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*Final*

**Third Quarter 2013  
Remediation Progress Report  
SFPP Norwalk Pump Station  
Norwalk, California**

Prepared for  
**Kinder Morgan Energy Partners, L.P.**

1100 Town & Country Road  
Orange, California 92868

October 15, 2013



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# Signature Page

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The material and data presented in this report were prepared consistent with current and generally accepted consulting principles and practices. This work was supervised by the following CH2M HILL licensed professional.



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October 15, 2013

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# Acronyms and Abbreviations

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µg/L	micrograms per liter
1,2-DCA	1,2-dichloroethane
ASTM	ASTM International (formerly American Society for Testing and Materials)
ATL	Advanced Technology Laboratories
DFSP	Defense Fuel Support Point
EPA	United States Environmental Protection Agency
FBBR	fluidized bed bioreactor
Geomatrix	Geomatrix Consultants, Inc.
GWE	groundwater extraction
KMEP	Kinder Morgan Energy Partners, L.P.
LGAC	liquid-phase granular activated carbon
MTBE	methyl tertiary butyl ether
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
OWS	oil-water separator
PID	photoionization detector
ppmv	parts per million by volume
RBCA	Risk-Based Corrective Action
RWQCB	California Regional Water Quality Control Board, Los Angeles Region
SCAQMD	South Coast Air Quality Management District
Second Addendum	Second Addendum to the Remedial Action Plan, November 30, 2006
SFPP	SFPP, L.P.
SVE	soil vapor extraction
TBA	tertiary butyl alcohol
TFE	total fluids extraction
TPH-d	total petroleum hydrocarbons quantified as diesel
TPH-g	total petroleum hydrocarbons quantified as gasoline

TPH-o	total petroleum hydrocarbons quantified as oil
TPH-total	total petroleum hydrocarbons quantified as gasoline, diesel, and oil
VOC	volatile organic compound
WSB	West Side Barrier

# 1. Introduction

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CH2M HILL has prepared this report on behalf of SFPP, L.P. (SFPP), an operating partnership of Kinder Morgan Energy Partners, L.P. (KMEP), to summarize remediation activities performed at the former SFPP Norwalk Pump Station located within the Defense Fuel Support Point (DFSP), located at 15306 Norwalk Boulevard, Norwalk, California (the site; Figure 1) during the third quarter 2013 reporting period.

This progress report is submitted pursuant to a request from the California Regional Water Quality Control Board, Los Angeles Region (RWQCB) in its letter dated October 25, 2006 (RWQCB, 2006), and in accordance with the *Second Addendum to the Remedial Action Plan Defense Fuel Support Point* (Second Addendum) dated November 30, 2006 (Geomatrix Consultants, Inc. [Geomatrix], 2006). Implementation of the Second Addendum was approved by the RWQCB on April 2, 2007. Additional background information can be found in the Second Addendum and in previously submitted semiannual groundwater monitoring reports for the site.

This report summarizes the remediation systems present at the site and describes implementation of the Second Addendum for the period of July through September 2013 with documentation of the following tasks:

- Operations and maintenance (O&M) of remediation systems performed by SFPP field personnel
- Remediation system evaluation

The remediation activities performed during July through September 2013 and the progress achieved through those activities are summarized in the following sections.

## 2. Remediation Systems

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SFPP currently operates remediation systems consisting of soil vapor extraction (SVE), total fluids extraction (TFE; extraction of free product and/or groundwater using a top-loading pump), groundwater extraction (GWE; extraction of groundwater using a bottom-loading pump), and treatment of extracted soil vapors and groundwater to address two specific areas at and near the site: the south-central area and the southeastern area. Operation of the West Side Barrier (WSB) GWE system (WSB system) for remediation of the western offsite area was discontinued in August 2008.

Remediation in the south-central and southeastern areas consists of SVE and TFE (GWE is also performed at one well location in the southeastern area). At several well locations, SVE is coupled with TFE (or GWE at two locations) in a process referred to as dual-phase extraction. 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 described below. The soil vapors are then preheated in a heat exchanger and treated in a catalytic oxidizer where volatile organic compounds (VOCs) are converted to carbon dioxide and water prior to being discharged to the atmosphere. Operation of the SVE and treatment system is conducted in accordance with Permit to Operate No. F13759 issued by the South Coast Air Quality Management District (SCAQMD).

The main groundwater treatment system 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 fluids pumps and bottom-loading groundwater pumps are piped to an oil-water separator (OWS). Free product, if any, from the OWS is collected in a storage tank and recycled at an offsite location. Water from the OWS is treated using liquid-phase granular activated carbon (LGAC). Treated water is routed through an onsite 3,000-gallon equalization tank. Two fluidized bed bioreactors (FBBRs) installed downstream of the equalization tank treat fuel oxygenates such as tertiary butyl alcohol (TBA) and methyl tertiary butyl ether (MTBE). The treated groundwater then passes through polishing LGAC units prior to discharge in accordance with a National Pollutant Discharge Elimination System (NPDES) permit (NPDES No. CA0063509, CI No. 7497).

A summary of remediation wells in the south-central, southeastern, and WSB areas is presented in Table 1. Table 1 includes well identifications, well construction details, well use, and operational status at the end of the third quarter 2013. The remediation system layout is presented in Figure 2.

### 3. Operations and Maintenance

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During this reporting period, O&M of the remediation systems included the following tasks:

- Performed weekly maintenance and monitoring of the south-central and southeastern SVE and TFE/GWE wells, and the SVE and TFE/GWE treatment systems (collectively referred to as remediation systems).
- Replaced the SVE system blower.
- Removed, inspected, and made repairs to the TFE/GWE pumps and associated discharge lines.
- Removed stuck pump from well GMW-O-15.
- Drained condensate from offsite SVE conveyance lines.
- Measured individual well vapor concentrations.
- Collected and analyzed system influent vapor and groundwater samples.
- Performed routine cleanout of the OWS, sump, equalization tank, and transfer tank.
- Performed mechanical rehabilitation of wells GMW-10, GMW-O-11, GMW-O-12, GMW-O-20, GMW-O-21, GMW-O-23, MW-SF-3, and MW-SF-14.
- Performed LGAC changeout for spare and lead carbon vessels of the TFE system.

In addition, system effluent vapor and water samples were collected and analyzed for compliance with the SCAQMD and NPDES permits. The effluent water sampling results will be provided under separate cover in the NPDES effluent monitoring report for the third quarter 2013.

During this reporting period, remediation system inspections were performed on a weekly basis. For these inspections, vapor flow rate, vacuum, volumes of extracted groundwater, hours of operation, and other system parameters were recorded during system operation. Remediation system operation activities for the third quarter 2013 are summarized in Tables 2 and 3. The remediation systems operated during the third quarter 2013 with the following exceptions:

- The SVE system was offline from July 16 to September 17, 2013, due to mechanical issues with the SVE system blower. A replacement blower was installed on September 17, 2013.
- The TFE/GWE system was turned off on July 16, 2013, for a LGAC carbon changeout. The system was restarted the same day.
- The SVE and TFE/GWE systems were turned off on September 30, 2013, in preparation for the second semiannual groundwater monitoring event.



Overall, during the third quarter 2013, the SVE system operated 12 percent of the time while the TFE/GWE system operated approximately 98 percent of the time. The low operational time for the SVE system is attributed to the blower replacement, as mentioned above.

Vapor samples from the SVE system influent and water samples from TFE/GWE system influent were collected during the third quarter 2013 when the systems were in operation. Influent vapor samples were collected on September 20, 2013, when the SVE system was operating. Influent water samples were collected on July 16, August 16, and September 24, 2013, when the TFE/GWE system was operating. The vapor and water samples were delivered to Advanced Technology Laboratories (ATL) for analysis. ATL is a laboratory certified by the California Department of Public Health Environmental Laboratory Accreditation Program.

ATL analyzed the vapor samples for the following:

- Fixed gases (methane, carbon dioxide, oxygen, and argon) using ASTM International (ASTM) D-1946
- Total petroleum hydrocarbons quantified as gasoline (TPH-g) using United States Environmental Protection Agency (EPA) Method TO-3
- VOCs using EPA Method TO-15

ATL analyzed the water samples for the following:

- TPH-g, TPH quantified as diesel (TPH-d), and TPH quantified as oil (TPH-o) (collectively referred to as TPH-total) using EPA Method 8015(M)
- VOCs using EPA Method 8260B

Analytical results for the influent vapor and water samples are summarized in Tables 4 and 5, respectively. The laboratory analytical reports and chain-of-custody documents for these samples are included in Appendix A.

VOC concentrations in vapors extracted from individual SVE wells were measured in the field using a photoionization detector (PID) calibrated using 50 parts per million by volume (ppmv) of hexane. The individual well vapor readings are summarized in Table 6. Depths to product and groundwater in the TFE/GWE and SVE wells were measured during the third quarter 2013 to the nearest 0.01 foot from the top of the well casing using an interface probe in selected wells. The gauging results are summarized in Table 7.

## 4. Summary of Remediation Progress

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Based on weekly monitoring of the influent vapor concentration, vapor extraction flow rate, and hours of operation, the total mass of VOCs removed by SVE was approximately 11,405 pounds during the third quarter 2013, for a cumulative mass removal of approximately 88,709 pounds since implementing the Second Addendum system upgrades, and over 3 million pounds since the SVE system began operation in 1995 (Table 2). The cumulative mass removed by SVE does not include the mass removed by biodegradation.

Approximately 1,517,182 gallons of groundwater was extracted during the third quarter 2013 (Table 3). No water was extracted from the WSB area during the third quarter 2013.

Groundwater extraction was discontinued in the WSB region during the third quarter 2008 based on the reduced lateral extent and low concentrations of MTBE and 1,2-dichloroethane (1,2-DCA) west of the site. Detected concentrations of MTBE and 1,2-DCA in wells west of the site have been below the conservative, site-specific Risk-Based Corrective Action (RBCA) goals (Geomatrix, 1999) since August 2005. The lower (more conservative) RBCA goals for MTBE and 1,2-DCA are 40 micrograms per liter ( $\mu\text{g}/\text{L}$ ) and 70  $\mu\text{g}/\text{L}$ , respectively. 1,2-DCA, MTBE, and TBA concentrations in the western area continue to be monitored; other wells in the WSB system will be restarted if necessary.

The amount of free product that accumulated in the product holding tank of the groundwater treatment system was estimated to be 22 gallons during the third quarter 2013 (Table 3). Accumulation of free product in the holding tank can be attributed to increased product thicknesses in some extraction wells. The increase in product thicknesses is likely a result of continued declining water levels across the site. During the first semiannual groundwater monitoring event of 2013, water levels in the uppermost groundwater zone were observed to be at historical lows. Gauging of the extraction wells will continue to be performed during the fourth quarter 2013 to optimize TFE pump inlet setting depths.

Based on the TPH-g results for influent water samples and total groundwater extracted, the mass of TPH-g removed by TFE and GWE in the south-central and southeastern areas was approximately 58 pounds during the third quarter 2013, for a cumulative mass removed from these areas of approximately 2,036 pounds since implementing the system upgrades described in the Second Addendum (Table 3). During the third quarter 2013, the influent water sample was also analyzed for TPH-d and TPH-o. Previous mass removal estimates were underestimated since TPH-d and TPH-o concentrations were not used in the calculation. Based on the TPH-total results (TPH-g, TPH-d, and TPH-o) for the influent water samples and total groundwater extracted from July 1 through September 30, 2013, the mass of TPH-total removed by TFE and GWE in the south-central and southeastern areas was approximately 148 pounds.

## 5. System Evaluation and Optimization

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For the SVE treatment system, during the third quarter 2013, vapor-phase VOC concentrations were measured in individual wells using a PID on September 17, 2013, as shown in Table 6. The operational status of the SVE wells at the end of the third quarter 2013 is also shown in Table 1. PID readings recorded on September 17, 2013, indicated VOC concentrations are close to, or higher than, 100 ppmv in the majority of the SVE wells; therefore, the SVE system will be operated until influent VOC concentrations reach low asymptotic levels.

Groundwater monitoring in the WSB region during the second quarter 2013 supports the continued shutdown of GWE in the region. 1,2-DCA, MTBE, and TBA concentrations in the western area will continue to be monitored. The WSB system will be restarted if necessary.

As shown in Table 7, measurable free product was observed in 10 remediation wells during the first semiannual groundwater monitoring event (April 2013). This included nine wells in the south-central area (GMW-10, GMW-24, GMW-O-12, GMW-O-20, GMW-O-23, GWR-3, MW-SF-3, MW-SF-6, and MW-SF-16) and one remediation well in the southeastern area (GMW-36). The product thicknesses for these wells ranged from 0.03 foot in GWR-3 to 5.52 feet in GMW-10. It is believed that increased product thicknesses observed during April 2013 are indicative of continued declining water levels across the site.

The TFE/GWE systems currently consist of 20 wells operated for product recovery and hydraulic control in the south-central part of the site, and 4 wells equipped with TFE pumps operated for product recovery and hydraulic control in the southeastern part of the site (Table 1). At the end of the third quarter 2013, there were three TFE wells online from the south-central area (MW-SF-14, MW-SF-15, and MW-SF-16) and three wells from the southeastern area (GMW-36, GMW-O-18, and GMW-SF-9).

During September 2013, CH2M HILL and Cascade Drilling performed mechanical rehabilitation of several remediation extraction wells in the south-central onsite and offsite areas to remove fines and biological matter from the wells. This included wells GMW-10, GMW-O-11, GMW-O-12, GMW-O-20, GMW-O-21, GMW-O-23, MW-SF-3, and MW-SF-14. Approximately 20 gallons of free product was removed from well GMW-10 during rehabilitation activities. SFPP will install TFE pumps and air/discharge lines in GMW-10 and several offsite extraction wells in the fourth quarter 2013, and will begin TFE in wells with measurable free product. Remediation pump settings will be adjusted accordingly to optimize free product recovery and enhance hydraulic control of dissolved plumes.

## 6. Planned Fourth Quarter 2013 Activities

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During the fourth quarter 2013, SFPP plans to continue to focus remedial efforts on the south-central and southeastern areas. The following maintenance activities are planned for the fourth quarter 2013:

- Continue weekly maintenance and monitoring of the south-central and southeastern SVE and TFE/GWE treatment systems.
- Remove, inspect, and repair TFE/GWE pumps and associated discharge lines.
- Measure individual well vapor concentrations.
- Collect and analyze system influent vapor and groundwater samples.
- Install a backwash tank and recirculation pump upstream of the bag filter housings on the TFE/GWE system. The backwash tank and pump assembly will allow clean (filtered and treated) water to be used for backwashing. This addition to the treatment system is anticipated to extend the life of the bag filters and granular activated carbon (GAC), and reduce the frequency of system shutdowns.
- Connect well GMW-10 and several offsite extraction wells to the TFE system.
- Destroy and backfill 36 vertical air sparge wells in the southeastern area of the site. The work plan for these activities was provided to the RWQCB in a letter dated October 2, 2013.
- Install two horizontal biosparge wells and ancillary equipment at the site. The work plan for these activities will be submitted to the RWQCB in November 2013.

Concentrations of 1,2-DCA, MTBE, and TBA in the western area will continue to be monitored; the WSB system will be restarted if necessary. The TFE, GWE, and SVE systems for the south-central and southeastern areas will continue to operate. Operation of the TFE system in the southeastern area will be monitored closely, and adjustments will be made to improve fluid recovery. System inspections will continue on a weekly basis; system evaluation parameters will be collected as needed. The remediation activities and progress for the fourth quarter 2013 will be described in the Fourth Quarter 2013 Remediation Progress Report to be submitted by February 15, 2013.

## 7. References

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California Regional Water Quality Control Board, Los Angeles Region (RWQCB). 2006. Letter to Mr. Kola Olowu, Defense Energy Support Center, Los Angeles, and Mr. Michael Pitta, Kinder Morgan Energy Partners; Conditional Approval of Revised Remedial Action Plan and Second Addendum to Remedial Action Plan for the Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk (SLIC No. 0286A, DOD No. 16638). October 25.

Geomatrix Consultants, Inc. (Geomatrix). 1999. *Risk-Based Corrective Action, Western 1,2-DCA and MTBE Plumes*. February.

Geomatrix Consultants, Inc. (Geomatrix). 2006. *Second Addendum to the Remedial Action Plan, Defense Fuel Support Point Norwalk, Norwalk, California*. November 30.

## Tables

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**TABLE 1**

Remediation Well Construction and Status  
 SFPP Norwalk Pump Station, Norwalk, California

Remediation Area	Remediation Well ID	Installation Date	Top of Well Casing Elevation (ft msl)	Well Screen Interval (ft bgs)	Remediation Well Function	Well Operation Status at End of Third Quarter 2013 <sup>1</sup>	
						SVE	TFE/GWE
South-Central	MW-SF-1	6/18/1990	78.93	25 - 40	SVE	ON	--
	MW-SF-2	6/18/1990	78.53	25 - 40	SVE; TFE	OFF	OFF
	MW-SF-3	6/18/1990	78.12	25 - 40	SVE; TFE	ON	OFF
	MW-SF-4	6/19/1990	79.38	25 - 40	SVE	OFF	--
	MW-SF-5	9/19/1990	79.74	23 - 38	SVE	OFF	--
	MW-SF-6	9/19/1990	76.80	25 - 40	SVE; TFE	ON	OFF
	MW-SF-9	6/15/1995	74.10	--	SVE	ON	--
	MW-SF-10	9/23/2003	76.53	10 - 30	SVE	ON	--
	MW-SF-11	6/19/2007	78.56	20 - 40	SVE; TFE	ON	OFF
	MW-SF-12	6/18/2007	78.07	20 - 40	SVE; TFE	ON	OFF
	MW-SF-13	6/19/2007	73.40	20 - 40	SVE; TFE	ON	OFF
	MW-SF-14	6/21/2007	78.16	20 - 40	SVE; TFE	ON	ON
	MW-SF-15	6/21/2007	78.27	20 - 40	SVE; TFE	ON	ON
	MW-SF-16	6/20/2007	78.21	20 - 40	SVE; TFE	ON	ON
	GMW-9	7/8/1991	74.44	20 - 50	SVE; TFE	ON	OFF
	GMW-10	7/8/1991	74.67	25 - 50	SVE	ON	--
	GMW-22	8/2/1991	74.17	25 - 60	SVE; TFE	ON	OFF
	GMW-24	8/5/1991	74.04	25 - 60	SVE; TFE	ON	OFF
	GMW-25	1/10/1992	74.29	20 - 50	SVE; GWE	ON	OFF
	GWR-3	1/10/1992	74.93	20 - 50	SVE; GWE	ON	OFF
	VEW-1	--	--	--	SVE	OFF	--
	VEW-2	--	--	--	SVE	OFF	--
	MW-O-1	1/22/1991	75.48	25 - 40	SVE; TFE	ON	OFF
	MW-O-2	1/23/1991	71.90	25 - 40	SVE; TFE	ON	OFF
	GMW-O-11	5/20/1992	74.17	20 - 50	SVE; TFE	ON	OFF
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	ON	--
GMW-O-20	6/15/1995	73.32	--	SVE; TFE	ON	OFF	
GMW-O-21	10/1/1997	71.43	26 - 46	TFE	--	OFF	
GMW-O-23	6/25/2007	73.63	20 - 40	SVE; TFE	ON	OFF	
MW-18 (MID)	6/10/1991	75.67	50 - 60	SVE	ON	--	
HW-1	09/06/92	--	--	SVE	--	--	
HW-2	09/06/92	--	--	SVE	ON	--	
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	ON	OFF
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	ON	ON
	GMW-36	4/11/1994	74.53	20 - 50	SVE; TFE	ON	ON
	GMW-SF-9	4/1/2003	73.00	37 - 46	GWE	--	ON
	GMW-SF-10	4/2/2003	75.77	37 - 46	GWE	--	OFF
West Side Barrier	BW-2	5/20/1996	73.57	27 - 47	GWE	NA	OFF
	BW-3	5/17/1996	74.16	31 - 50	GWE	NA	OFF
	BW-4	5/20/1996	74.61	28 - 47	GWE	NA	OFF
	BW-5	5/23/1996	73.59	27 - 46	GWE	NA	OFF
	BW-6	5/22/1996	73.48	28 - 47	GWE	NA	OFF
	BW-7	5/22/1996	74.65	27 - 46	GWE	NA	OFF
	BW-8	5/21/1996	75.08	27 - 46	GWE	NA	OFF
BW-9	5/21/1996	76.19	27 - 46	GWE	NA	OFF	

Notes

1. Based on information provided by SFPP, L.P.

Abbreviations

- NA = Not Applicable
- = information not available
- ft msl = feet above mean sea level based on the National Geodetic Vertical Datum of 1929.
- ft bgs = feet below ground surface
- GWE = groundwater extraction
- SVE = soil vapor extraction
- TFE = total fluids extraction

**TABLE 2**

Vapor Remediation System Operation Summary  
 SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Cumulative Hours of Operation (hours)	Incremental Hours of Operation (hours)	Influent TPH-g Concentration (ppmv) <sup>1</sup>	Influent PID Reading (ppmv as hexane)	System Flow (scfm)	Header Vacuum (inches H <sub>2</sub> O)	Mass Removed (pounds) <sup>2</sup>
<b>2007 Totals<sup>3</sup></b>	<b>58,319</b>	<b>2,058</b>	--	--	--	--	<b>3,742</b>
<b>2008 Totals</b>	<b>64,233</b>	<b>5,915</b>	--	--	--	--	<b>5,878</b>
<b>2009 Totals</b>	<b>68,858</b>	<b>4,625</b>	--	--	--	--	<b>9,387</b>
<b>2010 Totals</b>	<b>72,369</b>	<b>3,511</b>	--	--	--	--	<b>1,501</b>
<b>2011 Totals</b>	<b>77,489</b>	<b>5,120</b>	--	--	--	--	<b>14,664</b>
<b>2012 Totals</b>	<b>84,173</b>	<b>1,923</b>	--	--	--	--	<b>22,260</b>
<b>First Quarter 2013 Totals</b>	<b>85,917</b>	<b>1,744</b>	--	--	--	--	<b>10,048</b>
<b>Second Quarter 2013 Totals</b>	<b>87,884</b>	<b>1,967</b>	--	--	--	--	<b>9,824</b>
07/02/13	87,978	95	--	214	858	35	258
07/09/13	88,145	167	--	402	1513	30	1,522
07/11/13	88,191	213	--	--	--	--	444
07/16/13	88,210	20	--	--	--	--	189
07/18/13	88,215	25	--	--	--	--	48
07/19/13	88,215	0	--	--	--	--	0
07/23/13	88,215	0	--	--	--	--	0
07/26/13	88,215	0	--	--	--	--	0
07/30/13	88,215	0	--	--	--	--	0
08/02/13	88,215	0	--	--	--	--	0
08/05/13	88,215	0	--	--	--	--	0
08/06/13	88,215	0	--	--	--	--	0
08/09/13	88,215	0	--	--	--	--	0
08/12/13	88,215	0	--	--	--	--	0
08/13/13	88,215	0	--	--	--	--	0
08/14/13	88,215	0	--	--	--	--	0
08/16/13	88,215	0	--	--	--	--	0
08/20/13	88,215	0	--	--	--	--	0
08/22/13	88,215	0	--	--	--	--	0
08/27/13	88,215	0	--	--	--	--	0
09/03/13	88,215	0	--	--	--	--	0
09/05/13	88,215	0	--	--	--	--	0
09/06/13	88,215	0	--	--	--	--	0
09/09/13	88,215	0	--	--	--	--	0
09/10/13	88,215	0	--	--	--	--	0
09/17/13	88,334	118	--	1,334	1589	30	3,766
09/20/13	88,405	72	590	1,334	1617	30	2,317
09/24/13	88,502	96	--	1,280	1545	30	2,861
<b>Third Quarter 2013 Totals</b>	<b>88,502</b>	<b>805</b>	--	--	--	--	<b>11,405</b>
<b>Cumulative Mass Removed Since Implementation of RAP Upgrades<sup>4</sup></b>							<b>88,709</b>

Notes

1. The TPH-g concentration reflects analytical results for vapor samples collected from the influent of the vapor remediation system. Refer to Table 4 for a summary of analytical results for influent vapor samples.
2. The total mass removed is based on influent FID or PID readings, hours of operation, and flow rate.
3. The 2007 total includes only operation after upgrades were made to the south-central system.
4. Upgrades to the south-central system are described in the Second Addendum to the Remedial Action Plan (RAP) (Geomatrix, 2006).

