DJR</b>		Signature 		Month Day Year <b>11 21 17</b>	
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____					
16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name <b>Romeo Lopez</b>		Signature 		Month Day Year <b>11 21 17</b>	
Transporter 2 Printed/Typed Name		Signature		Month Day Year	
17. Discrepancy					
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
Manifest Reference Number:					
17b. Alternate Facility (or Generator)				U.S. EPA ID Number	
Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)				Month Day Year	
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name		Signature		Month Day Year	

GENERATOR  
INT'L  
TRANSPORTER  
DESIGNATED FACILITY

Please print in type.  
(Form designed for use on white (32-pt) paper.)

**NON-HAZARDOUS  
WASTE MANIFEST**

1. Generator ID Number  
**NOT REQUIRED**

2. Page 1 of  
**1**

3. Emergency Response Phone  
**(800) 624-9136**

4. Waste Tracking Number  
**NH 0203377**

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

**SFPB LP (NORWALK STATION)  
1100 TOWN AND COUNTRY RD. ATTN: KARINA HANKINS  
ORANGE CA 92668**

**15306 NORWALK BLVD  
NORWALK, CA 90650**

Generator's Phone: **714-560-4400**

6. Transporter 1 Company Name  
**PATRIOT ENVIRONMENTAL SERVICES**

U.S. EPA ID Number  
**CAD053866794**

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

**CROSBY & OVERTON  
1630 WEST 17 TH STREET  
LONG BEACH CA 90813**

U.S. EPA ID Number  
**CAD028409019**

Facility's Phone: **800-827-6729**

9. Waste Shipping Name and Description

10. Containers

11. Total  
Quantity

12. Unit  
Wt./Vol.

No. Type

1. **NON HAZARDOUS WASTE, LIQUID ( DRILLING, WELL DEVELOPMENT, AND  
DECON WATER)**

**01**

**TT**

**4800**

**G**

2.

3.

4.

13. Special Handling Instructions and Additional Information

**WEAR APPROPRIATE PPE WHEN HANDLING WASTE  
9b1.) PROFILE NUMBER:106187**

**PATRIOT JOB NUMBER:01-17-001761**

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offor's Printed/Typed Name

**JAMES DYK**

Signature

Month Day Year

**11 21 17**

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

**Romeo Lopez**

Signature

Month Day Year

**11 21 17**

Transporter 2 Printed/Typed Name

Signature

Month Day Year

**11 21 17**

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

17b. Alternate Facility (or Generator)

Manifest Reference Number:

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name

Signature

Month Day Year

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <b>CAT080033962</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 463-3718</b>	4. Manifest Tracking Number <b>011290976</b> <b>FLE</b>
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5. Generator's Name and Mailing Address <b>Sipp, L.P. Norwalk Station 1100 Town And Country Road Orange, CA 92868</b>	Generator's Site Address (if different than mailing address) <b>15306 Norwalk Boulevard Norwalk, CA 90651</b>
Generator's Phone: <b>(714) 560-4887</b> <b>ATTN: Karina Hankins</b>	

6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>	U.S. EPA ID Number <b>MAD039322250</b>
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7. Transporter 2 Company Name	U.S. EPA ID Number
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8. Designated Facility Name and Site Address <b>Clean Harbors Wilmington LLC 1737 East Denni Street Wilmington, CA 90744</b>	U.S. EPA ID Number <b>CAD044429835</b>
Facility's Phone: <b>(310) 835-9998</b>	

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
1	NON-RCRA HAZARDOUS WASTE, SOLID, (FILTERS)	1	Dm	350	p	181		
2.								
3.								
4.								

14. Special Handling Instructions and Additional Information <b>1. UN142+321 1XSDm</b>	<b>groundwater treatment systems filter (LGAC)</b>
---	--

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offor's Printed/Typed Name <b>V. JAMES DYE</b>	Signature 	Month Day Year <b>11/21/17</b>
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16. International Shipments	<input type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit: _____ Date leaving U.S.: _____
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17. Transporter Acknowledgment of Receipt of Materials		
Transporter 1 Printed/Typed Name <b>JOSE SANCHEZ</b>	Signature 	Month Day Year <b>11/21/17</b>
Transporter 2 Printed/Typed Name	Signature	Month Day Year

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

18b. Alternate Facility (or Generator)	U.S. EPA ID Number
Facility's Phone: _____	

18c. Signature of Alternate Facility (or Generator)	Month Day Year
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19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)			
1. <b>H141</b>	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a			
Printed/Typed Name <b>Jehan Aguirre</b>	Signature 	Month Day Year <b>11/21/17</b>	

# NON-HAZARDOUS WASTE MANIFEST

DW 1706223785

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

## NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

CAT080033962

Manifest Document No.