Data reported based on information provided by SFPP, L.P.

Abbreviations

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)

ppmv = parts per million by volume

PID = photoionization detector

FID = flame ionization detector

scfm = standard cubic feet per minute

inches H<sub>2</sub>O = inches of water

-- = not applicable or not available



**TABLE 3**

Groundwater Remediation System Operation Summary  
 SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-g Concentration (µg/L) <sup>1</sup>	TPH-g Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) <sup>2</sup>	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L) <sup>1</sup>	TPH-total Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) <sup>2</sup>	Product Recovery (gallons)
<b>2007 Totals<sup>3</sup></b>	<b>2,610,173</b>	<b>630,877</b>	<b>3,241,050</b>	--	<b>395</b>	--	--	--
<b>2008 Totals</b>	<b>6,092,742</b>	<b>405,954<sup>4</sup></b>	<b>6,498,696</b>	--	<b>311</b>	--	--	--
<b>2009 Totals</b>	<b>8,815,705</b>	<b>0</b>	<b>8,815,705</b>	--	<b>161</b>	--	--	--
<b>2010 Totals</b>	<b>5,724,835</b>	<b>2,244</b>	<b>5,727,079</b>	--	<b>334</b>	--	--	--
<b>2011 Totals</b>	<b>9,050,541</b>	<b>0</b>	<b>9,050,541</b>	--	<b>398</b>	--	--	--
<b>2012 Totals</b>	<b>7,173,856</b>	<b>0</b>	<b>7,173,856</b>	--	<b>260</b>	--	<b>171</b>	--
<b>First Quarter 2013 Totals</b>	<b>1,771,016</b>	<b>0</b>	<b>1,771,016</b>	--	<b>80</b>	--	<b>208</b>	--
<b>Second Quarter 2013 Totals</b>	<b>1,649,993</b>	<b>0</b>	<b>1,649,993</b>	--	<b>39</b>	--	<b>55</b>	--
07/01/13	18,067	0	18,067	3600	0.54	4,730	0.71	--
07/02/13	27,181	0	27,181	3600	0.81	4,730	1.07	--
07/03/13	8,963	0	8,963	3600	0.27	4,730	0.35	--
07/04/13	17,955	0	17,955	3600	0.54	4,730	0.71	--
07/05/13	17,784	0	17,784	3600	0.53	4,730	0.70	--
07/06/13	17,827	0	17,827	3600	0.53	4,730	0.70	--
07/07/13	17,798	0	17,798	3600	0.53	4,730	0.70	--
07/08/13	17,633	0	17,633	3600	0.53	4,730	0.69	--
07/09/13	26,659	0	26,659	3600	0.80	4,730	1.05	--
07/10/13	8,561	0	8,561	3600	0.26	4,730	0.34	--
07/11/13	22,149	0	22,149	3600	0.66	4,730	0.87	--
07/12/13	17,164	0	17,164	3600	0.51	4,730	0.68	--
07/13/13	20,174	0	20,174	3600	0.60	4,730	0.79	--
07/14/13	16,373	0	16,373	3600	0.49	4,730	0.65	--
07/15/13	12,822	0	12,822	3600	0.38	4,730	0.51	--
07/16/13	17,497	0	17,497	3600	0.52	4,730	0.69	--
07/17/13	11,672	0	11,672	3600	0.35	4,730	0.46	--
07/18/13	19,150	0	19,150	3600	0.57	4,730	0.75	--
07/19/13	13,118	0	13,118	3600	0.39	4,730	0.52	--
07/20/13	11,118	0	11,118	3600	0.33	4,730	0.44	--
07/21/13	14,360	0	14,360	3600	0.43	4,730	0.57	--
07/22/13	12,076	0	12,076	3600	0.36	4,730	0.48	--
07/23/13	17,887	0	17,887	3600	0.54	4,730	0.70	--
07/24/13	6,193	0	6,193	3600	0.19	4,730	0.24	--
07/25/13	12,128	0	12,128	3600	0.36	4,730	0.48	--
07/26/13	18,000	0	18,000	3600	0.54	4,730	0.71	--
07/27/13	5,993	0	5,993	3600	0.18	4,730	0.24	--
07/28/13	12,268	0	12,268	3600	0.37	4,730	0.48	--
07/29/13	8,600	0	8,600	3600	0.26	4,730	0.34	--
07/30/13	9,843	0	9,843	3600	0.29	4,730	0.39	--
07/31/13	6,008	0	6,008	3600	0.18	4,730	0.24	--
08/01/13	8,213	0	8,213	3800	0.26	10,230	0.70	--
08/02/13	9,545	0	9,545	3800	0.30	10,230	0.81	--
08/03/13	9,103	0	9,103	3800	0.29	10,230	0.78	--
08/04/13	12,964	0	12,964	3800	0.41	10,230	1.10	--
08/05/13	19,287	0	19,287	3800	0.61	10,230	1.64	--
08/06/13	15,013	0	15,013	3800	0.47	10,230	1.28	--

**TABLE 3**

Groundwater Remediation System Operation Summary  
 SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-g Concentration (µg/L) <sup>1</sup>	TPH-g Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) <sup>2</sup>	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L) <sup>1</sup>	TPH-total Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) <sup>2</sup>	Product Recovery (gallons)
08/07/13	7,423	0	7,423	3800	0.23	10,230	0.63	--
08/08/13	15,121	0	15,121	3800	0.48	10,230	1.29	--
08/09/13	22,365	0	22,365	3800	0.71	10,230	1.91	--
08/10/13	6,922	0	6,922	3800	0.22	10,230	0.59	--
08/11/13	13,583	0	13,583	3800	0.43	10,230	1.16	--
08/12/13	13,741	0	13,741	3800	0.43	10,230	1.17	--
08/13/13	204	0	204	3800	0.01	10,230	0.02	--
08/14/13	27,078	0	27,078	3800	0.86	10,230	2.31	--
08/15/13	16,222	0	16,222	3800	0.51	10,230	1.38	--
08/16/13	18,105	0	18,105	3800	0.57	10,230	1.54	--
08/17/13	19,720	0	19,720	3800	0.62	10,230	1.68	--
08/18/13	19,721	0	19,721	3800	0.62	10,230	1.68	--
08/19/13	17,803	0	17,803	3800	0.56	10,230	1.52	--
08/20/13	17,916	0	17,916	3800	0.57	10,230	1.53	--
08/21/13	15,911	0	15,911	3800	0.50	10,230	1.36	--
08/22/13	13,462	0	13,462	3800	0.43	10,230	1.15	--
08/23/13	13,245	0	13,245	3800	0.42	10,230	1.13	--
08/24/13	13,318	0	13,318	3800	0.42	10,230	1.14	--
08/25/13	13,319	0	13,319	3800	0.42	10,230	1.14	--
08/26/13	13,214	0	13,214	3800	0.42	10,230	1.13	--
08/27/13	13,231	0	13,231	3800	0.42	10,230	1.13	--
08/28/13	15,142	0	15,142	3800	0.48	10,230	1.29	--
08/29/13	16,546	0	16,546	3800	0.52	10,230	1.41	--
08/30/13	14,906	0	14,906	3800	0.47	10,230	1.27	--
08/31/13	16,159	0	16,159	5800	0.78	10,230	1.38	--
09/01/13	16,605	0	16,605	5800	0.80	18,350	2.54	--
09/02/13	16,369	0	16,369	5800	0.79	18,350	2.50	--
09/03/13	16,359	0	16,359	5800	0.79	18,350	2.50	--
09/04/13	16,430	0	16,430	5800	0.79	18,350	2.51	--
09/05/13	15,962	0	15,962	5800	0.77	18,350	2.44	--
09/06/13	16,047	0	16,047	5800	0.77	18,350	2.45	--
09/07/13	16,071	0	16,071	5800	0.78	18,350	2.46	--
09/08/13	16,268	0	16,268	5800	0.78	18,350	2.49	--
09/09/13	16,383	0	16,383	5800	0.79	18,350	2.50	--
09/10/13	16,254	0	16,254	5800	0.78	18,350	2.48	--
09/11/13	16,077	0	16,077	5800	0.78	18,350	2.46	--
09/12/13	18,624	0	18,624	5800	0.90	18,350	2.85	--
09/13/13	19,319	0	19,319	5800	0.93	18,350	2.95	--
09/14/13	19,055	0	19,055	5800	0.92	18,350	2.91	--
09/15/13	21,888	0	21,888	5800	1.06	18,350	3.35	--
09/16/13	21,847	0	21,847	5800	1.05	18,350	3.34	--
09/17/13	21,603	0	21,603	5800	1.04	18,350	3.30	--
09/18/13	21,844	0	21,844	5800	1.05	18,350	3.34	--
09/19/13	25,986	0	25,986	5800	1.25	18,350	3.97	--
09/20/13	25,830	0	25,830	5800	1.25	18,350	3.95	--

**TABLE 3**

Groundwater Remediation System Operation Summary  
 SFPP Norwalk Pump Station, Norwalk, California

System Inspection Date	Groundwater Removed from the South-Central and Southeastern Areas (gallons)	Groundwater Removed from the West Side Barrier Area (gallons)	Total Groundwater Removed (gallons)	Influent TPH-g Concentration (µg/L) <sup>1</sup>	TPH-g Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) <sup>2</sup>	Influent TPH-total (TPH-g, TPH-d, TPH-o) Concentration (µg/L) <sup>1</sup>	TPH-total Removed from the South-Central, Southeastern, and West Side Barrier Areas (pounds) <sup>2</sup>	Product Recovery (gallons)
09/21/13	26,477	0	26,477	5800	1.28	18,350	4.05	--
09/22/13	23,174	0	23,174	5800	1.12	18,350	3.54	--
09/23/13	23,152	0	23,152	5800	1.12	18,350	3.54	--
09/24/13	22,999	0	22,999	5800	1.11	18,350	3.52	--
09/25/13	21,971	0	21,971	5800	1.06	18,350	3.36	--
09/26/13	22,032	0	22,032	5800	1.06	18,350	3.37	--
09/27/13	21,272	0	21,272	5800	1.03	18,350	3.25	--
09/28/13	22,703	0	22,703	5800	1.10	18,350	3.47	--
09/29/13	23,495	0	23,495	5800	1.13	18,350	3.59	--
09/30/13	23,563	0	23,563	5800	1.14	18,350	3.60	--
<b>Third Quarter 2013 Totals</b>	<b>1,517,182</b>	<b>0</b>	<b>1,517,182</b>	<b>--</b>	<b>58</b>	<b>--</b>	<b>148</b>	<b>42<sup>6</sup></b>
<b>Cumulative TPH-g Removed Since Implementation of RAP Upgrades<sup>5</sup></b>					<b>2,036</b>		<b>583</b>	<b>--</b>

Notes

- The TPH-g and TPH-total concentration reflects analytical results for samples collected from the influent of the total fluids extraction (TFE) system that extracts groundwater from the south-central, southeastern, and West Side Barrier areas. Refer to Table 5 for a summary of analytical results for the groundwater samples. For a given period, the most recent analytical result available is used to calculate TPH-g and TPH-total removed.
- Mass of TPH-g and TPH-total removed (pounds) is based on concentrations of dissolved TPH-g or TPH-total in the most recent TFE system influent samples and the volume of groundwater extracted by TFE.
- The 2007 total includes only operation after upgrades were made to the south-central system.
- Groundwater removal in the West Side Barrier area was discontinued in August 2008. Groundwater extraction from West Side Barrier area wells BW-3 and BW-6 was resumed on May 14, 2010, to evaluate the efficacy of blending water with lower selenium concentrations from these wells with groundwater extracted from the south-central and southeastern areas. Groundwater removal from the West Side Barrier area was discontinued again on June 22, 2010.
- Upgrades to the south-central remediation system are described in the Second Addendum to the Remedial Action Plan (Geomatrix, 2006).
- Estimated quantity; includes 20 gallons removed during well rehabilitation activities at GMW-10, plus 22 gallons accumulated in the product recovery tank.

Data reported based on information provided by SFPP, L.P.

Abbreviations

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)  
 TPH-d = total petroleum hydrocarbons quantified as diesel (C13-C22)  
 TPH-o = total petroleum hydrocarbons quantified as oil (C23-C36)  
 TPH-total = total petroleum hydrocarbons quantified as gas, diesel, and oil (C4-C36)  
 µg/L = micrograms per liter

**TABLE 4**

Extracted Vapor Analytical Results<sup>1</sup>  
 SFPP Norwalk Pump Station, Norwalk, California

Date Sampled	Total Fluids Extraction System Status	ASTM D-1946			EPA TO-3	EPA TO-15 (VOCs) <sup>2</sup>				
		Methane (%v)	Carbon Dioxide (%v)	Oxygen and Argon (%v)	TPH-g (ppmv)	Benzene (ppbv)	Ethylbenzene (ppbv)	Toluene (ppbv)	Xylenes (ppbv)	MTBE (ppbv)
8/3/2007	ON	<0.5	<0.5	22.0	63	650	220	1,100	1,420	55
9/5/2007	OFF	<0.5	<0.5	22.0	9	32	48	140	320	18
10/2/2007	ON	<0.5	<0.5	21.9	27	250	75	430	610	20
11/2/2007	ON	<0.5	<0.5	22.1	5	40	10	74	95	7
2/1/2008	ON	<0.5	<0.5	21.8	100	830	260	2,200	1,850	<50
3/4/2008	ON	<0.5	<0.5	21.7	50	380	98	570	1,250	36
4/8/2008	OFF	<0.5	<0.5	22.2	69	290	110	480	1,040	41
5/23/2008	OFF	<0.5	<0.5	21.8	14	180	24	190	280	23
6/3/2008	OFF	<0.5	<0.5	21.7	30	380	42	400	330	70
7/2/2008	ON	<0.5	<0.5	21.4	49	32	6	34	45	10
8/19/2008	ON	<0.5	1.7	20.8	50	390	63	230	450	40
9/5/2008	ON	<0.5	2.0	21.2	22	130	39	130	340	42
10/7/2008	ON	<0.5	1.43	21.4	10	41	15	54	181	6.8
11/4/2008	ON	<0.5	2.08	21.1	7.5	31	47	190	242	<2.0
3/6/2009	ON	<0.5	<0.5	22.0	83	1,900	180	990	770	240
4/17/2009	ON	<0.5	<0.5	22.2	3.1	140	8	37	68	26
5/29/2009	ON	<0.5	1.08	21.0	130	1,700	640	3,700	3,100	100
8/18/2009	ON	<0.5	0.78	21.7	28	380	37	290	310	33
8/25/2009	ON	<0.5	0.87	20.6	37	500	44	320	293	20
9/18/2009	ON	<0.5	0.37	21.6	11	75	11	39	107	3
10/29/2009	ON	<0.5	1.80	18.2	77	350	45	250	440	4
11/25/2009	ON	<0.5	<0.5	21.1	14	110	12	110	164	11
12/15/2009	OFF	<0.5	<0.5	21.7	7	28	3	20	47	<3.2
2/26/2010	ON	<0.5	0.4	21.2	20	300	18	220	260	21
3/26/2010	ON	<0.5	1.0	20.2	18	380	20	110	90	5
5/4/2010	ON	<0.5	0.4	21.4	13	100	42	170	222	3
6/29/2010	ON	<0.5	0.4	21.3	9	74	13	66	82	<5.0
8/3/2010	ON	<0.5	0.6	20.4	29	210	13	64	85	9
8/31/2010	ON	0.0039 <sup>3</sup>	<0.5	21.4	11	72	12	66	87	8
9/14/2010	ON	<0.5	<0.5	21.6	6	63	15	57	84	<3.2
11/2/2010	ON	--	--	--	11	140	<10	31	28	<10
11/17/2010	ON	0.00075	0.4	22.0	--	--	--	--	--	--
12/28/2010	ON	0.0052	0.27	22.0	16	160	37	230	324	4.5
1/14/2011	ON	0.016	0.20	22.0	68	340	34	89	183	<10
2/8/2011	ON	0.026	0.24	21.0	210	3,000	1,700	11,000	7,400	110
3/29/2011	ON	0.013	0.13	20.0	5	170	15	18	41.5	<2.5
4/26/2011	ON	0.0011	0.079	20.0	1.9	16	2.4	8.8	7.7	<1.2
5/17/2011	ON	0.021	0.65	22.0	90	2,600	140	2,200	1,100	220
6/17/2011	ON	0.001	0.20	22.0	3	59	8.1	31	56	<0.25
7/19/2011	ON	0.0056	0.49	22.0	80	1,800	130	2,200	1,000	<31
8/16/2011	ON	0.0026	0.31	22.0	140	3,000	600	4,000	2,330	490
9/20/2011	ON	--	--	--	100	2,100	740.0	2,700	2,040	660.0
11/22/2011	ON	0.070	0.70	20.0	11	150	12.0	67	35	<5.0
12/20/2011	ON	0.020	0.34	22.0	0	110	<25	260	216	<25
1/10/2012	ON	0.010	0.66	20.0	11	150	14	86	160	<12
2/28/2012	ON	0.0067	0.90	20.0	27	140	42	140	224	<25
3/13/2012	ON	0.0044	0.71	20.0	27	440	38	450	241	<25
4/27/2012	ON	0.0290	0.22	21.0	39	540	42	630	299	<25
5/22/2012	ON	0.0100	0.31	20.0	65	590	350	770	2,070	<12
6/19/2012	ON	0.0028	0.41	21.0	17	130	26	150	162	<12
7/27/2012	ON	0.0059	0.40	21.0	13	46	<5	33	78	<5
8/30/2012	ON	0.0049	0.56	21.0	69	150	<25	66	194	<25
9/25/2012	ON	0.0073	0.80	21.0	57	190	19	120	283	<2.5
10/30/2012	ON	0.0099	0.96	21.0	50	380	<50	230	130	<50
12/11/2012	ON	0.0074	0.84	21.0	53	130	17	110	173	<5.0
1/29/2013	ON	0.0028	0.29	22.0	1.4	8.7	<1.2	9.4	9.6	<1.2
2/12/2013	ON	0.0057	0.88	21.0	60	500	<50	440	400	<50
3/19/2013	ON	0.0058	0.80	21.0	77	560	66	490	520	<40
4/16/2013	ON	0.0079	0.74	21.0	53	430	29	240	193	<25
5/14/2013	ON	0.017	1.6	19	280	1700	190	1800	840	<12
6/28/2013	ON	0.0068	<0.010	21	22	190	<25	130	131	<25
SVE System Down for Repair from July 16, 2013 to September 17, 2013.										
9/20/2013	ON	0.014	1	21	590	4200	520	3600	2830	<40

**Notes**

- Influent vapor samples were collected from the manifold conveying soil vapors extracted from the south-central and southeastern areas.
- Other detected VOCs are included in the laboratory analytical reports in Appendix A.
- Method used is South Coast Air Quality Management District (SCAQMD) 25.1M.

**Abbreviations**

ASTM = ASTM International (formerly American Society for Testing and Materials)  
 EPA = United States Environmental Protection Agency  
 VOC = volatile organic compound  
 %v = percent by volume  
 TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)  
 ppmv = parts per million by volume  
 ppbv = parts per billion by volume  
 MTBE = methyl tertiary butyl ether  
 <0.5 = not detected at or above the laboratory reporting limit shown

**TABLE 5**

Extracted Groundwater Analytical Results<sup>1</sup>  
 SFPP Nonwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M					EPA 8260B Volatile Organic Compounds (VOCs) <sup>2</sup>									
	TPH-g (µg/L)	TPH-d (µg/L)	TPH-o (µg/L)	TPH-total (µg/L)	TPH-tp (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	
7/11/2007	--	--	--	--	--	4,800	130	890	1,040	690	--	--	--	--	
8/7/2007	14,000	--	--	--	11,000	5,400	140	1,100	770	540	--	--	--	--	
9/25/2007	12,000	--	--	--	30,000	3,400	310	1,600	2,390	540	--	--	--	--	
10/18/2007	8,900	--	--	--	8,400	3,400	94	520	660	390	--	--	--	--	
11/2/2007	44,000	--	--	--	6,500	3,200	130	860	1,160	570	--	--	--	--	
11/30/2007	6,000	--	--	--	5,200	1,800	48	170	490	450	--	--	--	--	
12/21/2007	7,200	--	--	--	4,200	2,100	41	170	430	750	--	--	--	--	
1/4/2008	4,300	--	--	--	7,200	3,300	49	300	540	620	--	--	--	--	
1/18/2008	11,000	--	--	--	2,200	3,600	140	650	850	620	--	--	--	--	
2/1/2008	8,700	--	--	--	5,700	3,600	100	440	930	560	--	--	--	--	
3/4/2008	7,200	--	--	--	4,900	3,900	120	510	770	620	--	--	--	--	
4/8/2008	8,100	--	--	--	10,000	2,800	96	280	580	640	--	--	--	--	
5/6/2008	5,300	--	--	--	2,800	2,900	76	190	328	430	--	--	--	--	
6/3/2008	8,400	--	--	--	6,800	3,700	110	450	480	320	--	--	--	--	
7/2/2008	9,200	--	--	--	4,300 <sup>3</sup>	4,500	75	620	650	400	--	--	--	--	
8/19/2008	4,000	--	--	--	6,600	2,600	57	76	215	450	--	--	--	--	
9/5/2008	160	--	--	--	<500	<12	<25	<25	<25	<25	--	--	--	--	
10/7/2008	<100	--	--	--	<500	0.36 J	<1.0	<1.0	1.59	1.7	--	--	--	--	
11/4/2008	12,000	--	--	--	660,000	2,500	140	220	760	160	--	--	--	--	
12/4/2008	1,300	--	--	--	1,500	600	8.2	28	73	130	--	--	--	--	
1/6/2009	1,500	--	--	--	980	560	23	41	110	320	--	--	--	--	
3/6/2009	2,500	--	--	--	1,500	1,100	33	51	114	65	--	--	--	--	
4/7/2009	3,100	--	--	--	6,900	1,100	36	230	207	210	--	--	--	--	
5/13/2009	690	--	--	--	1,500	120	3.2	14	60	24	--	--	--	--	
6/12/2009	150	--	--	--	<500	<0.50	<1.0	<1.0	0.71 J	44	--	--	--	--	
7/10/2009	4,500	--	--	--	560	1,500	41	68	175	150	--	--	--	--	
8/4/2009	2,000	--	--	--	1,000	1,200	16	18	64	100	--	--	--	--	
9/1/2009	4,800	--	--	--	3,500	380	45	25	328	5.4 J	--	--	--	--	
10/6/2009	3,900	--	--	--	4,600	3,200	21	15	35	82	--	--	--	--	
10/27/2009	1,000	--	--	--	<500	520	4	15	10	180	--	--	--	--	
11/3/2009	120	--	--	--	<500	2	0.55 J	0.61 J	3	40	--	--	--	--	
11/25/2009	5,700	--	--	--	4,000	3,100	26	13	48	88	--	--	--	--	
2/16/2010	8,000	--	--	--	5,900	4,700	110	1,300	800	1,800	--	--	--	--	
3/9/2010	7,000	--	--	--	5,900	6,600	110	460	550	410	--	--	--	--	
4/20/2010	10,000	--	--	--	11,000	6,000	44	230	174	130	--	--	--	--	
5/14/2010	8,500	--	--	--	2,100	3,600	67	380	400	210	--	--	--	--	
6/25/2010	4,600	--	--	--	2,600	2,200	61	540	380	170	--	--	--	--	
7/20/2010	21,000	--	--	--	21,000	3,400	370	3,000	2,550	2,300	--	--	--	--	
8/3/2010	3,400	--	--	--	1,500	1,400	17	140	161	390	--	--	--	--	
8/10/2010	5,800	--	--	--	3,400	2,600	40	190	169	140	--	--	--	--	
9/14/2010	9,400	--	--	--	10,000	4,900	170	1,100	1,340	380	--	--	--	--	
10/12/2010	5,700	--	--	--	1,000	2,200	43	140	138	120	--	--	--	--	
11/16/2010	1,100	--	--	--	1,600	290	4	15	78	84	--	--	--	--	
12/14/2010	7,100	--	--	--	3,200	2,600	76	200	315	340	--	--	--	--	
1/14/2011	7,400	--	--	--	3,500	3,700	56	110	220	280	--	--	--	--	
2/8/2011	5,600	--	--	--	3,500	2,400	43	110	190	420	--	--	--	--	
3/25/2011	3,100	--	--	--	1,200	1,300	51	92	200	300	--	--	--	--	
4/26/2011	1,400	--	--	--	1,200	610	5.8	5.7	20	130	--	--	--	--	
5/17/2011	3,300	--	--	--	1,700	3,600	82	180	300	240	--	--	--	--	
6/21/2011	1,200	--	--	--	720	860	9.6	31	82	190	2,200	6.6	<0.07	<0.1	
7/27/2011	14,000	10,000	44J	--	.4	2,800	150	490	2,100	350	2,800	27	<0.07	<0.1	
8/26/2011	7,400	--	--	--	57,000	1,400	120	480	1,300	270	1,600	16	<0.07	<0.1	
9/23/2011	6,400	--	--	--	2,800	2,800	83.0	160	340	300	1,300	22	<0.07	<0.1	
10/25/2011	6,000	--	--	--	2,300	3,000	52	93	200	200	970	20	<0.70	<1.0	
11/22/2011	5,900	--	--	--	2,000	3,600	62	140	240	300	2,900	26	<0.07	<0.1	
12/20/2011	780	--	--	--	2,000	330	8	14	43	160	1,000	18	<0.07	<0.1	
1/10/2012	5,300	--	--	--	1,900	3,400	36	70	170	200	960	26	<0.07	<0.1	
2/21/2012	4,900	--	--	--	<13	3,400	19	16	48	120	2,200	21	<0.07	<0.1	
3/13/2012	6,100	--	--	--	2,100	2,900	43	79	180	120	1,600	23	<0.07	<0.1	
4/27/2012	5,100	--	--	--	2,200	3,800	49	61	150	150	500	38	<0.13	<0.12	
5/22/2012	6,800	--	--	--	31,000	2,800	49	140	262	150	690	30	<0.13	<0.12	
6/19/2012	5,300	--	--	--	36,000	3,200	45	230	200	220	2,800	33	<0.13	<0.12	
7/20/2012	5,600	2,400	210	8,200	--	3,000	71	72	510	170	2,700	26	<0.13	<0.12	
8/21/2012	3,600	1,100	140	4,900	--	2,400	26	41	80	110	1,500	22	<0.13	<0.12	
9/25/2012	2,100	710	71	2,800	--	1,700	25	35	86	150	690	17	<1.0	<1.0	
10/30/2012	2,600	700	74	3,374	--	1,400	15	13	52	54	1,200	14	<0.061	<0.054	
11/30/2012	860	8,200	260	9,320	--	1,100	2.4	4.4	12	23	690	<0.038	<0.061	<0.054	
12/27/2012	6,200	820	86	7,106	--	2,000	39	76	130	120	1,300	20	<0.061	<0.054	
1/15/2013	3,400	14,000	400	17,800	--	800	12	25	130	43	1,200	8.7	<0.061	<0.054	
2/12/2013	9,900	3,100	150	13,150	--	2,100	110	440	820	110	330	22	<0.061	<0.054	
3/5/2013	3,954	970	80	5,004	--	1,400	21	23	87	63	1,200	15	<0.061	<0.054	
3/15/2013	--	--	--	--	--	1,400	25	49	98	74	570	14	<0.061	<0.054	
4/16/2013	1,100	1,300	270	2,670	--	370	6	19	56	73	530	17	<0.061	<0.054	
5/14/2013	4,300	830	99	5,229	--	2,000	52	98	181	61	270	22	<0.061	<0.054	
6/28/2013	2,900	870	150	3,920	--	1,100	18	58	76	92	500	11	<0.061	<0.054	
7/16/2013	3,600	1,000	130	4,730	--	870	19	47	140	100	600	14	<0.061	<0.054	
8/16/2013	3,800	5,900	530	10,230	--	1,400	13	32	85	77	550	27	<0.061	<0.054	
9/24/2013	5,800	12,000	550	18,350	--	990	53	400	630	78	440	20	<0.061	<0.054	

**Notes**

- Influent samples were collected from the manifold conveying groundwater extracted from the south-central, southeastern, and West Side Barrier areas.
- Other detected VOCs are included in the laboratory analytical reports in Appendix A.
- TPH-tp result from influent extracted groundwater sample collected on July 10, 2008.
- July 27, 2011, sample and samples after July 20, 2012, were analyzed for TPHg, TPH-d, and TPH-o.

**Abbreviations**

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)  
 TPH-tp = total petroleum hydrocarbons quantified as fuel products (C7-C28)  
 TPH-d = total petroleum hydrocarbons quantified as diesel (C13-C22)  
 TPH-o = total petroleum hydrocarbons quantified as oil (C23-C36)  
 TPH-total = total petroleum hydrocarbons quantified as gas, diesel, and oil (C4-C36)  
 MTBE = methyl tertiary butyl ether  
 µg/L = micrograms per liter  
 -- = not analyzed  
 <500 = Not detected at or above the laboratory reporting limit (RL) shown  
 J = Analyte was detected above the laboratory method detection limit and below the laboratory RL.

TBA = tertiary butyl alcohol  
 DIPE = di-isopropyl ether  
 ETBE = ethyl tertiary butyl ether  
 TAME = tertiary amyl methyl ether

**TABLE 6**

Remediation Well Vapor Concentrations  
 SFPP Norwalk Pump Station, Norwalk, California

Remediation Area	Remediation Well ID	Remediation Well Function	July 2013 SVE Under Repair	August 2013 SVE Under Repair	9/17/13 (ppmv as Hexane) <sup>1</sup>
South-Central	MW-SF-1	SVE	--	--	330
	MW-SF-2	SVE; TFE	--	--	42
	MW-SF-3	SVE; TFE	--	--	588
	MW-SF-4	SVE	--	--	36
	MW-SF-5	SVE	--	--	0
	MW-SF-6	SVE; TFE	--	--	1056
	MW-SF-9	SVE	--	--	146
	MW-SF-10	SVE	--	--	96
	MW-SF-11	SVE; TFE	--	--	88
	MW-SF-12	SVE; TFE	--	--	>5000
	MW-SF-13	SVE; TFE	--	--	658
	MW-SF-14	SVE; TFE	--	--	600
	MW-SF-15	SVE; TFE	--	--	1352
	MW-SF-16	SVE; TFE	--	--	1536
	GMW-9	SVE; TFE	--	--	1646
	GMW-10	SVE	--	--	966
	GMW-22	SVE; TFE	--	--	1646
	GMW-24	SVE; TFE	--	--	2422
	GMW-25	SVE; GWE	--	--	2422
	GWR-3	SVE; GWE	--	--	3590
	VEW-1	SVE	--	--	12
	VEW-2	SVE	--	--	0
	MW-O-1	SVE; TFE	--	--	974
	MW-O-2	SVE; TFE	--	--	280
	GMW-O-11	SVE; TFE	--	--	84
	GMW-O-12	SVE	--	--	24
GMW-O-20	SVE; TFE	--	--	92	
GMW-O-23	SVE; TFE	--	--	2258	
MW-18 (MID)	SVE	--	--	96	
HW-1	SVE	--	--	746	
HW-2	SVE	--	--	1578	
Southeastern	GMW-36	SVE; TFE	--	--	28
	GMW-O-15	SVE; TFE	--	--	28
	GMW-O-18	SVE; TFE	--	--	28

Notes

- Vapor readings measured in the field with a photoionization detector (PID) calibrated using 50 ppmv of hexane.
  - Condensate was in the conveyance pipe when PID readings were collected.
- = does not apply or was not measured

Data reported based on information provided by SFPP, L.P.

Abbreviations

SVE = soil vapor extraction  
 TFE = total fluids extraction  
 GWE = groundwater extraction  
 ppmv = parts per million by volume

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
GMW-9	8/8/2008	74.44	28.01	27.96	0.05	---	Envent
	10/16/2008	74.44	28.36	28.35	0.01	---	Envent
	12/17/2008	74.44	27.61	---	---	46.83	Envent
	1/15/2009	74.44	28.91	---	---	45.53	Envent
	3/27/2009	74.44	29.04	---	---	45.40	Envent
	4/21/2009	74.44	28.16	---	---	46.28	Envent
	7/21/2009	74.44	28.31	---	---	46.13	Envent
	5/24/2010	74.44	30.47	---	---	43.97	Blaine Tech
	5/28/2010	74.44	30.35	---	---	44.09	Blaine Tech
	10/4/2010	74.44	30.30	---	---	44.14	Blaine Tech
	1/10/2011	74.44	32.02	---	---	42.42	Blaine Tech
	4/11/2011	74.44	25.41	---	---	49.03	Blaine Tech
	10/10/2011	74.44	28.91	---	---	45.53	Blaine Tech
	4/16/2012	77.16	31.15	---	---	46.01	Blaine Tech
	10/15/2012	77.16	31.82	---	---	45.34	Blaine Tech
1/14/2013	77.16	31.88	---	---	45.28	Blaine Tech	
4/8/2013	77.16	31.83	--	--	45.33	Blaine Tech	
GMW-10	04/30/2007	74.67	---	25.9	---	48.77	Secor
	11/12/2007	74.67	25.02	25.82	0.83	---	Secor
	04/14/2008	74.67	25.38	25.44	0.06	---	Secor
	10/13/2008	74.67	24.16	---	---	50.51	Stantec
	4/20/2009	74.67	24.46	---	---	50.21	Blaine Tech
	10/19/2009	74.67	27.2	---	---	47.47	Blaine Tech
	5/24/2010	74.67	26.72	---	---	47.95	Blaine Tech
	5/28/2010	74.67	26.7	---	---	47.97	Blaine Tech
	10/4/2010	74.67	27.15	---	---	47.52	Blaine Tech
	4/11/2011	74.67	25.21	---	---	49.46	Blaine Tech
	10/10/2011	74.67	27.75	---	---	46.92	Blaine Tech
	4/27/2012	74.67	28.47	---	---	46.2	Blaine Tech
	10/15/2012	74.67	29.15	29.02	0.13	---	Blaine Tech
4/8/2013	74.67	33.64	28.12	5.52	45.67	Blaine Tech	
9/26/2013	74.67	36.15	29.25	6.9	---	CH2M HILL	
GMW-22	11/12/2007	74.17	26.45	25.91	0.54	---	Stantec
	8/12/2008	74.17	26.70	---	---	47.47	Envent
	10/31/2008	74.17	28.25	27.04	1.21	---	Envent
	11/4/2008	74.17	26.97	---	---	47.20	Envent
	12/17/2008	74.17	26.65	---	---	47.52	Envent
	1/15/2009	74.17	27.18	---	---	46.99	Envent
	3/27/2009	74.17	27.86	---	---	46.31	Envent
	4/21/2009	74.17	27.30	27.20	0.10	---	Envent
	7/21/2009	74.17	27.70	---	---	46.47	Envent
	11/6/2009	74.17	28.12	---	---	46.05	Envent
	9/3/2010	74.17	28.36	25.10	3.26	---	Kinder Morgan
	10/4/2010	74.17	27.65	---	---	46.52	Kinder Morgan
	4/11/2011	74.17	26.45	---	---	47.72	Blaine Tech
	10/10/2011	74.17	29.68	---	---	44.49	Blaine Tech
	4/16/2012	77.24	31.15	---	---	46.09	Blaine Tech
10/15/2012	77.24	31.05	---	---	46.19	Blaine Tech	
4/8/2013	77.24	31.92	---	---	45.32	Blaine Tech	
GMW-24	11/12/2007	74.04	27.50	27.46	0.04	---	Stantec
	8/19/2008	74.04	29.34	28.24	1.10	---	Envent
	10/17/2008	74.04	30.88	29.90	0.98	---	Envent
	10/21/2008	74.04	29.64	28.30	1.34	---	Envent

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	12/18/2008	74.04	29.04	---	---	45.00	Envent
	1/15/2009	74.04	30.56	29.80	0.76	---	Envent
	3/20/2009	74.04	31.28	---	---	42.76	Envent
	3/27/2009	74.04	30.45	---	---	43.59	Envent
	4/21/2009	74.04	29.91	---	---	44.13	Envent
	7/21/2009	74.04	32.78	---	---	41.26	Envent
	2/4/2010	74.04	29.67	29.40	0.27	---	Kinder Morgan
	6/22/2010	74.04	29.47	---	---	44.57	Blaine Tech
	9/3/2010	74.04	29.90	---	---	44.14	Kinder Morgan
	10/4/2010	74.04	29.50	---	---	44.54	Blaine Tech
	4/11/2011	74.04	28.21	---	---	45.83	Blaine Tech
	10/10/2011	74.04	28.78	---	---	45.26	Blaine Tech
	4/16/2012	77.48	30.49	30.31	0.18	---	Blaine Tech
	10/15/2012	77.48	31.34	---	---	46.14	Blaine Tech
	6/14/2013	77.48	33.35	32.40	0.95	44.13	Blaine Tech
GMW-25	11/12/2007	74.29	27.30	27.25	0.05	---	Stantec
	8/12/2008	74.29	27.81	---	---	46.48	Envent
	10/17/2008	74.29	28.26	---	---	46.03	Envent
	12/18/2008	74.29	29.01	---	---	45.28	Envent
	1/15/2009	74.29	28.62	---	---	45.67	Envent
	3/24/2009	74.29	28.79	---	---	45.50	Envent
	4/21/2009	74.29	28.35	---	---	45.94	Envent
	7/21/2009	74.29	29.80	---	---	44.49	Envent
	10/19/2009	74.29	30.28	---	---	44.01	Blaine Tech
	6/22/2010	74.29	31.64	---	---	42.65	Blaine Tech
	10/4/2010	74.29	29.25	---	---	45.04	Blaine Tech
	4/11/2011	74.29	26.21	---	---	48.08	Blaine Tech
	10/10/2011	74.29	30.02	---	---	44.27	Blaine Tech
	4/16/2012	78.14	30.31	---	---	47.83	Blaine Tech
	10/15/2012	78.14	31.88	---	---	46.26	Blaine Tech
	4/8/2013	78.14	32.11	---	---	46.03	Blaine Tech
GMW-36	8/28/2007	74.53	24.31	---	---	50.22	Stantec
	11/12/2007	74.53	24.86	24.85	0.01	---	Stantec
	2/19/2008	74.53	25.50	---	---	49.27	Stantec
	4/14/2008	74.53	24.61	---	---	50.16	Stantec
	8/8/2008	74.53	26.20	26.14	0.06	---	Envent
	10/16/2008	74.53	26.11	26.09	0.02	---	Envent
	12/18/2008	74.53	28.70	28.65	0.05	---	Envent
	1/15/2009	74.53	27.73	27.45	0.28	---	Envent
	2/20/2009	74.53	26.39	26.35	0.04	---	Envent
	2/23/2009	74.53	26.13	25.80	0.33	---	Blaine Tech
	3/24/2009	74.53	29.83	---	---	44.70	Envent
	4/20/2009	74.53	25.63	25.59	0.04	---	Blaine Tech
	7/17/2009	74.53	27.40	---	---	47.13	Envent
	7/21/2009	74.53	26.03	---	---	48.50	Envent
	7/22/2009	74.53	25.90	---	---	48.63	Blaine Tech
	10/19/2009	74.53	26.56	26.45	0.11	---	Blaine Tech
	2/4/2010	74.53	26.93	26.80	0.13	---	Kinder Morgan
	3/15/2010	74.53	26.80	---	---	47.73	Blaine Tech
	4/16/2010	74.53	26.90	---	---	47.63	Blaine Tech
	5/24/2010	74.53	25.96	25.90	0.06	---	Blaine Tech
	5/28/2010	74.53	25.94	25.88	0.06	---	Blaine Tech
	6/22/2010	74.53	25.94	25.91	0.03	---	Blaine Tech



**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	10/24/2010	74.53	26.90	---	---	47.63	Blaine Tech
	11/23/2010	74.53	27.35	27.10	0.25	---	Blaine Tech
	12/22/2010	74.53	28.35	26.84	1.51	---	Blaine Tech
	1/10/2011	74.53	29.10	27.70	1.40	--	Blaine Tech
	4/12/2011	74.53	26.98	25.05	1.93	--	Blaine Tech
	10/10/2011	74.53	25.96	---	---	48.57	Blaine Tech
	12/2/2011	74.53	26.71	---	---	47.82	Kinder Morgan
	12/21/2011	74.53	28.17	---	---	46.36	Blaine Tech
	1/9/2012	74.53	27.26	---	---	47.27	Blaine Tech
	2/23/2012	74.53	27.85	---	---	46.68	Blaine Tech
	4/16/2012	74.53	27.34	---	---	47.19	Blaine Tech
	6/15/2012	76.66	33.27	---	---	43.39	Blaine Tech
	7/9/2012	76.66	33.71	---	---	42.95	Blaine Tech
	10/15/2012	76.66	32.11	---	---	44.55	Blaine Tech
	11/29/2012	76.66	33.93	31.68 <sup>1</sup>	2.25 <sup>1</sup>	---	Blaine Tech
	12/26/2012	76.66	34.86	30.36 <sup>1</sup>	4.5 <sup>1</sup>	---	Blaine Tech
	1/14/2013	76.66	34.12	30.42 <sup>1</sup>	3.7 <sup>1</sup>	---	Blaine Tech
4/10/2013	76.66	32.42	29.75	2.67	44.24	Blaine Tech	
GMW-O-11	11/12/2007	74.17	24.40	---	---	49.77	Stantec
	8/15/2008	74.17	29.30	---	---	44.87	Envent
	10/17/2008	74.17	24.45	---	---	49.72	Envent
	12/19/2008	74.17	24.85	---	---	49.32	Envent
	1/15/2009	74.17	26.87	24.38	2.49	---	Envent
	2/24/2009	74.17	24.31	24.21	0.10	---	Envent
	3/27/2009	74.17	31.08	---	---	43.09	Envent
	4/21/2009	74.17	25.36	25.34	0.02	---	Envent
	7/21/2009	74.17	26.18	---	---	47.99	Envent
	11/6/2009	74.17	26.33	26.18	0.15	---	Kinder Morgan
	10/4/2010	74.17	30.00	---	---	44.17	Blaine Tech
	4/13/2011	74.17	24.19	---	---	49.98	Blaine Tech
	10/10/2011	74.17	24.38	---	---	49.79	Blaine Tech
10/15/2012	74.17	28.12	---	---	46.05	Blaine Tech	
9/24/2013	74.17	31.25	28.15	3.10	---	CH2M HILL	
GMW-O-12	11/12/2007	73.49	23.13	---	---	50.36	Stantec
	4/14/2008	73.49	23.36	---	---	50.13	Stantec
	10/13/2008	73.49	24.20	---	---	49.29	Stantec
	4/20/2009	73.49	24.21	---	---	49.28	Blaine Tech
	10/19/2009	73.49	25.08	---	---	48.41	Blaine Tech
	5/24/2010	73.49	24.80	---	---	48.69	Blaine Tech
	5/28/2010	73.49	24.74	---	---	48.75	Blaine Tech
	10/4/2010	73.49	25.31	25.20	0.11	---	Blaine Tech
	1/10/2011	73.49	26.42	26.32	0.10	---	Blaine Tech
	4/11/2011	73.49	24.04	---	---	49.45	Blaine Tech
	10/10/2011	73.49	24.68	---	---	48.81	Blaine Tech
	1/9/2012	73.49	25.12	---	---	48.37	Blaine Tech
	4/16/2012	73.49	25.40	---	---	48.09	Blaine Tech
	7/9/2012	73.49	26.96	---	---	46.53	Blaine Tech
	10/15/2012	73.49	25.48	25.44	0.04	---	Blaine Tech
	4/8/2013	73.49	26.60	26.51	0.09	46.89	Blaine Tech
9/24/2013	73.49	27.90	27.74	0.16	---	CH2M HILL	
GMW-O-15	11/12/2007	74.23	23.95	23.85	0.10	---	Stantec
	4/14/2008	74.23	23.64	---	---	50.59	Stantec
	8/8/2008	74.23	24.60	---	---	50.59	Envent