2. Page 1 of 1

3. Generator's Name and Mailing Address  
 Sfpb, L.P. Norwalk Station  
 1100 Town And Country Road  
 Orange CA 92868

Site Address:  
 15306 Norwalk Boulevard  
 Norwalk, CA 90651

4. Generator's Phone (714)560-4887

ATTN: Karina Hankins

5. Transporter 1 Company Name  
 Clean Harbors Environmental Services, Inc.

6. US EPA ID Number  
 MAD039322250

A. State Transporter's ID  
 B. Transporter 1 Phone (714)792-8000

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address  
 Clean Harbors Wilmington LLC  
 1737 East Denni Street  
 Wilmington, CA 90744

10. US EPA ID Number  
 CAD044429835

E. State Facility's ID

F. Facility's Phone  
 (310) 835-9998

11. WASTE DESCRIPTION

Containers	13. Total Quantity	14. Unit Wt./Vol.

a. NON D.O.T. REGULATED, (DEBRIS)

1	DM	60	P
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b. NON D.O.T. REGULATED, (FILTERS)

1	DM	180	P
---	----	-----	---

c.

d.

G. Additional Descriptions for Materials Listed Above  
 11a.CH1401785 1X SS DM  
 11b.CH1424321-NH 1X SS DM

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

a. gloves/ rags/debris b. groundwater treatment system filters (BIO)

EMERGENCY PHONE #: (800) 483-3718

GENERATOR: Sfpb, L.P. Norwalk Station

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name

JAMES DYK

Signature



Date


Month Day Year  
 12/19/17

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

JOSE SANCHEZ

Signature



Date

Month Day Year  
 12/19/17

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name

Signature

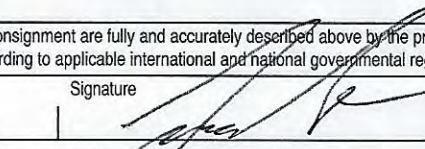
Date

Month Day Year

NON-HAZARDOUS WASTE

GENERATOR

FACILITY

<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <b>NOT REQUIRED</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 624-9136</b>	4. Waste Tracking Number <b>NH 0206996</b>		
5. Generator's Name and Mailing Address <b>SPPP. LP (NORWALK STATION) 1100 TOWN AND COUNTRY RD. ATTN: KARINA HANKINS ORANGE CA 92868</b> Generator's Phone: <b>714-560-4400</b>		Generator's Site Address (if different than mailing address) <b>15306 NORWALK BLVD NORWALK, CA 90650</b>				
6. Transporter 1 Company Name <b>PATRIOT ENVIRONMENTAL SERVICES</b>			U.S. EPA ID Number <b>CAD053866794</b>			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address <b>SOIL SAFE OF CALIFORNIA, INC. 12328 HIBISCUS AVE ADELANTO CA 92301</b> Facility's Phone: <b>800-862-8001</b>			U.S. EPA ID Number			
GENERATOR	9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	1. <b>NON HAZARDOUS WASTE, SOLID (SOIL CUTTINGS)</b>		No.	Type		
			<b>001</b>	<b>CM</b>	<b>8</b>	<b>Y</b>
	2.					
	3.					
4.						
13. Special Handling Instructions and Additional Information <b>WEAR APPROPRIATE PPE WHEN HANDLING WASTE 9b1.) PROFILE NUMBER: 48259</b>						
<b>PATRIOT JOB NUMBER: 01-17-01761 Bin # 15337</b>						
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						
Generator's/Offoror's Printed/Typed Name <b>JAMES DYIC</b>			Signature 		Month Day Year <b>12 22 17</b>	
TRANSPORTER	15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____					
	16. Transporter Acknowledgment of Receipt of Materials					
	Transporter 1 Printed/Typed Name <b>Alex Lopez</b>			Signature <b>Alex Lopez</b>		Month Day Year <b>12 22 17</b>
Transporter 2 Printed/Typed Name			Signature		Month Day Year	
DESIGNATED FACILITY	17. Discrepancy					
	17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
	17b. Alternate Facility (or Generator)			Manifest Reference Number:		
	Facility's Phone:			U.S. EPA ID Number		
17c. Signature of Alternate Facility (or Generator)					Month Day Year	
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name			Signature		Month Day Year	