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	8/11/2008	74.23	24.40	24.34	0.06	---	Stantec
	10/16/2008	74.23	24.53	---	---	49.70	Envent
	12/18/2008	74.23	24.86	---	---	49.37	Envent
	1/2/2009	74.23	24.82	---	---	49.41	Envent
	1/15/2009	74.23	26.01	---	---	48.22	Envent
	2/20/2009	74.23	24.80	---	---	49.43	Envent
	2/23/2009	74.23	24.76	24.74	0.02	---	Blaine Tech
	3/24/2009	74.23	25.55	---	---	48.68	Envent
	4/20/2009	74.23	24.66	24.61	0.05	---	Blaine Tech
	7/17/2009	74.23	25.01	---	---	49.22	Envent
	7/22/2009	74.23	24.99	24.94	0.05	---	Blaine Tech
	10/19/2009	74.23	25.55	25.43	0.12	---	Blaine Tech
	2/4/2010	74.23	25.50	25.48	0.02	---	Kinder Morgan
	4/16/2010	74.23	23.10	---	---	51.13	Blaine Tech
	5/24/2010	74.23	25.67	---	---	48.56	Blaine Tech
	5/28/2010	74.23	25.35	---	---	48.88	Blaine Tech
	6/22/2010	74.23	25.81	---	---	48.42	Blaine Tech
	10/4/2010	74.23	25.85	25.80	0.05	---	Blaine Tech
	11/23/2010	74.23	53.17	---	---	21.06	Blaine Tech
	12/22/2010	74.23	26.31	---	---	47.92	Blaine Tech
	1/10/2011	74.23	25.97	---	---	48.26	Blaine Tech
	4/12/2011	74.23	22.55	22.53	0.02	---	Blaine Tech
	10/10/2011	74.23	23.79	23.22	0.57	---	Blaine Tech
	12/2/2011	74.23	23.92	23.86	0.06	---	Kinder Morgan
	12/21/2011	74.23	31.13	---	---	43.10	Blaine Tech
	1/9/2012	74.23	27.67	---	---	46.56	Blaine Tech
	2/23/2012	74.23	31.18	---	---	43.05	Blaine Tech
	3/28/2012	74.23	30.30	---	---	43.93	Blaine Tech
	4/16/2012	74.23	26.56	26.51	0.05	---	Blaine Tech
	5/25/2012	74.23	26.64	---	---	47.59	Blaine Tech
	6/15/2012	74.23	26.93	---	---	47.30	Blaine Tech
	7/9/2012	74.23	25.47	---	---	48.76	Blaine Tech
	9/26/2012	74.23	30.64	---	---	43.59	Blaine Tech
	10/15/2012	74.23	31.82	---	---	42.41	Blaine Tech
	12/26/2012	74.23	27.41	---	---	46.82	Blaine Tech
	1/14/2013	74.23	27.62	---	---	46.61	Blaine Tech
	4/26/2013	74.23	27.90	---	---	46.33	Kinder Morgan
GMW-O-18	04/30/2007	74.36	24.21	---	---	50.15	Secor
	11/12/2007	74.36	22.46	---	---	51.90	Secor
	04/14/2008	74.36	24.5	---	---	49.86	Secor
	10/13/2008	74.36	25.46	---	---	48.90	Stantec
	4/20/2009	74.36	25.59	---	---	48.77	Blaine Tech
	10/19/2009	74.36	26.31	---	---	48.05	Blaine Tech
	3/15/2010	74.36	26.54	---	---	47.82	Blaine Tech
	4/16/2010	74.36	24.25	---	---	50.11	Blaine Tech
	5/24/2010	74.36	26.26	---	---	48.10	Blaine Tech
	5/28/2010	74.36	26.03	---	---	48.33	Blaine Tech
	10/4/2010	74.36	29.95	---	---	44.41	Blaine Tech
	4/12/2011	74.36	22.88	---	---	51.48	Blaine Tech
	10/10/2011	74.36	23.68	---	---	50.68	Blaine Tech
	12/2/2011	74.36	24.22	---	---	50.14	Blaine Tech
	12/21/2011	74.36	27.14	---	---	47.22	Blaine Tech
	2/23/2012	74.36	31.18	---	---	43.18	Blaine Tech

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	4/16/2012	74.36	27.10	---	---	47.26	Blaine Tech
	5/25/2012	74.36	27.31	---	---	47.05	Blaine Tech
	6/15/2012	74.36	35.13	---	---	39.23	Blaine Tech
	7/9/2012	74.36	29.51	---	---	44.85	Blaine Tech
	9/26/2012	74.36	30.83	---	---	43.53	Blaine Tech
	10/15/2012	74.36	29.73	---	---	44.63	Blaine Tech
	12/26/2012	74.36	28.87	---	---	45.49	Blaine Tech
	1/14/2013	74.36	28.92	---	---	45.44	Blaine Tech
	4/10/2013	74.36	28.1	---	---	46.26	Blaine Tech
GMW-O-20	8/15/2008	73.32	25.90	---	---	47.42	Envent
	10/17/2008	73.32	25.82	---	---	47.50	Envent
	12/19/2008	73.32	27.15	---	---	46.17	Envent
	1/15/2009	73.32	26.53	26.09	0.44	---	Envent
	2/24/2009	73.32	27.85	---	---	45.47	Envent
	3/20/2009	73.32	28.81	---	---	44.51	Envent
	3/27/2009	73.32	27.84	---	---	45.48	Envent
	4/21/2009	73.32	28.70	---	---	44.62	Envent
	7/21/2009	73.32	24.10	---	---	49.22	Envent
	11/9/2009	73.32	25.60	25.40	0.20	---	Kinder Morgan
	6/22/2010	73.32	24.76	24.66	0.10	---	Blaine Tech
	10/4/2010	73.32	31.20	31.10	0.10	---	Blaine Tech
	1/10/2011	73.32	26.62	26.48	0.14	---	Blaine Tech
	4/11/2011	73.32	23.82	---	---	49.50	Blaine Tech
	10/10/2011	73.32	24.05	---	---	49.27	Blaine Tech
	1/9/2012	73.32	24.68	---	---	48.64	Blaine Tech
	4/16/2012	73.32	26.18	---	---	47.14	Blaine Tech
	7/9/2012	73.32	32.92	---	---	40.40	Blaine Tech
	10/15/2012	73.32	32.97	32.95	0.02	---	Blaine Tech
1/14/2013	73.32	32.98	32.93	0.05	---	Blaine Tech	
4/8/2013	73.32	29.63	26.46	3.17	43.69	Blaine Tech	
9/24/2013	73.32	31.10	27.20	3.90	---	CH2M HILL	
GMW-O-21	12/28/2007	71.43	27.67	---	---	43.76	Geomatrix
	10/17/2008	71.43	26.00	---	---	45.43	Envent
	12/19/2008	71.43	24.82	---	---	46.61	Envent
	3/27/2009	71.43	26.41	---	---	45.02	Envent
	7/21/2009	71.43	24.88	---	---	46.55	Envent
	11/9/2009	71.43	25.02	---	---	46.41	Kinder Morgan
	10/4/2010	71.43	25.40	---	---	46.03	Blaine Tech
	4/13/2011	71.43	23.72	---	---	47.71	Blaine Tech
	10/10/2011	71.43	24.65	---	---	46.78	Blaine Tech
	10/15/2012	71.43	32.50	---	---	38.93	Blaine Tech
9/25/2013	71.43	29.25	---	---	42.18	CH2M HILL	
GMW-O-23	8/14/2007	73.63	23.33	---	---	50.30	Geomatrix
	8/21/2007	73.63	23.31	---	---	50.32	Geomatrix
	8/28/2007	73.63	23.00	---	---	50.63	Stantec
	9/11/2007	73.63	23.42	---	---	50.21	Geomatrix
	10/5/2007	73.63	27.79	---	---	45.84	Geomatrix
	11/2/2007	73.63	25.15	---	---	48.48	Geomatrix
	11/13/2007	73.63	23.90	---	---	49.73	Stantec
	12/28/2007	73.63	24.91	---	---	48.72	Geomatrix
	8/15/2008	73.63	26.28	---	---	47.35	Envent
	10/17/2008	73.63	27.16	---	---	46.47	Envent
	12/19/2008	73.63	27.60	---	---	46.03	Envent

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	1/15/2009	73.63	27.54	---	---	46.09	Envent
	2/24/2009	73.63	26.19	---	---	47.44	Envent
	3/27/2009	73.63	23.74	---	---	49.89	Envent
	4/21/2009	73.63	27.30	---	---	46.33	Envent
	11/9/2009	73.63	27.50	---	---	46.13	Kinder Morgan
	6/22/2010	73.63	32.10	---	---	41.53	Blaine Tech
	10/4/2010	73.63	25.92	---	---	47.71	Blaine Tech
	1/10/2011	73.63	27.45	---	---	46.18	Blaine Tech
	4/11/2011	73.63	25.03	---	---	48.60	Blaine Tech
	10/10/2011	73.63	25.25	---	---	48.38	Blaine Tech
	1/9/2012	73.63	25.91	--	--	47.72	Blaine Tech
	4/16/2012	73.63	27.38	---	---	46.25	Blaine Tech
	7/9/2012	73.63	27.41	---	---	46.22	Blaine Tech
	10/15/2012	73.63	26.48	---	---	47.15	Blaine Tech
	1/14/2013	73.63	29.35	---	---	44.28	Blaine Tech
4/8/2013	73.63	29.81	27.74	2.07	43.82	Blaine Tech	
9/23/2013	73.63	29.90	---	---	43.73	CH2M HILL	
GMW-SF-9	4/21/2009	73.00	24.19	---	---	48.81	Envent
	5/24/2010	73.00	28.31	---	---	44.69	Blaine Tech
	5/28/2010	73.00	28.37	---	---	44.63	Blaine Tech
	10/4/2010	73.00	25.28	---	---	47.72	Blaine Tech
	4/11/2011	73.00	23.90	---	---	49.10	Blaine Tech
	10/10/2011	73.00	24.70	---	---	48.30	Blaine Tech
	4/16/2012	73.05	26.99	---	---	46.06	Blaine Tech
	10/15/2012	73.05	34.21	---	---	38.84	Blaine Tech
4/10/2013	73.05	27.37	---	---	45.68	Blaine Tech	
GMW-SF-10	4/21/2009	75.77	27.1	---	---	48.67	Envent
	10/4/2010	75.77	28.03	---	---	47.74	Blaine Tech
	4/11/2011	75.77	26.80	---	---	48.97	Blaine Tech
	10/10/2011	75.77	27.60	---	---	48.17	Blaine Tech
	4/16/2012	75.77	28.81	---	---	46.96	Blaine Tech
	10/15/2012	75.77	29.88	---	---	45.89	Blaine Tech
4/8/2013	75.77	Dry	---	---	---	Blaine Tech	
GWR-3	11/12/2007	74.93	27.90	---	---	47.03	Stantec
	10/17/2008	74.93	29.88	---	---	45.05	Envent
	12/17/2008	74.93	19.71	---	---	55.22	Envent
	1/15/2009	74.93	29.27	29.26	0.26	---	Envent
	3/27/2009	74.93	27.18	---	---	47.75	Envent
	4/21/2009	74.93	29.97	---	---	44.96	Envent
	7/21/2009	74.93	28.77	---	---	46.16	Envent
	10/4/2010	74.93	30.67	---	---	44.26	Blaine Tech
	4/11/2011	74.93	29.94	---	---	44.99	Blaine Tech
	10/10/2011	74.93	29.22	---	---	45.71	Blaine Tech
	4/16/2012	77.60	29.56	---	---	48.04	Blaine Tech
	10/15/2012	77.60	31.21	---	---	46.39	Blaine Tech
4/8/2013	77.60	29.21	29.18	0.03	48.39	Blaine Tech	
MW-18 (MID)	04/30/2007	75.67	29.77	---	---	45.9	Secor
	11/12/2007	75.67	30.23	---	---	45.44	Secor
	04/14/2008	75.67	30.45	---	---	45.22	Secor
	10/13/2008	75.67	31.15	---	---	44.52	Stantec
	4/20/2009	75.67	31.49	---	---	44.18	Blaine Tech
	10/19/2009	75.67	32.62	---	---	43.05	Blaine Tech
	5/24/2010	75.67	32.26	---	---	43.41	Blaine Tech

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	5/28/2010	75.67	32.17	---	---	43.50	Blaine Tech
	10/4/2010	75.67	32.30	---	---	43.37	Blaine Tech
	4/11/2011	75.67	31.28	---	---	44.39	Blaine Tech
	10/10/2011	75.67	31.51	---	---	44.16	Blaine Tech
	4/16/2012	75.67	31.75	---	---	43.92	Blaine Tech
	10/15/2012	75.67	33.41	---	---	42.26	Blaine Tech
	4/8/2013	75.67	30.68	---	---	44.99	Blaine Tech
MW-O-1	8/14/2007	75.48	25.31	23.78	1.53	---	Geomatrix
	8/21/2007	75.48	23.84	23.58	0.26	---	Geomatrix
	8/28/2007	75.48	23.07	23.06	0.01	---	Stantec
	9/11/2007	75.48	23.86	23.48	0.38	---	Geomatrix
	10/5/2007	75.48	24.67	---	---	50.81	Geomatrix
	11/2/2007	75.48	24.25	---	---	51.23	Geomatrix
	11/12/2007	75.48	24.27	24.25	0.02	---	Stantec
	12/28/2007	75.48	25.54	25.51	0.03	---	Geomatrix
	8/19/2008	75.48	25.18	25.13	0.05	---	Envent
	10/17/2008	75.48	25.30	---	---	50.18	Envent
	12/19/2008	75.48	26.31	---	---	49.17	Envent
	1/15/2009	75.48	25.84	---	---	49.64	Envent
	4/21/2009	75.48	25.41	---	---	50.07	Envent
	10/19/2009	75.48	26.30	---	---	49.18	Blaine Tech
	10/4/2010	75.48	26.90	---	---	48.58	Blaine Tech
	4/11/2011	75.48	25.59	---	---	49.89	Blaine Tech
	10/10/2011	75.48	26.52	---	---	48.96	Blaine Tech
	4/16/2012	75.48	27.25	---	---	48.23	Blaine Tech
	10/15/2012	75.48	28.94	---	---	46.54	Blaine Tech
	4/8/2013	75.48	28.81	---	---	46.67	Blaine Tech
MW-O-2	11/12/2007	71.90	23.10	---	---	48.80	Stantec
	10/17/2008	71.90	24.85	---	---	47.05	Envent
	12/19/2008	71.90	25.51	---	---	46.39	Envent
	3/27/2009	71.90	25.22	---	---	46.68	Envent
	7/21/2009	71.90	23.63	---	---	48.27	Envent
	11/9/2009	71.90	25.39	---	---	46.51	Kinder Morgan
	10/4/2010	71.90	26.05	---	---	45.85	Blaine Tech
	4/13/2011	71.90	23.31	---	---	48.59	Blaine Tech
	10/10/2011	71.90	27.53	---	---	44.37	Blaine Tech
	1/9/2012	71.90	28.13	---	---	43.77	Blaine Tech
	7/9/2012	71.90	26.53	---	---	45.37	Blaine Tech
	10/15/2012	71.90	26.89	---	---	45.01	Blaine Tech
	1/14/2013	71.90	26.93	---	---	44.97	Blaine Tech
	6/6/2013	71.90	28.99	---	---	42.91	Blaine Tech
MW-SF-1	8/28/2007	78.93	27.94	---	---	50.99	Stantec
	11/12/2007	78.93	28.76	---	---	50.17	Stantec
	2/19/2008	78.93	29.50	---	---	49.43	Stantec
	4/14/2008	78.93	29.16	---	---	49.77	Stantec
	8/11/2008	78.93	29.75	---	---	49.18	Stantec
	10/13/2008	78.93	29.86	---	---	49.07	Stantec
	2/23/2009	78.93	30.00	---	---	48.93	Blaine Tech
	4/20/2009	78.93	29.97	---	---	48.96	Blaine Tech
	7/22/2009	78.93	30.98	---	---	47.95	Blaine Tech
	10/19/2009	78.93	31.11	---	---	47.82	Blaine Tech
	3/15/2010	78.93	31.74	---	---	47.19	Blaine Tech
	5/24/2010	78.93	30.79	---	---	48.14	Blaine Tech

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	5/28/2010	78.93	30.57	---	---	48.36	Blaine Tech
	6/22/2010	78.93	30.84	---	---	48.09	Blaine Tech
	7/12/2010	78.93	30.51	---	---	48.42	Blaine Tech
	10/4/2010	78.93	30.88	---	---	48.05	Blaine Tech
	1/10/2011	78.93	32.51	---	---	46.42	Blaine Tech
	4/11/2011	78.93	29.87	---	---	49.06	Blaine Tech
	7/11/2011	78.93	29.84	---	---	49.09	Blaine Tech
	10/10/2011	78.93	29.60	---	---	49.33	Blaine Tech
	1/9/2012	78.93	31.25	---	---	47.68	Blaine Tech
	4/16/2012	78.93	32.59	---	---	46.34	Blaine Tech
	7/9/2012	78.93	31.24	---	---	47.69	Blaine Tech
	10/15/2012	78.93	32.23	---	---	46.70	Blaine Tech
	1/14/2013	78.93	33.88	---	---	45.05	Blaine Tech
	4/8/2013	78.93	33.38	---	---	45.55	Blaine Tech
MW-SF-2	11/12/2007	78.53	29.18	28.71	0.47	---	Stantec
	8/12/2008	78.53	31.11	---	---	47.42	Envent
	10/17/2008	78.53	31.55	31.50	0.05	---	Envent
	12/18/2008	78.53	32.75	32.55	0.20	---	Envent
	1/15/2009	78.53	30.84	30.57	0.27	---	Envent
	3/24/2009	78.53	28.85	---	---	49.68	Envent
	4/21/2009	78.53	29.98	---	---	48.55	Envent
	7/21/2009	78.53	29.85	---	---	48.68	Envent
	12/9/2009	78.53	31.45	---	---	47.08	Kinder Morgan
	10/4/2010	78.53	30.96	30.75	0.21	---	Blaine Tech
	1/10/2011	78.53	32.62	32.50	0.12	---	Blaine Tech
	4/11/2011	78.53	29.83	---	---	48.70	Blaine Tech
	10/10/2011	78.53	29.82	---	---	48.71	Blaine Tech
	1/9/2012	78.53	30.52	---	---	48.01	Blaine Tech
	4/16/2012	78.53	31.28	---	---	47.25	Blaine Tech
	7/9/2012	78.53	33.18	---	---	45.35	Blaine Tech
	10/15/2012	78.53	32.11	---	---	46.42	Blaine Tech
	1/14/2013	78.53	33.59	---	---	44.94	Blaine Tech
	4/8/2013	78.53	33.32	---	---	45.21	Blaine Tech
MW-SF-3	11/12/2007	78.12	29.34	28.28	1.06	---	Stantec
	8/12/2008	78.12	30.30	29.05	1.25	---	Envent
	10/17/2008	78.12	29.45	---	---	48.67	Envent
	12/18/2008	78.12	31.08	30.82	0.26	---	Envent
	1/15/2009	78.12	29.96	29.94	0.02	---	Envent
	3/20/2009	78.12	31.10	---	---	47.02	Envent
	3/24/2009	78.12	27.82	---	---	50.30	Envent
	4/21/2009	78.12	29.51	29.50	0.01	---	Envent
	7/21/2009	78.12	30.07	---	---	48.05	Envent
	11/6/2009	78.12	30.37	30.35	0.02	---	Kinder Morgan
	12/9/2009	78.12	30.53	---	---	48.05	Kinder Morgan
	9/3/2010	78.12	30.97	30.42	0.55	---	Kinder Morgan
	10/4/2010	78.12	30.88	30.30	0.58	---	Blaine Tech
	4/12/2011	78.12	29.44	---	---	48.68	Blaine Tech
	10/10/2011	78.12	30.75	---	---	47.37	Blaine Tech
	10/15/2012	78.12	32.47	---	---	45.65	Blaine Tech
	5/24/2013	78.12	33.35	32.51	0.84	44.77	Blaine Tech
	9/25/2013	78.12	34.40	---	---	43.72	CH2M HILL
MW-SF-4	8/14/2007	79.38	30.34	28.38	1.96	---	Geomatrix
	8/28/2007	79.38	29.95	28.30	1.65	---	Stantec

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	9/11/2007	79.38	29.98	28.43	1.55	---	Geomatrix
	10/5/2007	79.38	30.68	28.85	1.83	---	Geomatrix
	10/12/2007	79.38	30.27	29.96	0.31	---	Geomatrix
	10/19/2007	79.38	30.28	---	---	49.10	Geomatrix
	10/26/2007	79.38	30.52	---	---	48.86	Geomatrix
	11/2/2007	79.38	30.68	---	---	48.70	Geomatrix
	11/12/2007	79.38	29.70	29.69	0.01	---	Stantec
	12/21/2007	79.38	30.69	---	---	48.69	Geomatrix
	2/19/2008	79.38	30.22	---	---	49.16	Stantec
	3/21/2008	79.38	30.07	---	---	49.31	Envent
	4/14/2008	79.38	29.95	---	---	49.43	Stantec
	8/8/2008	79.38	30.51	---	---	48.87	Envent
	8/11/2008	79.38	30.57	---	---	48.81	Stantec
	10/16/2008	79.38	30.77	---	---	48.61	Envent
	1/15/2009	79.38	31.14	---	---	48.24	Envent
	2/20/2009	79.38	30.84	---	---	48.54	Envent
	2/23/2009	79.38	30.96	---	---	48.42	Blaine Tech
	4/20/2009	79.38	30.02	29.94	0.08	---	Blaine Tech
	4/28/2009	79.38	30.78	---	---	48.60	Envent
	7/17/2009	79.38	31.85	---	---	47.53	Envent
	7/22/2009	79.38	31.65	31.61	0.04	---	Blaine Tech
	10/19/2009	79.38	31.93	31.90	0.03	---	Blaine Tech
	3/15/2010	79.38	31.95	31.91	0.04	---	Blaine Tech
	5/24/2010	79.38	31.60	---	---	47.78	Blaine Tech
	5/28/2010	79.38	26.40	---	---	52.98	Blaine Tech
	6/22/2010	79.38	31.63	---	---	47.75	Blaine Tech
	7/12/2010	79.38	31.37	---	---	48.01	Blaine Tech
	10/4/2010	79.38	31.81	---	---	47.57	Blaine Tech
	1/10/2011	79.38	32.99	---	---	46.39	Blaine Tech
	4/11/2011	79.38	30.85	---	---	48.53	Blaine Tech
	7/11/2011	79.38	30.35	---	---	49.03	Blaine Tech
	1/9/2012	79.38	32.07	---	---	47.31	Blaine Tech
	4/16/2012	79.38	33.35	---	---	46.03	Blaine Tech
	7/9/2012	79.38	32.11	---	---	47.27	Blaine Tech
	10/15/2012	79.38	34.04	---	---	45.34	Blaine Tech
	1/14/2013	79.38	34.52	---	---	44.86	Blaine Tech
	4/8/2013	79.38	Dry	---	---	---	Blaine Tech
MW-SF-5	8/21/2007	79.74	28.36	---	---	51.38	Geomatrix
	8/28/2007	79.74	28.84	---	---	50.90	Stantec
	10/5/2007	79.74	29.50	---	---	50.24	Geomatrix
	11/2/2007	79.74	31.50	---	---	48.24	Geomatrix
	11/12/2007	79.74	29.93	---	---	49.81	Stantec
	12/21/2007	79.74	31.00	---	---	48.74	Geomatrix
	4/14/2008	79.74	30.20	---	---	49.54	Stantec
	8/11/2008	79.74	30.85	---	---	48.89	Stantec
	10/13/2008	79.74	30.93	---	---	48.81	Stantec
	4/20/2009	79.74	30.99	---	---	48.75	Blaine Tech
	5/24/2010	79.74	31.55	---	---	48.19	Blaine Tech
	5/28/2010	79.74	31.44	---	---	48.30	Blaine Tech
	6/22/2010	79.74	31.57	---	---	48.17	Blaine Tech
	10/4/2010	79.74	31.39	---	---	48.35	Blaine Tech
	1/10/2011	79.74	33.80	---	---	45.94	Blaine Tech
	4/11/2011	79.74	31.03	---	---	48.71	Blaine Tech

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	10/10/2011	79.74	31.28	---	---	48.46	Blaine Tech
	1/9/2012	79.74	32.12	---	---	47.62	Blaine Tech
	4/16/2012	79.74	33.30	---	---	46.44	Blaine Tech
	7/9/2012	79.74	34.45	---	---	45.29	Blaine Tech
	10/15/2012	79.74	33.28	---	---	46.46	Blaine Tech
	1/14/2013	79.74	33.37	---	---	46.37	Blaine Tech
	4/8/2013	79.74	34.28	---	---	45.46	Blaine Tech
MW-SF-6	11/12/2007	76.80	27.14	---	---	49.66	Stantec
	8/12/2008	76.80	29.82	---	---	46.98	Envent
	10/17/2008	76.80	29.75	---	---	47.05	Envent
	12/18/2008	76.80	30.73	---	---	46.07	Envent
	1/15/2009	76.80	31.35	---	---	45.45	Envent
	3/24/2009	76.80	30.50	---	---	46.30	Envent
	4/21/2009	76.80	28.45	---	---	48.35	Envent
	7/21/2009	76.80	27.22	---	---	49.58	Envent
	11/6/2009	76.80	29.10	---	---	47.70	Kinder Morgan
	12/9/2009	76.80	31.35	---	---	45.45	Kinder Morgan
	10/4/2010	76.80	29.09	---	---	47.71	Blaine Tech
	1/10/2011	76.80	30.87	---	---	45.93	Blaine Tech
	4/11/2011	76.80	28.16	---	---	48.64	Blaine Tech
	10/10/2011	76.80	28.21	---	---	48.59	Blaine Tech
	1/9/2012	76.80	29.03	---	---	47.77	Blaine Tech
	4/16/2012	76.80	29.66	---	---	47.14	Blaine Tech
	7/9/2012	76.80	31.46	---	---	45.34	Blaine Tech
	10/15/2012	76.80	31.44	---	---	45.36	Blaine Tech
	1/14/2013	76.80	31.53	---	---	45.27	Blaine Tech
	4/8/2013	76.80	30.21	28.81	1.40	46.59	Blaine Tech
MW-SF-9	8/14/2007	74.10	28.73	28.61	0.12	---	Geomatrix
	8/28/2007	74.10	20.55	---	---	53.55	Stantec
	8/21/2007	74.10	26.55	---	---	47.55	Geomatrix
	9/11/2007	74.10	19.40	---	---	54.70	Geomatrix
	10/5/2007	74.10	26.84	---	---	47.26	Geomatrix
	11/2/2007	74.10	22.76	---	---	51.34	Geomatrix
	11/12/2007	74.10	22.96	---	---	51.14	Stantec
	12/21/2007	74.10	24.05	---	---	50.05	Geomatrix
	4/14/2008	74.10	24.23	---	---	49.87	Stantec
	10/13/2008	74.10	24.83	---	---	49.27	Stantec
	4/20/2009	74.10	25.27	---	---	48.83	Blaine Tech
	10/19/2009	74.10	26.45	---	---	47.65	Blaine Tech
	5/24/2010	74.10	25.80	---	---	48.30	Blaine Tech
	5/28/2010	74.10	25.66	---	---	48.44	Blaine Tech
	6/22/2010	74.10	25.84	---	---	48.26	Blaine Tech
	10/4/2010	74.10	26.10	---	---	48.00	Blaine Tech
	1/10/2011	74.10	27.41	---	---	46.69	Blaine Tech
	4/11/2011	74.10	24.16	---	---	49.94	Blaine Tech
	10/10/2011	74.10	25.02	---	---	49.08	Blaine Tech
	1/9/2012	74.10	25.98	---	---	48.12	Blaine Tech
	4/16/2012	74.10	25.92	---	---	48.18	Blaine Tech
	7/9/2012	74.10	26.44	---	---	47.66	Blaine Tech
	4/8/2013	74.10	28.53	---	---	45.57	Blaine Tech
MW-SF-10	10/17/2008	76.53	27.49	---	---	49.04	Envent
	10/19/2009	76.53	28.61	---	---	47.92	Blaine Tech
	10/4/2010	76.53	28.5	28.36	0.14	---	Blaine Tech



**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	4/11/2011	76.53	27.41	27.37	0.04	---	Blaine Tech
	10/10/2011	76.53	27.6	---	---	48.93	Blaine Tech
	4/16/2012	76.53	28.81	---	---	47.72	Blaine Tech
	10/15/2012	76.53	29.27	---	---	47.26	Blaine Tech
	4/8/2013	76.53	Dry	---	---	---	Blaine Tech
MW-SF-11	8/14/2007	78.56	28.58	28.30	0.28	---	Geomatrix
	8/21/2007	78.56	28.76	28.63	0.13	---	Geomatrix
	8/28/2007	78.56	28.22	---	---	50.34	Stantec
	9/11/2007	78.56	26.90	---	---	51.66	Geomatrix
	10/5/2007	78.56	28.43	---	---	50.13	Geomatrix
	11/2/2007	78.56	29.48	29.38	0.10	---	Geomatrix
	11/12/2007	78.56	29.03	---	---	49.53	Stantec
	8/15/2008	78.56	30.13	---	---	48.43	Envent
	10/17/2008	78.56	30.50	---	---	48.06	Envent
	12/18/2008	78.56	29.92	---	---	48.64	Envent
	1/15/2009	78.56	30.32	---	---	48.24	Envent
	3/24/2009	78.56	31.05	---	---	47.51	Envent
	4/21/2009	78.56	30.03	---	---	48.53	Envent
	7/21/2009	78.56	30.89	---	---	47.67	Envent
	11/9/2009	78.56	31.00	---	---	47.56	Kinder Morgan
	9/3/2010	78.56	31.22	---	---	47.34	Kinder Morgan
	10/4/2010	78.56	30.94	---	---	47.62	Blaine Tech
	4/12/2011	78.56	30.82	---	---	47.74	Blaine Tech
10/10/2011	78.56	30.10	---	---	48.46	Blaine Tech	
10/15/2012	78.56	33.28	---	---	45.28	Blaine Tech	
4/8/2013	78.56	33.11	---	---	45.45	Blaine Tech	
MW-SF-12	8/14/2007	78.07	27.76	---	---	50.31	Geomatrix
	8/21/2007	78.07	27.43	---	---	50.64	Geomatrix
	8/28/2007	78.07	27.58	---	---	50.49	Stantec
	9/11/2007	78.07	27.73	---	---	50.34	Geomatrix
	10/5/2007	78.07	28.06	---	---	50.01	Geomatrix
	11/2/2007	78.07	29.59	---	---	48.48	Geomatrix
	11/12/2007	78.07	28.33	---	---	49.74	Stantec
	8/12/2008	78.07	30.02	---	---	48.05	Envent
	10/17/2008	78.07	30.42	---	---	47.65	Envent
	12/18/2008	78.07	31.55	---	---	46.52	Envent
	1/15/2009	78.07	30.11	---	---	47.96	Envent
	3/24/2009	78.07	29.41	---	---	48.66	Envent
	4/21/2009	78.07	29.52	---	---	48.55	Envent
	7/21/2009	78.07	28.58	---	---	49.49	Envent
	11/4/2009	78.07	30.36	---	---	47.71	Kinder Morgan
	2/4/2010	78.07	29.20	---	---	48.87	Kinder Morgan
	10/4/2010	78.07	30.70	---	---	47.37	Blaine Tech
	4/11/2011	78.07	29.47	---	---	48.60	Blaine Tech
10/10/2011	78.07	26.60	---	---	51.47	Blaine Tech	
4/16/2012	78.07	31.40	---	---	46.67	Blaine Tech	
10/15/2012	78.07	32.12	---	---	45.95	Blaine Tech	
MW-SF-13	8/14/2007	73.40	22.98	---	---	50.42	Geomatrix
	8/21/2007	73.40	23.11	---	---	50.29	Geomatrix
	8/28/2007	73.40	22.85	---	---	50.55	Stantec
	9/11/2007	73.40	23.10	---	---	50.30	Geomatrix
	10/5/2007	73.40	28.11	---	---	45.29	Geomatrix
	11/2/2007	73.40	25.43	25.41	0.02	---	Geomatrix

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	11/12/2007	73.40	23.70	---	---	49.70	Stantec
	12/21/2007	73.40	24.45	24.42	0.03	---	Geomatrix
	8/15/2008	73.40	27.38	24.11	3.27	---	Envent
	10/17/2008	73.40	27.28	24.33	2.95	---	Envent
	10/21/2008	73.40	27.14	24.26	2.88	---	Envent
	9/3/2010	73.40	27.40	25.71	1.69	---	Kinder Morgan
	12/17/2008	73.40	26.21	24.70	1.51	---	Envent
	1/15/2009	73.40	26.90	24.80	2.10	---	Envent
	3/27/2009	73.40	26.46	25.49	0.97	---	Envent
	4/21/2009	73.40	24.86	24.78	0.08	---	Envent
	7/21/2009	73.40	25.72	25.48	0.24	---	Envent
	11/6/2009	73.40	25.72	---	---	47.68	Kinder Morgan
	2/4/2010	73.40	25.43	25.30	0.13	---	Kinder Morgan
	10/4/2010	73.40	26.95	25.92	1.03	---	Blaine Tech
	4/12/2011	73.40	24.79	24.78	0.01	---	Blaine Tech
	10/10/2011	73.40	26.00	---	---	47.40	Blaine Tech
4/16/2012	73.40	27.19	---	---	46.21	Blaine Tech	
10/15/2012	73.40	27.01	---	---	46.39	Blaine Tech	
4/8/2013	73.40	27.90	---	---	45.50	Blaine Tech	
MW-SF-14	8/14/2007	78.16	27.68	---	---	50.48	Geomatrix
	8/21/2007	78.16	27.60	---	---	50.56	Geomatrix
	8/28/2007	78.16	27.53	---	---	50.63	Stantec
	9/11/2007	78.16	27.66	---	---	50.50	Geomatrix
	10/5/2007	78.16	27.75	---	---	50.41	Geomatrix
	11/2/2007	78.16	29.83	---	---	48.33	Geomatrix
	8/15/2008	78.16	29.77	29.24	0.53	---	Envent
	10/17/2008	78.16	29.52	29.50	0.02	---	Envent
	12/18/2008	78.16	30.62	---	---	47.54	Envent
	1/15/2009	78.16	30.08	---	---	48.08	Envent
	3/24/2009	78.16	29.73	---	---	48.43	Envent
	4/21/2009	78.16	29.61	---	---	48.55	Envent
	7/21/2009	78.16	29.20	---	---	48.96	Envent
	11/6/2009	78.16	30.48	---	---	47.68	Kinder Morgan
	12/9/2009	78.16	30.68	---	---	47.48	Kinder Morgan
	6/22/2010	78.16	26.17	---	---	51.99	Blaine Tech
	10/4/2010	78.16	30.54	---	---	47.62	Blaine Tech
	4/12/2011	78.16	29.55	---	---	48.61	Blaine Tech
	10/10/2011	78.16	29.84	---	---	48.32	Blaine Tech
10/15/2012	78.16	30.02	---	---	48.14	Blaine Tech	
4/8/2013	78.16	32.75	---	---	45.41	Blaine Tech	
9/26/2013	78.16	34.50	34.25	0.25	---	CH2M HILL	
MW-SF-15	8/14/2007	78.27	27.78	27.75	0.03	---	Geomatrix
	8/21/2007	78.27	27.69	27.65	0.04	---	Geomatrix
	8/28/2007	78.27	27.65	27.61	0.04	---	Stantec
	9/11/2007	78.27	27.62	---	---	50.65	Geomatrix
	10/5/2007	78.27	28.15	---	---	50.12	Geomatrix
	11/2/2007	78.27	30.45	30.20	0.25	---	Geomatrix
	11/12/2007	78.27	28.75	---	---	49.52	Stantec
	8/15/2008	78.27	30.12	29.35	0.77	---	Envent
	10/17/2008	78.27	30.80	29.44	1.36	---	Envent
	10/21/2008	78.27	30.80	29.31	1.49	---	Envent
	12/18/2008	78.27	32.11	30.56	1.55	---	Envent
	1/15/2009	78.27	31.75	29.70	2.05	---	Envent

**TABLE 7**

Groundwater and Product Measurements and Elevations for Total Fluids, Groundwater, and Soil Vapor Extraction Wells  
 SFPP Norwalk Pump Station, Norwalk, California

Well ID	Date Gauged	Top of Well Casing Elevation (ft msl)	Measured Depth to Groundwater (ft btoc)	Measured Depth to Product (ft btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (ft msl)	Gauged By
	3/24/2009	78.27	30.32	29.93	0.39	---	Envent
	4/21/2009	78.27	29.96	29.60	0.36	---	Envent
	7/21/2009	78.27	30.45	---	---	47.82	Envent
	11/4/2009	78.27	31.10	30.45	0.36	---	Kinder Morgan
	12/9/2009	78.27	30.87	---	---	47.40	Kinder Morgan
	10/4/2010	78.27	30.66	30.65	0.01	---	Blaine Tech
	4/12/2011	78.27	30.50	29.40	1.1	---	Blaine Tech
	10/10/2011	78.27	29.60	---	---	48.67	Blaine Tech
	12/2/2011	78.27	31.40	30.05	1.4	---	Blaine Tech
	4/16/2012	78.27	32.48	32.39	0.1	---	Blaine Tech
	10/15/2012	78.27	33.15	---	---	45.12	Blaine Tech
	4/8/2013	78.27	33.90	---	---	44.37	Blaine Tech
MW-SF-16	8/14/2007	78.21	27.68	---	---	50.53	Geomatrix
	8/21/2007	78.21	27.33	---	---	50.88	Geomatrix
	8/28/2007	78.21	27.51	---	---	50.70	Stantec
	9/11/2007	78.21	27.59	---	---	50.62	Geomatrix
	10/5/2007	78.21	28.10	---	---	50.11	Geomatrix
	11/2/2007	78.21	29.81	---	---	48.40	Geomatrix
	11/12/2007	78.21	28.40	---	---	49.81	Stantec
	8/15/2008	78.21	29.36	---	---	48.85	Envent
	10/17/2008	78.21	29.51	---	---	48.70	Envent
	12/18/2008	78.21	30.94	---	---	47.27	Envent
	1/15/2009	78.21	30.01	30.00	0.01	---	Envent
	3/24/2009	78.21	29.82	---	---	48.39	Envent
	4/21/2009	78.21	29.60	---	---	48.61	Envent
	7/21/2009	78.21	30.36	---	---	47.85	Envent
	11/4/2009	78.21	30.58	---	---	47.63	Kinder Morgan
	2/4/2010	78.21	30.36	---	---	47.85	Kinder Morgan
	9/3/2010	78.21	30.25	---	---	47.96	Kinder Morgan
	10/4/2010	78.21	30.49	---	---	47.72	Blaine Tech
	4/12/2011	78.21	29.52	---	---	48.69	Blaine Tech
	10/10/2011	78.21	29.85	---	---	48.36	Blaine Tech
	10/15/2012	78.21	32.47	---	---	45.74	Blaine Tech
	4/8/2013	78.21	32.97	32.73	0.24	45.24	Blaine Tech

**Abbreviations**

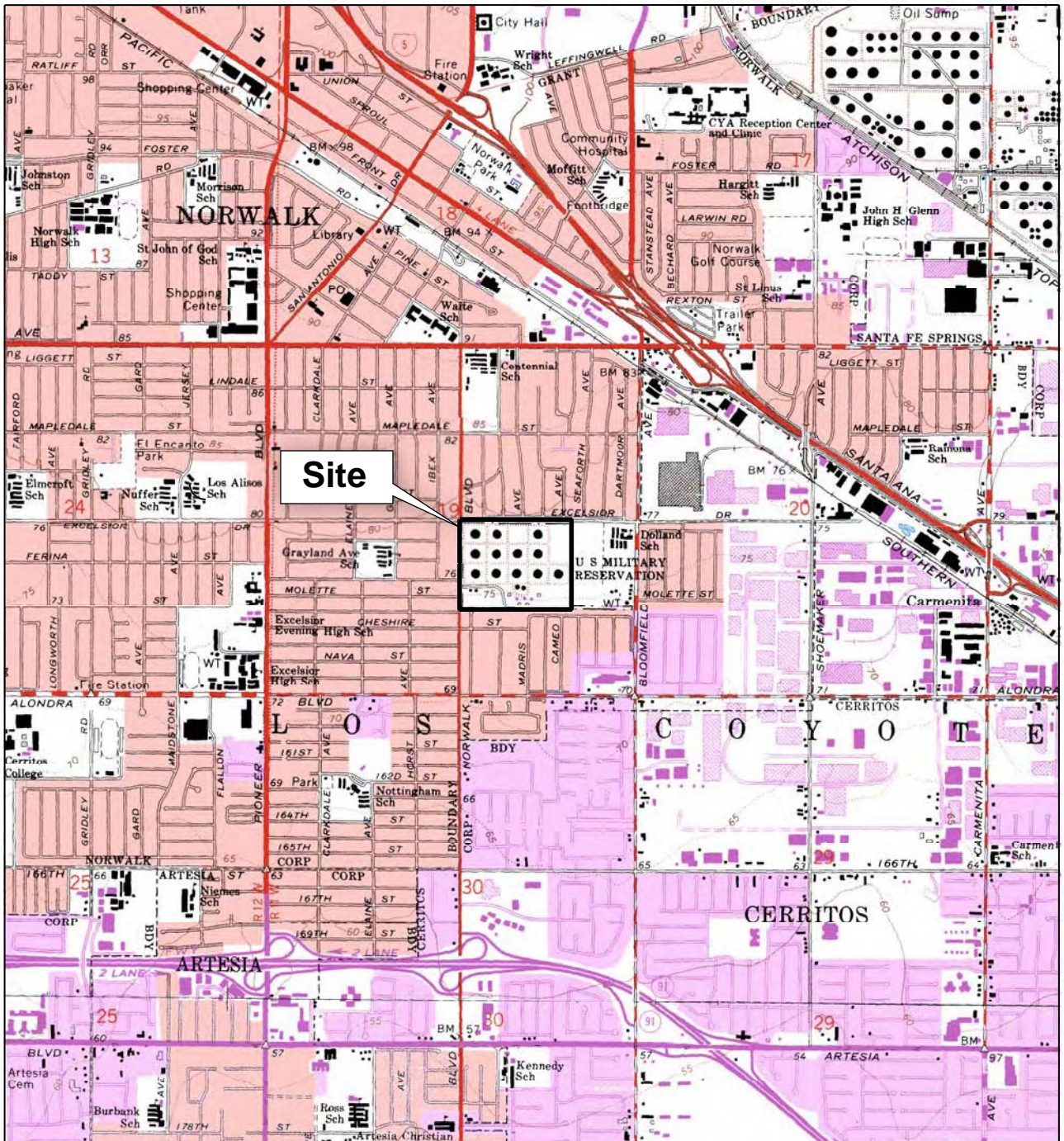
ft msl = feet above mean sea level based on National Geodetic Vertical Datum of 1929

ft btoc = feet below top of casing

--- = not detected or not applicable

## Figures

---



Site



Approximate Scale in Feet



Approximate Scale in Meters



### SITE LOCATION MAP

SFPP Norwalk Pump Station  
Norwalk, California

By: Andy Vollmar

Date: July 21, 2010

Project No: 407609

**CH2MHILL**

Figure 1

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.





### Explanation

- GMW-5 ◆ Existing Groundwater Monitoring Well
- VE-1 ↑ Existing Remediation Well
- KMEP Remediation Piping Layout (above ground and below ground)
- - - Horizontal Vapor Extraction Well Piping
- Approximate Location of Air Compressor Shed

120    60    0    120 Feet

**REMEDIATION SYSTEM LAYOUT**  
 SFPP Norwalk Pump Station  
 Norwalk, California

By: Scott Wolfskill    Date: 4/11/2012    Project No: 406972

**CH2MHILL**    Figure 2

\\C0NIA\GROUPS\EMSPROJECTS\NORWALK\MAPFILES\2012\SYSTEM\SYSTEM\_LAYOUT\REMEDATION\_SYSTEM\_LAYOUT.MXD SWW\FSH 7/9/2012 1:33:06 PM



# Appendix A

## Laboratory Analytical Reports

---

October 07, 2013

Daniel Jablonski  
CH2M HILL  
155 Grand Avenue, Suite 1000  
Oakland, CA 94612  
TEL: (213)228-8271  
FAX: (510) 622-9129

CA-ELAP No.:2676  
NV Cert. No.:NV-009222007A

Workorder No.: N011060

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on September 20, 2013 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

The attached report is the final hard copy pertaining to the subcontracted tests for the above project.

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,



Jose Tenorio Jr.  
Laboratory Director

This cover letter is an integral part of this analytical report.



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691



EOP2011-01

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

CHAIN OF CUSTODY RECORD

DATE: 9/20/13  
 PAGE: 1 OF 1

LABORATORY CLIENT: Kinder Morgan Energy Partners, Attn: Steve Defibaugh							CLIENT PROJECT NAME / NUMBER: SFPP - Norwalk Site				P.O. NO.:	
ADDRESS: 1100 Town & Country Road							PROJECT CONTACT: James Dye				QUOTE NO.:	
CITY: Orange, CA 92868							SAMPLER(S): (SIGNATURE) 				LAB USE ONLY <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
TEL: 714-560-4802		FAX: 714-560-4601		E-MAIL: james.dye@kindermorgan.com			REQUESTED ANALYSIS					
TURNAROUND TIME <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL ___/___/___ SPECIAL INSTRUCTIONS Report to D. Jablonski/CH2M HILL, cc: KMEP Direct Bill KMEP/SFPP - Steve Defibaugh-ref. AFE# 81195 "J" flags required/Use lowest possible detection limit - all methods.												
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING		MAT- RIX	NO. OF CONT.	TO-15	TO-3 (TPH-g)	ASTM-1946 (O2/Argon, CO2, CH4)	Comments		
			DATE	TIME								
	VINF-09-20	Influent Vapor (from header)	9/20/13	1200	Air	4	X	X	X	Monthly sample		
Relinquished by: (Signature) 						Received by: (Signature) MENANDRO S. LARIN				Date: 09/20/13	Time: 15:41	
Relinquished by: (Signature) 						Received by: (Signature) Val Mallari				Date: 9/20/13	Time: 15:46	
Relinquished by: (Signature)						Received by: (Signature)				Date:	Time: 7642	

-01

October 7, 2013

Advanced Technology Labs, Inc.  
ATTN: Marlon Cartin  
3151-3153 W. Post Rd.  
Las Vegas, NV 89118



ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946



LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175

TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15

LABORATORY TEST RESULTS

Project Reference: N011060  
Lab Number: E092011-01

Enclosed are results for sample(s) received 9/20/13 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in black ink that reads 'Mark Johnson'.

Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.

E092011



**Advanced Technology Laboratories**

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

www.atl-labs.com

TEL: 7023072659

FAX: 7023072691

**CHAIN-OF-CUSTODY RECORD**

QC Level: RTNE

**Subcontractor:**

ATL Air Labs  
18501 E. Gaie Ave, Suite 130  
City of Industry, CA 91748

TEL: (626) 964-4032  
FAX: (626) 964-5832  
Acct #:

Field Sampler: James Dye

23-Sep-13

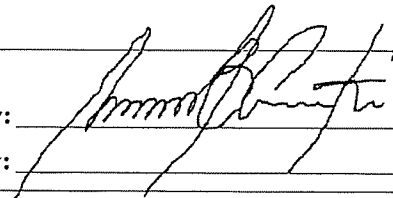
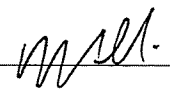
- 01

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				ASTM D1946	EPA TO15	EPA TO3
N011060-001A / VINP-09-20	Air	9/20/2013 12:00:00 PM	BAG		1	1
N011060-001B / VINP-09-20	Air	9/20/2013 5:12:01 PM	BAG	1		

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

Please use PO#: N011060 For questions, call Marlon at (702)-307-2659. Please e-mail results to marlon@atl-labs.com by: Normal TAT

Please analyze for TO3, TO15 and O2, Ar, CO2, CH4 by ASTM D1946

Relinquished by: 	Date/Time: 9/23/2013 9:27 AM	Received by: 	Date/Time: 9/20/13 16:42
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____

Client: Advanced Technology Laboratories  
 Attn: Marlon Cartin  
 Project Name: NA  
 Project No.: N011060  
 Date Received: 09/20/13  
 Matrix: Air  
 Reporting Units: ppbv

EPA Method TO15

Lab No.:	E092011-01						
Client Sample I.D.:	N011060-001A / VINP-09-20						
Date Sampled:	09/20/13						
Date Analyzed:	09/23/13						
QC Batch No.:	130923MS2A1						
Analyst Initials:	DT						
Dilution Factor:	40						
ANALYTE	Result ppbv	RL ppbv					
Dichlorodifluoromethane (12)	ND	40					
Chloromethane	760	80					
1,2-CI-1,1,2,2-F ethane (114)	ND	40					
Vinyl Chloride	ND	40					
Bromomethane	ND	40					
Chloroethane	ND	40					
Trichlorofluoromethane (11)	ND	40					
1,1-Dichloroethene	ND	40					
Carbon Disulfide	ND	200					
1,1,2-CI 1,2,2-F ethane (113)	ND	40					
Acetone	510	200					
Methylene Chloride	ND	40					
t-1,2-Dichloroethene	ND	40					
1,1-Dichloroethane	ND	40					
Vinyl Acetate	ND	200					
c-1,2-Dichloroethene	ND	40					
2-Butanone	ND	40					
t-Butyl Methyl Ether (MTBE)	ND	40					
Chloroform	ND	40					
1,1,1-Trichloroethane	ND	40					
Carbon Tetrachloride	ND	40					
Benzene	4,200	40					
1,2-Dichloroethane	ND	40					
Trichloroethene	ND	40					
1,2-Dichloropropane	ND	40					
Bromodichloromethane	ND	40					
c-1,3-Dichloropropene	ND	40					
4-Methyl-2-Pentanone	ND	40					
Toluene	3,600	40					
t-1,3-Dichloropropene	ND	40					





QC Batch #: 130923MS2A1

Matrix: Air

EPA Method TO-14/TO-15											
Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	09/23/13		09/23/13	09/23/13							
Data File ID:	23SEP005.D		23SEP003.D	23SEP004.D							
Analyst Initials:	DT		DT	DT							
Dilution Factor:	0.2		1.0	1.0	Limits						
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/Fail
1,1-Dichloroethene	0.0	10.0	8.7	87	8.7	87	0.7	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.6	86	8.4	84	1.6	70	130	30	Pass
Trichloroethene	0.0	10.0	8.6	86	8.2	82	5.1	70	130	30	Pass
Toluene	0.0	10.0	7.5	75	7.2	72	4.3	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.8	88	8.5	85	3.9	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: Mark Johnson  
 Mark Johnson  
 Operations Manager

Date: 10/7/13

The cover letter is an integral part of this analytical report










**Client:** Advanced Technology Laboratories  
**Attn:** Marlon Cartin  
**Project Name:** NA  
**Project No.:** N011060  
**Date Received:** 09/20/13  
**Matrix:** Air  
**Reporting Units:** % v/v

**ASTM D1946**

<b>Lab No.:</b>	E092011-01						
<b>Client Sample I.D.:</b>	N011060-001A / VINP-09-20						
<b>Date Sampled:</b>	09/20/13						
<b>Date Analyzed:</b>	09/23/13						
<b>QC Batch No.:</b>	130923GC8A1						
<b>Analyst Initials:</b>	MJ						
<b>Dilution Factor:</b>	1.0						
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>					
Carbon Dioxide	1.0	0.010					
Oxygen/Argon	21	0.50					
Methane	0.014	0.0010					

ND = Not Detected (below RL)  
 RL = Reporting Limit

Reviewed/Approved By:   
 Mark Johnson  
 Operations Manager

Date 10-7-13

The cover letter is an integral part of this analytical report



QC Batch No.: 130923GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCS	LCS	LCS	LCS	LCS	LCS
Date Analyzed:	09/23/13	09/23/13	09/23/13	09/23/13	09/23/13	09/23/13	09/23/13	09/23/13
Analyst Initials:	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ
Datafile:	23sep012	23sep009	23sep009	23sep009	23sep010	23sep010	23sep010	23sep010
Dilution Factor:	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Dioxide	ND	0.010	96	70-130%	96	70-130%	0.4	<30
Oxygen/Argon	ND	0.50	99	70-130%	100	70-130%	1.0	<30
Methane	ND	0.0010	94	70-130%	94	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: Mark J. Johnson  
 Mark J. Johnson  
 Operations Manager

Date: 10-7-13

The cover letter is an integral part of this analytical report.



July 23, 2013

Daniel Jablonski  
CH2M HILL  
155 Grand Avenue, Suite 1000  
Oakland, CA 94612  
TEL: (213)228-8271  
FAX: (510) 622-9129

CA-ELAP No.:2676  
NV Cert. No.:NV-009222007A

Workorder No.: N010602

RE: SFPP - Norwalk Site

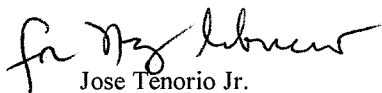
Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on July 17, 2013 by Advanced Technology Laboratories, Inc. . 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,



Jose Tenorio Jr.

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.



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

---

**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N010602

---

**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

Samples were received intact with proper chain of custody documentation.

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

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

Samples were analyzed within method holding time.

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

**Analytical Comments for EPA 8260B:**

Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) recovery biased high for Acetone. Sample result was non-detect (ND) for this analyte therefore reanalysis was not necessary.

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

RPD for Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) is outside criteria for some analytes ; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N010602  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N010602-001A	INF-07-16	Wastewater	7/16/2013 12:20:00 PM	7/17/2013	7/23/2013
N010602-001B	INF-07-16	Wastewater	7/16/2013 12:20:00 PM	7/17/2013	7/23/2013
N010602-001C	INF-07-16	Wastewater	7/16/2013 12:20:00 PM	7/17/2013	7/23/2013



**CLIENT:** CH2M HILL  
**Lab Order:** N010602  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N010602-001

**Client Sample ID:** INF-07-16  
**Collection Date:** 7/16/2013 12:20:00 PM  
**Matrix:** WASTEWATER

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

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 8260B**

RunID: MS5_130718A	QC Batch: P13VW112	PrepDate:	Analyst: QBM			
1,1,1,2-Tetrachloroethane	ND	0.068	1.0	ug/L	1	7/18/2013 02:38 PM
1,1,1-Trichloroethane	ND	0.072	1.0	ug/L	1	7/18/2013 02:38 PM
1,1,2,2-Tetrachloroethane	ND	0.10	1.0	ug/L	1	7/18/2013 02:38 PM
1,1,2-Trichloroethane	ND	0.13	1.0	ug/L	1	7/18/2013 02:38 PM
1,1-Dichloroethane	ND	0.062	0.50	ug/L	1	7/18/2013 02:38 PM
1,1-Dichloroethene	ND	0.16	1.0	ug/L	1	7/18/2013 02:38 PM
1,1-Dichloropropene	ND	0.073	1.0	ug/L	1	7/18/2013 02:38 PM
1,2,3-Trichlorobenzene	ND	0.084	1.0	ug/L	1	7/18/2013 02:38 PM
1,2,3-Trichloropropane	ND	0.11	1.0	ug/L	1	7/18/2013 02:38 PM
1,2,4-Trichlorobenzene	ND	0.10	1.0	ug/L	1	7/18/2013 02:38 PM
1,2,4-Trimethylbenzene	35	0.036	1.0	ug/L	1	7/18/2013 02:38 PM
1,2-Dibromo-3-chloropropane	ND	0.34	2.0	ug/L	1	7/18/2013 02:38 PM
1,2-Dibromoethane	ND	0.090	1.0	ug/L	1	7/18/2013 02:38 PM
1,2-Dichlorobenzene	ND	0.048	1.0	ug/L	1	7/18/2013 02:38 PM
1,2-Dichloroethane	0.72	0.044	0.50	ug/L	1	7/18/2013 02:38 PM
1,2-Dichloropropane	ND	0.094	1.0	ug/L	1	7/18/2013 02:38 PM
1,3,5-Trimethylbenzene	38	0.054	1.0	ug/L	1	7/18/2013 02:38 PM
1,3-Dichlorobenzene	ND	0.061	1.0	ug/L	1	7/18/2013 02:38 PM
1,3-Dichloropropane	ND	0.081	1.0	ug/L	1	7/18/2013 02:38 PM
1,4-Dichlorobenzene	ND	0.078	1.0	ug/L	1	7/18/2013 02:38 PM
2,2-Dichloropropane	ND	0.061	1.0	ug/L	1	7/18/2013 02:38 PM
2-Butanone	ND	0.70	10	ug/L	1	7/18/2013 02:38 PM
2-Chlorotoluene	ND	0.054	1.0	ug/L	1	7/18/2013 02:38 PM
4-Chlorotoluene	ND	0.039	1.0	ug/L	1	7/18/2013 02:38 PM
4-Isopropyltoluene	2.1	0.044	1.0	ug/L	1	7/18/2013 02:38 PM
4-Methyl-2-pentanone	ND	0.59	10	ug/L	1	7/18/2013 02:38 PM
Acetone	1.5	1.2	10	J ug/L	1	7/18/2013 02:38 PM
Acrolein	ND	0.89	20	ug/L	1	7/18/2013 02:38 PM
Acrylonitrile	ND	0.68	20	ug/L	1	7/18/2013 02:38 PM
Benzene	870	4.8	100	ug/L	100	7/18/2013 01:43 PM
Bromobenzene	ND	0.054	1.0	ug/L	1	7/18/2013 02:38 PM
Bromochloromethane	ND	0.15	1.0	ug/L	1	7/18/2013 02:38 PM
Bromodichloromethane	ND	0.048	1.0	ug/L	1	7/18/2013 02:38 PM
Bromoform	ND	0.18	1.0	ug/L	1	7/18/2013 02:38 PM
Bromomethane	ND	0.13	1.0	ug/L	1	7/18/2013 02:38 PM
Carbon disulfide	ND	0.040	1.0	ug/L	1	7/18/2013 02:38 PM

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

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



**CLIENT:** CH2M HILL  
**Lab Order:** N010602  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N010602-001

**Client Sample ID:** INF-07-16  
**Collection Date:** 7/16/2013 12:20:00 PM  
**Matrix:** WASTEWATER

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

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**EPA 8260B**

RunID: MS5_130718A	QC Batch: P13VW112	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.057	1.0	ug/L	1	7/18/2013 02:38 PM
Chlorobenzene	ND	0.044	1.0	ug/L	1	7/18/2013 02:38 PM
Chloroethane	ND	0.17	1.0	ug/L	1	7/18/2013 02:38 PM
Chloroform	ND	0.048	1.0	ug/L	1	7/18/2013 02:38 PM
Chloromethane	ND	0.043	1.0	ug/L	1	7/18/2013 02:38 PM
cis-1,2-Dichloroethene	ND	0.057	1.0	ug/L	1	7/18/2013 02:38 PM
cis-1,3-Dichloropropene	ND	0.051	1.0	ug/L	1	7/18/2013 02:38 PM
Di-isopropyl ether	14	0.038	1.0	ug/L	1	7/18/2013 02:38 PM
Dibromochloromethane	ND	0.070	1.0	ug/L	1	7/18/2013 02:38 PM
Dibromomethane	ND	0.11	1.0	ug/L	1	7/18/2013 02:38 PM
Dichlorodifluoromethane	ND	0.054	1.0	ug/L	1	7/18/2013 02:38 PM
Ethyl tert-butyl ether	ND	0.061	1.0	ug/L	1	7/18/2013 02:38 PM
Ethylbenzene	19	0.036	1.0	ug/L	1	7/18/2013 02:38 PM
Freon-113	ND	0.15	1.0	ug/L	1	7/18/2013 02:38 PM
Hexachlorobutadiene	ND	0.070	1.0	ug/L	1	7/18/2013 02:38 PM
Isopropylbenzene	6.4	0.073	1.0	ug/L	1	7/18/2013 02:38 PM
m,p-Xylene	110	0.14	1.0	ug/L	1	7/18/2013 02:38 PM
Methylene chloride	ND	0.28	2.0	ug/L	1	7/18/2013 02:38 PM
MTBE	100	0.98	10	ug/L	10	7/18/2013 02:11 PM
n-Butylbenzene	2.5	0.076	1.0	ug/L	1	7/18/2013 02:38 PM
n-Propylbenzene	16	0.049	1.0	ug/L	1	7/18/2013 02:38 PM
Naphthalene	55	0.10	1.0	ug/L	1	7/18/2013 02:38 PM
o-Xylene	36	0.042	1.0	ug/L	1	7/18/2013 02:38 PM
sec-Butylbenzene	1.5	0.036	1.0	ug/L	1	7/18/2013 02:38 PM
Styrene	ND	0.040	1.0	ug/L	1	7/18/2013 02:38 PM
Tert-amyl methyl ether	ND	0.054	1.0	ug/L	1	7/18/2013 02:38 PM
Tert-Butanol	600	10	50	ug/L	10	7/18/2013 02:11 PM
tert-Butylbenzene	ND	0.040	1.0	ug/L	1	7/18/2013 02:38 PM
Tetrachloroethene	ND	0.12	1.0	ug/L	1	7/18/2013 02:38 PM
Toluene	47	0.034	2.0	ug/L	1	7/18/2013 02:38 PM
trans-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	7/18/2013 02:38 PM
trans-1,3-Dichloropropene	ND	0.060	1.0	ug/L	1	7/18/2013 02:38 PM
Trichloroethene	ND	0.075	1.0	ug/L	1	7/18/2013 02:38 PM
Trichlorofluoromethane	ND	0.057	1.0	ug/L	1	7/18/2013 02:38 PM
Vinyl chloride	ND	0.082	1.0	ug/L	1	7/18/2013 02:38 PM
Xylenes, Total	140	1.5	2.0	ug/L	1	7/18/2013 02:38 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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<b>CLIENT:</b> CH2M HILL	<b>Client Sample ID:</b> INF-07-16
<b>Lab Order:</b> N010602	<b>Collection Date:</b> 7/16/2013 12:20:00 PM
<b>Project:</b> SFPP - Norwalk Site	<b>Matrix:</b> WASTEWATER
<b>Lab ID:</b> N010602-001	

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

**EPA 8260B**

RunID: <b>MS5_130718A</b>	QC Batch: <b>P13VW112</b>	PrepDate:	Analyst: <b>QBM</b>
Surr: 1,2-Dichloroethane-d4	92.6 0	72-119	%REC 100 7/18/2013 01:43 PM
Surr: 1,2-Dichloroethane-d4	99.9 0	72-119	%REC 1 7/18/2013 02:38 PM
Surr: 1,2-Dichloroethane-d4	91.5 0	72-119	%REC 10 7/18/2013 02:11 PM
Surr: 4-Bromofluorobenzene	105 0	76-119	%REC 1 7/18/2013 02:38 PM
Surr: 4-Bromofluorobenzene	101 0	76-119	%REC 100 7/18/2013 01:43 PM
Surr: 4-Bromofluorobenzene	101 0	76-119	%REC 10 7/18/2013 02:11 PM
Surr: Dibromofluoromethane	91.8 0	85-115	%REC 100 7/18/2013 01:43 PM
Surr: Dibromofluoromethane	96.1 0	85-115	%REC 1 7/18/2013 02:38 PM
Surr: Dibromofluoromethane	94.0 0	85-115	%REC 10 7/18/2013 02:11 PM
Surr: Toluene-d8	99.4 0	81-120	%REC 100 7/18/2013 01:43 PM
Surr: Toluene-d8	100 0	81-120	%REC 10 7/18/2013 02:11 PM
Surr: Toluene-d8	103 0	81-120	%REC 1 7/18/2013 02:38 PM

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID: <b>GC1_130722A</b>	QC Batch: <b>43489</b>	PrepDate: <b>7/22/2013</b>	Analyst: <b>MDM</b>
TPH-Diesel (C13-C22)	1000 13	51	ug/L 1 7/22/2013 04:12 PM
TPH-Oil (C23-C36)	130 9.7	51	ug/L 1 7/22/2013 04:12 PM
Surr: Octacosane	87.0 0	26-152	%REC 1 7/22/2013 04:12 PM
Surr: p-Terphenyl	84.8 0	57-132	%REC 1 7/22/2013 04:12 PM

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>GC4_130717A</b>	QC Batch: <b>E13VW039</b>	PrepDate:	Analyst: <b>QBM</b>
TPH-Gasoline (C4-C12)	3600 8.5	100	ug/L 1 7/17/2013 12:32 PM
Surr: Chlorobenzene - d5	106 0	74-138	%REC 1 7/17/2013 12:32 PM

**TOTAL TPH**

**EPA 8015B**

RunID: <b>GC1_130722A</b>	QC Batch: <b>R89670</b>	PrepDate:	Analyst: <b>MDM</b>
Total TPH	4730 13	100	ug/L 1 7/22/2013

<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





**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

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

Sample ID: <b>MB-43489</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>7/22/2013</b>	RunNo: <b>89670</b>						
Client ID: <b>PBW</b>	Batch ID: <b>43489</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>7/22/2013</b>	SeqNo: <b>1617850</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	50									
TPH-Oil (C23-C36)	11.634	50									J
Surr: Octacosane	67.175		80.00		84.0	26	152				
Surr: p-Terphenyl	65.152		80.00		81.4	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:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPTOT**

Sample ID: <b>MB-43489</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date: <b>7/22/2013</b>	RunNo: <b>89670</b>						
Client ID: <b>PBW</b>	Batch ID: <b>43489</b>	TestNo: <b>EPA 8015B</b>	<b>EPA 3510C</b>	Analysis Date: <b>7/22/2013</b>	SeqNo: <b>1617852</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	100									

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | 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:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID: <b>E130717LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89610</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E13VW039</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>7/17/2013</b>	SeqNo: <b>1614130</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	854.000	100	1000	0	85.4	67	136				
Surr: Chlorobenzene - d5	51761.000		50000		104	74	138				

Sample ID: <b>E130717MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89610</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E13VW039</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>7/17/2013</b>	SeqNo: <b>1614131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	ND	100									
Surr: Chlorobenzene - d5	52588.000		50000		105	74	138				

Sample ID: <b>N010578-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89610</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW039</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>7/17/2013</b>	SeqNo: <b>1614133</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	771.000	100	1000	0	77.1	67	136				
Surr: Chlorobenzene - d5	51458.000		50000		103	74	138				

Sample ID: <b>N010578-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89610</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW039</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>7/17/2013</b>	SeqNo: <b>1614134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	808.000	100	1000	0	80.8	67	136	771.0	4.69	30	
Surr: Chlorobenzene - d5	50186.000		50000		100	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:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130718LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615786</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	19.770	1.0	20.00	0	98.8	81	129				
1,1,1-Trichloroethane	17.800	1.0	20.00	0	89.0	67	132				
1,1,2,2-Tetrachloroethane	18.840	1.0	20.00	0	94.2	63	128				
1,1,2-Trichloroethane	18.990	1.0	20.00	0	95.0	75	125				
1,1-Dichloroethane	17.870	0.50	20.00	0	89.4	69	133				
1,1-Dichloroethene	18.570	1.0	20.00	0	92.8	68	130				
1,1-Dichloropropene	18.820	1.0	20.00	0	94.1	73	132				
1,2,3-Trichlorobenzene	20.120	1.0	20.00	0	101	67	137				
1,2,3-Trichloropropane	18.820	1.0	20.00	0	94.1	73	124				
1,2,4-Trichlorobenzene	19.840	1.0	20.00	0	99.2	66	134				
1,2,4-Trimethylbenzene	20.120	1.0	20.00	0	101	74	132				
1,2-Dibromo-3-chloropropane	19.090	2.0	20.00	0	95.4	50	132				
1,2-Dibromoethane	18.610	1.0	20.00	0	93.0	80	121				
1,2-Dichlorobenzene	19.660	1.0	20.00	0	98.3	71	122				
1,2-Dichloroethane	19.000	0.50	20.00	0	95.0	69	132				
1,2-Dichloropropane	19.190	1.0	20.00	0	96.0	75	125				
1,3,5-Trimethylbenzene	19.940	1.0	20.00	0	99.7	74	131				
1,3-Dichlorobenzene	19.650	1.0	20.00	0	98.2	75	124				
1,3-Dichloropropane	19.500	1.0	20.00	0	97.5	73	126				
1,4-Dichlorobenzene	19.220	1.0	20.00	0	96.1	74	123				
2,2-Dichloropropane	19.450	1.0	20.00	0	97.3	69	137				
2-Butanone	220.540	10	200.0	0	110	49	136				
2-Chlorotoluene	19.830	1.0	20.00	0	99.2	73	126				
4-Chlorotoluene	19.820	1.0	20.00	0	99.1	74	128				
4-Isopropyltoluene	20.050	1.0	20.00	0	100	73	130				
4-Methyl-2-pentanone	191.190	10	200.0	0	95.6	58	134				
Acetone	331.830	10	200.0	0	166	40	135				S
Acrolein	189.030	20	200.0	0	94.5	75	125				
Acrylonitrile	181.090	20	200.0	0	90.5	75	125				
Benzene	19.440	1.0	20.00	0	97.2	81	122				

**Qualifiers:**

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



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**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130718LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615786</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.550	1.0	20.00	0	97.8	76	124				
Bromochloromethane	18.260	1.0	20.00	0	91.3	65	129				
Bromodichloromethane	19.570	1.0	20.00	0	97.9	76	121				
Bromoform	19.680	1.0	20.00	0	98.4	69	128				
Bromomethane	21.140	1.0	20.00	0	106	53	141				
Carbon disulfide	18.860	1.0	20.00	0	94.3	75	125				
Carbon tetrachloride	19.680	1.0	20.00	0	98.4	66	138				
Chlorobenzene	19.280	1.0	20.00	0	96.4	81	122				
Chloroethane	21.460	1.0	20.00	0	107	58	133				
Chloroform	17.590	1.0	20.00	0	88.0	69	128				
Chloromethane	19.200	1.0	20.00	0	96.0	56	131				
cis-1,2-Dichloroethene	17.870	1.0	20.00	0	89.4	72	126				
cis-1,3-Dichloropropene	19.730	1.0	20.00	0	98.6	69	131				
Di-isopropyl ether	18.080	1.0	20.00	0	90.4	70	130				
Dibromochloromethane	19.470	1.0	20.00	0	97.4	66	133				
Dibromomethane	19.260	1.0	20.00	0	96.3	76	125				
Dichlorodifluoromethane	19.670	1.0	20.00	0	98.4	53	153				
Ethyl tert-butyl ether	18.280	1.0	20.00	0	91.4	70	130				
Ethylbenzene	19.620	1.0	20.00	0	98.1	73	127				
Freon-113	18.480	1.0	20.00	0	92.4	75	125				
Hexachlorobutadiene	19.790	1.0	20.00	0	99.0	67	131				
Isopropylbenzene	20.080	1.0	20.00	0	100	75	127				
m,p-Xylene	39.950	1.0	40.00	0	99.9	76	128				
Methylene chloride	17.700	2.0	20.00	0	88.5	63	137				
MTBE	16.990	1.0	20.00	0	85.0	65	123				
n-Butylbenzene	20.520	1.0	20.00	0	103	69	137				
n-Propylbenzene	20.060	1.0	20.00	0	100	72	129				
Naphthalene	20.230	1.0	20.00	0	101	54	138				
o-Xylene	19.840	1.0	20.00	0	99.2	80	121				
sec-Butylbenzene	20.040	1.0	20.00	0	100	72	127				

**Qualifiers:**

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



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CLIENT: CH2M HILL  
 Work Order: N010602  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: P130718LCS		SampType: LCS		TestCode: 8260_WP_SF		Units: ug/L		Prep Date:		RunNo: 89628	
Client ID: LCSW		Batch ID: P13VW112		TestNo: EPA 8260B		Analysis Date: 7/18/2013		SeqNo: 1615786			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	20.020	1.0	20.00	0	100	65	134				
Tert-amyl methyl ether	18.740	1.0	20.00	0	93.7	70	130				
Tert-Butanol	81.590	5.0	100.0	0	81.6	70	130				
tert-Butylbenzene	19.900	1.0	20.00	0	99.5	70	129				
Tetrachloroethene	18.820	1.0	20.00	0	94.1	66	128				
Toluene	19.150	2.0	20.00	0	95.8	77	122				
trans-1,2-Dichloroethene	17.890	1.0	20.00	0	89.4	63	137				
trans-1,3-Dichloropropene	19.290	1.0	20.00	0	96.5	59	135				
Trichloroethene	18.630	1.0	20.00	0	93.2	70	127				
Trichlorofluoromethane	18.810	1.0	20.00	0	94.1	57	129				
Vinyl chloride	18.850	1.0	20.00	0	94.3	50	134				
Xylenes, Total	59.790	2.0	60.00	0	99.6	75	125				
Surr: 1,2-Dichloroethane-d4	23.500		25.00		94.0	72	119				
Surr: 4-Bromofluorobenzene	25.700		25.00		103	76	119				
Surr: Dibromofluoromethane	23.220		25.00		92.9	85	115				
Surr: Toluene-d8	25.550		25.00		102	81	120				

Sample ID: P130718LCS		SampType: LCSD		TestCode: 8260_WP_SF		Units: ug/L		Prep Date:		RunNo: 89628	
Client ID: LCSS02		Batch ID: P13VW112		TestNo: EPA 8260B		Analysis Date: 7/18/2013		SeqNo: 1615787			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.600	1.0	20.00	0	103	81	129	19.77	4.11	20	
1,1,1-Trichloroethane	17.980	1.0	20.00	0	89.9	67	132	17.80	1.01	20	
1,1,2,2-Tetrachloroethane	19.700	1.0	20.00	0	98.5	63	128	18.84	4.46	20	
1,1,2-Trichloroethane	19.490	1.0	20.00	0	97.5	75	125	18.99	2.60	20	
1,1-Dichloroethane	18.220	0.50	20.00	0	91.1	69	133	17.87	1.94	20	
1,1-Dichloroethene	18.710	1.0	20.00	0	93.6	68	130	18.57	0.751	20	
1,1-Dichloropropene	19.330	1.0	20.00	0	96.7	73	132	18.82	2.67	20	
1,2,3-Trichlorobenzene	20.910	1.0	20.00	0	105	67	137	20.12	3.85	20	
1,2,3-Trichloropropane	19.720	1.0	20.00	0	98.6	73	124	18.82	4.67	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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010602  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130718LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>LCSS02</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615787</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.710	1.0	20.00	0	104	66	134	19.84	4.29	20	
1,2,4-Trimethylbenzene	20.690	1.0	20.00	0	103	74	132	20.12	2.79	20	
1,2-Dibromo-3-chloropropane	20.260	2.0	20.00	0	101	50	132	19.09	5.95	20	
1,2-Dibromoethane	19.200	1.0	20.00	0	96.0	80	121	18.61	3.12	20	
1,2-Dichlorobenzene	20.360	1.0	20.00	0	102	71	122	19.66	3.50	20	
1,2-Dichloroethane	19.350	0.50	20.00	0	96.8	69	132	19.00	1.83	20	
1,2-Dichloropropane	19.480	1.0	20.00	0	97.4	75	125	19.19	1.50	20	
1,3,5-Trimethylbenzene	20.390	1.0	20.00	0	102	74	131	19.94	2.23	20	
1,3-Dichlorobenzene	20.330	1.0	20.00	0	102	75	124	19.65	3.40	20	
1,3-Dichloropropane	20.520	1.0	20.00	0	103	73	126	19.50	5.10	20	
1,4-Dichlorobenzene	19.970	1.0	20.00	0	99.8	74	123	19.22	3.83	20	
2,2-Dichloropropane	19.030	1.0	20.00	0	95.2	69	137	19.45	2.18	20	
2-Butanone	164.250	10	200.0	0	82.1	49	136	220.5	29.3	20	R
2-Chlorotoluene	20.290	1.0	20.00	0	101	73	126	19.83	2.29	20	
4-Chlorotoluene	20.110	1.0	20.00	0	101	74	128	19.82	1.45	20	
4-Isopropyltoluene	20.550	1.0	20.00	0	103	73	130	20.05	2.46	20	
4-Methyl-2-pentanone	194.500	10	200.0	0	97.2	58	134	191.2	1.72	20	
Acetone	175.380	10	200.0	0	87.7	40	135	331.8	61.7	20	R
Acrolein	189.680	20	200.0	0	94.8	75	125	189.0	0.343	20	
Acrylonitrile	180.590	20	200.0	0	90.3	75	125	181.1	0.276	20	
Benzene	19.600	1.0	20.00	0	98.0	81	122	19.44	0.820	20	
Bromobenzene	20.510	1.0	20.00	0	103	76	124	19.55	4.79	20	
Bromochloromethane	17.930	1.0	20.00	0	89.7	65	129	18.26	1.82	20	
Bromodichloromethane	19.800	1.0	20.00	0	99.0	76	121	19.57	1.17	20	
Bromoform	21.150	1.0	20.00	0	106	69	128	19.68	7.20	20	
Bromomethane	21.560	1.0	20.00	0	108	53	141	21.14	1.97	20	
Carbon disulfide	18.540	1.0	20.00	0	92.7	75	125	18.86	1.71	20	
Carbon tetrachloride	19.980	1.0	20.00	0	99.9	66	138	19.68	1.51	20	
Chlorobenzene	19.960	1.0	20.00	0	99.8	81	122	19.28	3.47	20	
Chloroethane	21.420	1.0	20.00	0	107	58	133	21.46	0.187	20	

**Qualifiers:**

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



**Advanced Technology  
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3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010602  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130718LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>LCSS02</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615787</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	17.860	1.0	20.00	0	89.3	69	128	17.59	1.52	20	
Chloromethane	18.420	1.0	20.00	0	92.1	56	131	19.20	4.15	20	
cis-1,2-Dichloroethene	18.170	1.0	20.00	0	90.9	72	126	17.87	1.66	20	
cis-1,3-Dichloropropene	19.720	1.0	20.00	0	98.6	69	131	19.73	0.0507	20	
Di-isopropyl ether	18.100	1.0	20.00	0	90.5	70	130	18.08	0.111	20	
Dibromochloromethane	20.470	1.0	20.00	0	102	66	133	19.47	5.01	20	
Dibromomethane	19.290	1.0	20.00	0	96.5	76	125	19.26	0.156	20	
Dichlorodifluoromethane	19.790	1.0	20.00	0	99.0	53	153	19.67	0.608	20	
Ethyl tert-butyl ether	18.260	1.0	20.00	0	91.3	70	130	18.28	0.109	20	
Ethylbenzene	20.100	1.0	20.00	0	101	73	127	19.62	2.42	20	
Freon-113	18.440	1.0	20.00	0	92.2	75	125	18.48	0.217	20	
Hexachlorobutadiene	20.160	1.0	20.00	0	101	67	131	19.79	1.85	20	
Isopropylbenzene	20.370	1.0	20.00	0	102	75	127	20.08	1.43	20	
m,p-Xylene	41.570	1.0	40.00	0	104	76	128	39.95	3.97	20	
Methylene chloride	18.050	2.0	20.00	0	90.3	63	137	17.70	1.96	20	
MTBE	17.080	1.0	20.00	0	85.4	65	123	16.99	0.528	20	
n-Butylbenzene	20.870	1.0	20.00	0	104	69	137	20.52	1.69	20	
n-Propylbenzene	20.430	1.0	20.00	0	102	72	129	20.06	1.83	20	
Naphthalene	21.170	1.0	20.00	0	106	54	138	20.23	4.54	20	
o-Xylene	20.650	1.0	20.00	0	103	80	121	19.84	4.00	20	
sec-Butylbenzene	20.550	1.0	20.00	0	103	72	127	20.04	2.51	20	
Styrene	20.470	1.0	20.00	0	102	65	134	20.02	2.22	20	
Tert-amyl methyl ether	19.120	1.0	20.00	0	95.6	70	130	18.74	2.01	20	
Tert-Butanol	85.020	5.0	100.0	0	85.0	70	130	81.59	4.12	20	
tert-Butylbenzene	20.400	1.0	20.00	0	102	70	129	19.90	2.48	20	
Tetrachloroethene	19.560	1.0	20.00	0	97.8	66	128	18.82	3.86	20	
Toluene	19.530	2.0	20.00	0	97.6	77	122	19.15	1.96	20	
trans-1,2-Dichloroethene	18.150	1.0	20.00	0	90.8	63	137	17.89	1.44	20	
trans-1,3-Dichloropropene	19.500	1.0	20.00	0	97.5	59	135	19.29	1.08	20	
Trichloroethene	19.280	1.0	20.00	0	96.4	70	127	18.63	3.43	20	

**Qualifiers:**

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691



**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130718LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615787</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	18.730	1.0	20.00	0	93.6	57	129	18.81	0.426	20	
Vinyl chloride	18.750	1.0	20.00	0	93.8	50	134	18.85	0.532	20	
Xylenes, Total	62.220	2.0	60.00	0	104	75	125	59.79	3.98	20	
Surr: 1,2-Dichloroethane-d4	23.230		25.00		92.9	72	119		0		
Surr: 4-Bromofluorobenzene	26.550		25.00		106	76	119		0		
Surr: Dibromofluoromethane	23.200		25.00		92.8	85	115		0		
Surr: Toluene-d8	25.630		25.00		103	81	120		0		

Sample ID: <b>P130718MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615788</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
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									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									

**Qualifiers:**

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



**Advanced Technology  
 Laboratories, Inc.**

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**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130718MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>PBW</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615788</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130718MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>PBW</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615788</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
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									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	23.590		25.00		94.4	72	119				
Surr: 4-Bromofluorobenzene	25.610		25.00		102	76	119				
Surr: Dibromofluoromethane	22.950		25.00		91.8	85	115				
Surr: Toluene-d8	25.330		25.00		101	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               |
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Laboratories, Inc.**

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CLIENT: CH2M HILL  
 Work Order: N010602  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010613-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615793</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	19.020	1.0	20.00	0	95.1	81	129				
1,1,1-Trichloroethane	16.680	1.0	20.00	0	83.4	67	132				
1,1,2,2-Tetrachloroethane	19.140	1.0	20.00	0	95.7	63	128				
1,1,2-Trichloroethane	18.780	1.0	20.00	0	93.9	75	125				
1,1-Dichloroethane	17.070	0.50	20.00	0	85.4	69	133				
1,1-Dichloroethene	17.570	1.0	20.00	0	87.9	68	130				
1,1-Dichloropropene	18.310	1.0	20.00	0	91.6	73	132				
1,2,3-Trichlorobenzene	19.750	1.0	20.00	0	98.8	67	137				
1,2,3-Trichloropropane	19.080	1.0	20.00	0	95.4	73	124				
1,2,4-Trichlorobenzene	19.420	1.0	20.00	0	97.1	66	134				
1,2,4-Trimethylbenzene	19.650	1.0	20.00	0	98.2	74	132				
1,2-Dibromo-3-chloropropane	19.280	2.0	20.00	0	96.4	50	132				
1,2-Dibromoethane	18.690	1.0	20.00	0	93.5	80	121				
1,2-Dichlorobenzene	19.300	1.0	20.00	0	96.5	71	122				
1,2-Dichloroethane	18.530	0.50	20.00	0	92.6	69	132				
1,2-Dichloropropane	18.370	1.0	20.00	0	91.9	75	125				
1,3,5-Trimethylbenzene	19.410	1.0	20.00	0	97.0	74	131				
1,3-Dichlorobenzene	18.930	1.0	20.00	0	94.6	75	124				
1,3-Dichloropropane	19.090	1.0	20.00	0	95.4	73	126				
1,4-Dichlorobenzene	18.730	1.0	20.00	0	93.6	74	123				
2,2-Dichloropropane	18.240	1.0	20.00	0	91.2	69	137				
2-Butanone	215.180	10	200.0	1.260	107	49	136				
2-Chlorotoluene	19.190	1.0	20.00	0	96.0	73	126				
4-Chlorotoluene	19.000	1.0	20.00	0	95.0	74	128				
4-Isopropyltoluene	19.410	1.0	20.00	0	97.0	73	130				
4-Methyl-2-pentanone	195.790	10	200.0	0	97.9	58	134				
Acetone	311.850	10	200.0	0	156	40	135				S
Acrolein	167.690	20	200.0	0	83.8	75	125				
Acrylonitrile	176.600	20	200.0	0	88.3	75	125				
Benzene	18.630	1.0	20.00	0	93.2	81	122				

**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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N010613-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615793</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.260	1.0	20.00	0	96.3	76	124				
Bromochloromethane	17.130	1.0	20.00	0	85.7	65	129				
Bromodichloromethane	18.930	1.0	20.00	0	94.6	76	121				
Bromoform	19.220	1.0	20.00	0	96.1	69	128				
Bromomethane	17.890	1.0	20.00	0	89.4	53	141				
Carbon disulfide	17.490	1.0	20.00	0	87.5	75	125				
Carbon tetrachloride	18.790	1.0	20.00	0	94.0	66	138				
Chlorobenzene	18.890	1.0	20.00	0	94.4	81	122				
Chloroethane	19.950	1.0	20.00	0	99.8	58	133				
Chloroform	21.210	1.0	20.00	4.670	82.7	69	128				
Chloromethane	17.890	1.0	20.00	0	89.4	56	131				
cis-1,2-Dichloroethene	16.970	1.0	20.00	0	84.8	72	126				
cis-1,3-Dichloropropene	18.760	1.0	20.00	0	93.8	69	131				
Di-isopropyl ether	17.040	1.0	20.00	0	85.2	70	130				
Dibromochloromethane	19.090	1.0	20.00	0	95.4	66	133				
Dibromomethane	18.490	1.0	20.00	0	92.5	76	125				
Dichlorodifluoromethane	18.880	1.0	20.00	0	94.4	53	153				
Ethyl tert-butyl ether	17.380	1.0	20.00	0	86.9	70	130				
Ethylbenzene	18.990	1.0	20.00	0	95.0	73	127				
Freon-113	17.810	1.0	20.00	0	89.0	75	125				
Hexachlorobutadiene	19.340	1.0	20.00	0	96.7	67	131				
Isopropylbenzene	19.270	1.0	20.00	0	96.4	75	127				
m,p-Xylene	39.010	1.0	40.00	0	97.5	76	128				
Methylene chloride	16.460	2.0	20.00	0	82.3	63	137				
MTBE	16.140	1.0	20.00	0	80.7	65	123				
n-Butylbenzene	19.710	1.0	20.00	0	98.6	69	137				
n-Propylbenzene	19.250	1.0	20.00	0	96.2	72	129				
Naphthalene	20.640	1.0	20.00	0	103	54	138				
o-Xylene	19.540	1.0	20.00	0	97.7	80	121				
sec-Butylbenzene	19.410	1.0	20.00	0	97.0	72	127				

**Qualifiers:**

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010602  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010613-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615793</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	19.610	1.0	20.00	0	98.0	65	134				
Tert-amyl methyl ether	18.480	1.0	20.00	0	92.4	70	130				
Tert-Butanol	84.350	5.0	100.0	0	84.4	70	130				
tert-Butylbenzene	19.320	1.0	20.00	0	96.6	70	129				
Tetrachloroethene	18.350	1.0	20.00	0	91.8	66	128				
Toluene	18.660	2.0	20.00	0	93.3	77	122				
trans-1,2-Dichloroethene	16.890	1.0	20.00	0	84.4	63	137				
trans-1,3-Dichloropropene	18.600	1.0	20.00	0	93.0	59	135				
Trichloroethene	18.310	1.0	20.00	0	91.6	70	127				
Trichlorofluoromethane	18.040	1.0	20.00	0	90.2	57	129				
Vinyl chloride	17.350	1.0	20.00	0	86.8	50	134				
Xylenes, Total	58.550	2.0	60.00	0	97.6	75	125				
Surr: 1,2-Dichloroethane-d4	22.560		25.00		90.2	72	119				
Surr: 4-Bromofluorobenzene	25.530		25.00		102	76	119				
Surr: Dibromofluoromethane	22.360		25.00		89.4	85	115				
Surr: Toluene-d8	24.890		25.00		99.6	81	120				

Sample ID: <b>N010613-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615794</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	19.080	1.0	20.00	0	95.4	81	129	19.02	0.315	20	
1,1,1-Trichloroethane	17.380	1.0	20.00	0	86.9	67	132	16.68	4.11	20	
1,1,2,2-Tetrachloroethane	19.630	1.0	20.00	0	98.2	63	128	19.14	2.53	20	
1,1,2-Trichloroethane	19.560	1.0	20.00	0	97.8	75	125	18.78	4.07	20	
1,1-Dichloroethane	17.980	0.50	20.00	0	89.9	69	133	17.07	5.19	20	
1,1-Dichloroethene	18.110	1.0	20.00	0	90.6	68	130	17.57	3.03	20	
1,1-Dichloropropene	18.940	1.0	20.00	0	94.7	73	132	18.31	3.38	20	
1,2,3-Trichlorobenzene	19.890	1.0	20.00	0	99.4	67	137	19.75	0.706	20	
1,2,3-Trichloropropane	19.980	1.0	20.00	0	99.9	73	124	19.08	4.61	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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010602  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010613-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615794</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	19.740	1.0	20.00	0	98.7	66	134	19.42	1.63	20	
1,2,4-Trimethylbenzene	20.260	1.0	20.00	0	101	74	132	19.65	3.06	20	
1,2-Dibromo-3-chloropropane	19.460	2.0	20.00	0	97.3	50	132	19.28	0.929	20	
1,2-Dibromoethane	19.100	1.0	20.00	0	95.5	80	121	18.69	2.17	20	
1,2-Dichlorobenzene	19.760	1.0	20.00	0	98.8	71	122	19.30	2.36	20	
1,2-Dichloroethane	19.190	0.50	20.00	0	96.0	69	132	18.53	3.50	20	
1,2-Dichloropropane	19.400	1.0	20.00	0	97.0	75	125	18.37	5.45	20	
1,3,5-Trimethylbenzene	20.150	1.0	20.00	0	101	74	131	19.41	3.74	20	
1,3-Dichlorobenzene	19.390	1.0	20.00	0	97.0	75	124	18.93	2.40	20	
1,3-Dichloropropane	19.670	1.0	20.00	0	98.4	73	126	19.09	2.99	20	
1,4-Dichlorobenzene	19.160	1.0	20.00	0	95.8	74	123	18.73	2.27	20	
2,2-Dichloropropane	18.630	1.0	20.00	0	93.2	69	137	18.24	2.12	20	
2-Butanone	216.640	10	200.0	1.260	108	49	136	215.2	0.676	20	
2-Chlorotoluene	19.910	1.0	20.00	0	99.6	73	126	19.19	3.68	20	
4-Chlorotoluene	19.770	1.0	20.00	0	98.8	74	128	19.00	3.97	20	
4-Isopropyltoluene	20.190	1.0	20.00	0	101	73	130	19.41	3.94	20	
4-Methyl-2-pentanone	204.960	10	200.0	0	102	58	134	195.8	4.58	20	
Acetone	304.750	10	200.0	0	152	40	135	311.8	2.30	20	S
Acrolein	172.360	20	200.0	0	86.2	75	125	167.7	2.75	20	
Acrylonitrile	185.260	20	200.0	0	92.6	75	125	176.6	4.79	20	
Benzene	19.410	1.0	20.00	0	97.0	81	122	18.63	4.10	20	
Bromobenzene	19.460	1.0	20.00	0	97.3	76	124	19.26	1.03	20	
Bromochloromethane	17.750	1.0	20.00	0	88.8	65	129	17.13	3.56	20	
Bromodichloromethane	19.340	1.0	20.00	0	96.7	76	121	18.93	2.14	20	
Bromoform	19.150	1.0	20.00	0	95.8	69	128	19.22	0.365	20	
Bromomethane	20.320	1.0	20.00	0	102	53	141	17.89	12.7	20	
Carbon disulfide	18.320	1.0	20.00	0	91.6	75	125	17.49	4.64	20	
Carbon tetrachloride	19.110	1.0	20.00	0	95.6	66	138	18.79	1.69	20	
Chlorobenzene	19.110	1.0	20.00	0	95.6	81	122	18.89	1.16	20	
Chloroethane	21.250	1.0	20.00	0	106	58	133	19.95	6.31	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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CLIENT: CH2M HILL  
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## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010613-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615794</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	22.030	1.0	20.00	4.670	86.8	69	128	21.21	3.79	20	
Chloromethane	19.750	1.0	20.00	0	98.8	56	131	17.89	9.88	20	
cis-1,2-Dichloroethene	17.360	1.0	20.00	0	86.8	72	126	16.97	2.27	20	
cis-1,3-Dichloropropene	19.500	1.0	20.00	0	97.5	69	131	18.76	3.87	20	
Di-isopropyl ether	18.340	1.0	20.00	0	91.7	70	130	17.04	7.35	20	
Dibromochloromethane	19.220	1.0	20.00	0	96.1	66	133	19.09	0.679	20	
Dibromomethane	18.950	1.0	20.00	0	94.8	76	125	18.49	2.46	20	
Dichlorodifluoromethane	19.600	1.0	20.00	0	98.0	53	153	18.88	3.74	20	
Ethyl tert-butyl ether	18.290	1.0	20.00	0	91.4	70	130	17.38	5.10	20	
Ethylbenzene	19.360	1.0	20.00	0	96.8	73	127	18.99	1.93	20	
Freon-113	18.530	1.0	20.00	0	92.6	75	125	17.81	3.96	20	
Hexachlorobutadiene	18.930	1.0	20.00	0	94.6	67	131	19.34	2.14	20	
Isopropylbenzene	19.890	1.0	20.00	0	99.4	75	127	19.27	3.17	20	
m,p-Xylene	39.570	1.0	40.00	0	98.9	76	128	39.01	1.43	20	
Methylene chloride	17.160	2.0	20.00	0	85.8	63	137	16.46	4.16	20	
MTBE	17.030	1.0	20.00	0	85.2	65	123	16.14	5.37	20	
n-Butylbenzene	20.670	1.0	20.00	0	103	69	137	19.71	4.75	20	
n-Propylbenzene	20.220	1.0	20.00	0	101	72	129	19.25	4.92	20	
Naphthalene	21.160	1.0	20.00	0	106	54	138	20.64	2.49	20	
o-Xylene	19.580	1.0	20.00	0	97.9	80	121	19.54	0.204	20	
sec-Butylbenzene	20.150	1.0	20.00	0	101	72	127	19.41	3.74	20	
Styrene	19.800	1.0	20.00	0	99.0	65	134	19.61	0.964	20	
Tert-amyl methyl ether	18.940	1.0	20.00	0	94.7	70	130	18.48	2.46	20	
Tert-Butanol	88.160	5.0	100.0	0	88.2	70	130	84.35	4.42	20	
tert-Butylbenzene	19.960	1.0	20.00	0	99.8	70	129	19.32	3.26	20	
Tetrachloroethene	18.690	1.0	20.00	0	93.5	66	128	18.35	1.84	20	
Toluene	19.230	2.0	20.00	0	96.2	77	122	18.66	3.01	20	
trans-1,2-Dichloroethene	17.440	1.0	20.00	0	87.2	63	137	16.89	3.20	20	
trans-1,3-Dichloropropene	19.510	1.0	20.00	0	97.6	59	135	18.60	4.78	20	
Trichloroethene	18.340	1.0	20.00	0	91.7	70	127	18.31	0.164	20	

**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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3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691



**CLIENT:** CH2M HILL  
**Work Order:** N010602  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N010613-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>89628</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW112</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>7/18/2013</b>	SeqNo: <b>1615794</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	18.440	1.0	20.00	0	92.2	57	129	18.04	2.19	20	
Vinyl chloride	18.270	1.0	20.00	0	91.4	50	134	17.35	5.17	20	
Xylenes, Total	59.150	2.0	60.00	0	98.6	75	125	58.55	1.02	20	
Surr: 1,2-Dichloroethane-d4	23.610		25.00		94.4	72	119		0		
Surr: 4-Bromofluorobenzene	25.940		25.00		104	76	119		0		
Surr: Dibromofluoromethane	23.040		25.00		92.2	85	115		0		
Surr: Toluene-d8	25.530		25.00		102	81	120		0		

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | E Value above quantitation range       | H Holding times for preparation or analysis exceeded |
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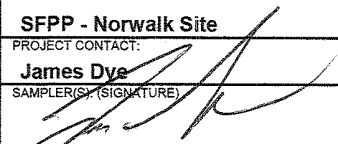
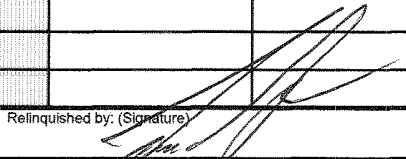
**Advanced Technology  
Laboratories, Inc.**

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

**CHAIN OF CUSTODY RECORD**

DATE: 7/16/13  
 PAGE: 1 OF 1

LABORATORY CLIENT: <b>Kinder Morgan Energy Partners, Attn: Steve Defibaugh</b>				CLIENT PROJECT NAME / NUMBER: <b>SFPP - Norwalk Site</b>				P.O. NO.:					
ADDRESS: <b>1100 Town &amp; Country Road</b>				PROJECT CONTACT: <b>James Dye</b>				QUOTE NO.:					
CITY: <b>Orange, CA 92868</b>				SAMPLER(S) (SIGNATURE): 				LAB USE ONLY <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
TEL: <b>714-560-4802</b>		FAX: <b>714-560-4601</b>		E-MAIL: <b>james.dye@kindermorgan.com</b>									
TURNAROUND TIME <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS				<b>REQUESTED ANALYSIS</b>									
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL ___/___/___													
SPECIAL INSTRUCTIONS <b>Report to D. Jablonski/CH2M HILL, cc: KMEP Direct Bill KMEP/SFPP - Steve Defibaugh-ref. AFE# 81195 "J" flags required/Use lowest possible detection limit - all methods.</b>													
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING		MAT- RIX	NO. OF CONT.	TPH - g, TPH-d, and TPH-oil (8015M)	Full VOC+ Oxygenates List (8260B)				Comments	
			DATE	TIME									
	INF-07-16	Influent	7/16/13	1220	WW	8	X	X	NO10002-1				
Relinquished by: (Signature) 				Received by: (Signature) <b>ABNER MAUGERHS</b>				Date: <b>7/16/13</b>	Time: <b>1418</b>				
Relinquished by: (Signature) <b>ABNER MAUGERHS</b>				Received by: (Signature) <b>C. Agui</b>				Date: <b>7/16/13</b>	Time: <b>1448</b>				
Relinquished by: (Signature) <b>C. Agui - On/row</b>				Received by: (Signature) <b>MBCARTIN</b>				Date: <b>7/17/13</b>	Time: <b>0810</b>				

Revised: 07/19/2012

4.0°C ICE IR#2

## Advanced Technology Laboratories, Inc.

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: 7/17/2013 Workorder: N010602  
 Rep sample Temp (Deg C): 4.6 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: OnTrac  
 Last 4 digits of Tracking No.: 0674 Packing Material Used: None  
 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?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |
| Was Client notified?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/>          |

Comments:

Checklist Completed By MBC *MBC* 7/17/13

Reviewed By: *ergpuzalan*

# Advanced Technology Laboratories, Inc.

## WORK ORDER Summary

17-Jul-13

**WorkOrder:** N010602

**Client ID:** CH2HI01

**Project:** SFPP - Norwalk Site

**QC Level:** RTNE

**Date Received:** 7/17/2013

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

Direct Bill KMEP/SFPP-Steve Defibaugh-ref.AFE# 81195. "J" Flags requ

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N010602-001A	INF-07-16	7/16/2013 12:20:00 PM	7/24/2013	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N010602-001B			7/24/2013		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N010602-001C			7/24/2013		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/24/2013		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/24/2013		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N010602-002A	FOLDER		7/24/2013	Folder	Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



800.334.5000  
ontrac.com

# Waybill

2. FROM (Company)

ENVIRO TREATMENT & TECHNOLOGY\*

Street Address

3275 WALNUT AVE

Suite

City

SIGNAL HILL

State

ZIP Code

Phone Number

CA

90755

**PLEASE PRINT IN BLOCK LETTERS WITH BLUE OR BLACK INK ONLY**

3. TO (Company) WE CANNOT DELIVER TO PO BOXES OR P.O. ZIP CODES

ATL

Street Address

2151 W POST RD

Suite

City

LAS VEGAS

State

ZIP Code

Phone Number

NV 89118 702 207 2611

Recipient's Name

CAMILL RECEIVING

4. Shipper's Reference Number

SIGNAL HILL

Recipient Copy

1a. ORTRAC Manifest Number



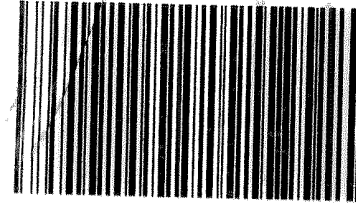
Tracking Number

B10290520674

1b. Date

04/01/07

Pre-Print Number



<p><b>5. WEIGHT</b> SUBJECT TO VERIFICATION 8 oz. Letter or </p> <p>14 B S</p>	<p><b>6. SERVICE LEVEL</b> COMMITMENT THATS MAY VARY</p> <p><b>Sunrise</b> NEXT BUSINESS MORNING <i>(Default service if none selected)</i></p> <p><b>Sunrise Gold</b> EARLY NEXT BUSINESS MORNING <i>Please attach a Sunrise Order sticker</i></p> <p><b>Palletized Freight</b> NEXT BUSINESS DAY <i>100 lbs. minimum charge</i></p>	<p><b>7. SERVICE OPTIONS</b> ADDITIONAL CHARGES MAY APPLY</p> <p><b>Signature Required</b></p> <p><b>Saturday Delivery</b> AVAILABLE IN SELECT ZIP CODES <i>Please attach a Saturday Delivery sticker</i></p> <p><b>Hold for Pickup</b> AT DESTINATION'S NEAREST FACILITY <i>Photo ID required at pickup</i></p>
<p><b>8. COLLECT ON DELIVERY</b> \$10,000 LIMIT. PLEASE ATTACH CDD TAG. ADDITIONAL CHARGE APPLIES</p> <p><b>SECURED PAYMENT</b> <i>Money Order or Certified Check</i>  \$</p> <p><b>UNSECURED PAYMENT</b> <i>Check, Draft or Personal Check</i> </p>		
<p><b>9. DECLARED VALUE</b> ADDITIONAL CHARGES APPLY. LIABILITY LIMITED TO \$100 UNLESS DECLARED. \$50,000 LIABILITY LIMIT. SHIPMENTS WITH A DECLARED VALUE REQUIRE A SECURITY DECLARATION.</p> <p>\$  .00</p>	<p><b>10. PAYMENT</b> SHIPPER CHECKED IF APPLICABLE</p> <p><input checked="" type="checkbox"/> Shipper <input type="checkbox"/> Other Account</p> <p></p>	

11a. Shipper's Name

CAMILL

OnTrac Use: Driver Number / PU Time / Initials

2 S A S

11b. Shipper's Signature

BY SIGNING THIS WAYBILL YOU AGREE TO THE TERMS AND CONDITIONS ON THE BACK OF THE SHIPPER COPY

August 26, 2013

Daniel Jablonski  
CH2M HILL  
155 Grand Avenue, Suite 1000  
Oakland, CA 94612

TEL: (213)228-8271  
FAX: (510) 622-9129

CA-ELAP No.:2676  
NV Cert. No.:NV-009222007A

Workorder No.: N010816

RE: SFPP - Norwalk Site

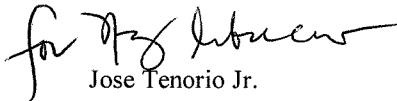
Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on August 17, 2013 by Advanced Technology Laboratories, Inc. . 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.

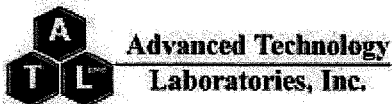
Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Jose Tenorio Jr.  
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.



3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

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**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N010816

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**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

Samples were received intact with proper chain of custody documentation.

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

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

Samples were analyzed within method holding time.

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

**Analytical Comments for EPA 8260B:**

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed due to limited sample. LCS/LCSD was used instead to measure precision.

Surrogate Dibromofluoromethane was outside recovery limit on sample N010816-001 possibly due to matrix interference. The other surrogates were recovered within control limits.



**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N010816  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N010816-001A	INF-08-16	Wastewater	8/16/2013 11:30:00 AM	8/17/2013	8/26/2013
N010816-001B	INF-08-16	Wastewater	8/16/2013 11:30:00 AM	8/17/2013	8/26/2013
N010816-001C	INF-08-16	Wastewater	8/16/2013 11:30:00 AM	8/17/2013	8/26/2013





**CLIENT:** CH2M HILL  
**Lab Order:** N010816  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N010816-001

**Client Sample ID:** INF-08-16  
**Collection Date:** 8/16/2013 11:30:00 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: <b>MS5_130821A</b>	QC Batch: <b>P13VW128</b>				PrepDate:	Analyst: <b>QBM</b>	
1,1,1,2-Tetrachloroethane	ND	0.068	1.0		ug/L	1	8/21/2013 03:42 PM
1,1,1-Trichloroethane	ND	0.072	1.0		ug/L	1	8/21/2013 03:42 PM
1,1,2,2-Tetrachloroethane	ND	0.10	1.0		ug/L	1	8/21/2013 03:42 PM
1,1,2-Trichloroethane	ND	0.13	1.0		ug/L	1	8/21/2013 03:42 PM
1,1-Dichloroethane	ND	0.062	0.50		ug/L	1	8/21/2013 03:42 PM
1,1-Dichloroethene	ND	0.16	1.0		ug/L	1	8/21/2013 03:42 PM
1,1-Dichloropropene	ND	0.073	1.0		ug/L	1	8/21/2013 03:42 PM
1,2,3-Trichlorobenzene	ND	0.084	1.0		ug/L	1	8/21/2013 03:42 PM
1,2,3-Trichloropropane	ND	0.11	1.0		ug/L	1	8/21/2013 03:42 PM
1,2,4-Trichlorobenzene	ND	0.10	1.0		ug/L	1	8/21/2013 03:42 PM
1,2,4-Trimethylbenzene	27	0.036	1.0		ug/L	1	8/21/2013 03:42 PM
1,2-Dibromo-3-chloropropane	ND	0.34	2.0		ug/L	1	8/21/2013 03:42 PM
1,2-Dibromoethane	ND	0.090	1.0		ug/L	1	8/21/2013 03:42 PM
1,2-Dichlorobenzene	ND	0.048	1.0		ug/L	1	8/21/2013 03:42 PM
1,2-Dichloroethane	1.9	0.044	0.50		ug/L	1	8/21/2013 03:42 PM
1,2-Dichloropropane	ND	0.094	1.0		ug/L	1	8/21/2013 03:42 PM
1,3,5-Trimethylbenzene	12	0.054	1.0		ug/L	1	8/21/2013 03:42 PM
1,3-Dichlorobenzene	ND	0.061	1.0		ug/L	1	8/21/2013 03:42 PM
1,3-Dichloropropane	ND	0.081	1.0		ug/L	1	8/21/2013 03:42 PM
1,4-Dichlorobenzene	ND	0.078	1.0		ug/L	1	8/21/2013 03:42 PM
2,2-Dichloropropane	ND	0.061	1.0		ug/L	1	8/21/2013 03:42 PM
2-Butanone	ND	0.70	10		ug/L	1	8/21/2013 03:42 PM
2-Chlorotoluene	ND	0.054	1.0		ug/L	1	8/21/2013 03:42 PM
4-Chlorotoluene	ND	0.039	1.0		ug/L	1	8/21/2013 03:42 PM
4-Isopropyltoluene	0.52	0.044	1.0	J	ug/L	1	8/21/2013 03:42 PM
4-Methyl-2-pentanone	ND	0.59	10		ug/L	1	8/21/2013 03:42 PM
Acetone	ND	1.2	10		ug/L	1	8/21/2013 03:42 PM
Acrolein	ND	0.89	20		ug/L	1	8/21/2013 03:42 PM
Acrylonitrile	ND	0.68	20		ug/L	1	8/21/2013 03:42 PM
Benzene	1400	4.8	100		ug/L	100	8/21/2013 02:48 PM
Bromobenzene	ND	0.054	1.0		ug/L	1	8/21/2013 03:42 PM
Bromochloromethane	ND	0.15	1.0		ug/L	1	8/21/2013 03:42 PM
Bromodichloromethane	ND	0.048	1.0		ug/L	1	8/21/2013 03:42 PM
Bromoform	ND	0.18	1.0		ug/L	1	8/21/2013 03:42 PM
Bromomethane	ND	0.13	1.0		ug/L	1	8/21/2013 03:42 PM
Carbon disulfide	ND	0.040	1.0		ug/L	1	8/21/2013 03:42 PM

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

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



**Advanced Technology  
 Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**CLIENT:** CH2M HILL  
**Lab Order:** N010816  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N010816-001

**Client Sample ID:** INF-08-16  
**Collection Date:** 8/16/2013 11:30:00 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: MS5_130821A	QC Batch: P13VW128	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.057	1.0	ug/L	1	8/21/2013 03:42 PM
Chlorobenzene	ND	0.044	1.0	ug/L	1	8/21/2013 03:42 PM
Chloroethane	ND	0.17	1.0	ug/L	1	8/21/2013 03:42 PM
Chloroform	ND	0.048	1.0	ug/L	1	8/21/2013 03:42 PM
Chloromethane	ND	0.043	1.0	ug/L	1	8/21/2013 03:42 PM
cis-1,2-Dichloroethene	ND	0.057	1.0	ug/L	1	8/21/2013 03:42 PM
cis-1,3-Dichloropropene	ND	0.051	1.0	ug/L	1	8/21/2013 03:42 PM
Di-isopropyl ether	27	0.038	1.0	ug/L	1	8/21/2013 03:42 PM
Dibromochloromethane	ND	0.070	1.0	ug/L	1	8/21/2013 03:42 PM
Dibromomethane	ND	0.11	1.0	ug/L	1	8/21/2013 03:42 PM
Dichlorodifluoromethane	ND	0.054	1.0	ug/L	1	8/21/2013 03:42 PM
Ethyl tert-butyl ether	ND	0.061	1.0	ug/L	1	8/21/2013 03:42 PM
Ethylbenzene	13	0.036	1.0	ug/L	1	8/21/2013 03:42 PM
Freon-113	ND	0.15	1.0	ug/L	1	8/21/2013 03:42 PM
Hexachlorobutadiene	ND	0.070	1.0	ug/L	1	8/21/2013 03:42 PM
Isopropylbenzene	8.8	0.073	1.0	ug/L	1	8/21/2013 03:42 PM
m,p-Xylene	64	0.14	1.0	ug/L	1	8/21/2013 03:42 PM
Methylene chloride	ND	0.28	2.0	ug/L	1	8/21/2013 03:42 PM
MTBE	77	0.098	1.0	ug/L	1	8/21/2013 03:42 PM
n-Butylbenzene	1.8	0.076	1.0	ug/L	1	8/21/2013 03:42 PM
n-Propylbenzene	19	0.049	1.0	ug/L	1	8/21/2013 03:42 PM
Naphthalene	58	0.10	1.0	ug/L	1	8/21/2013 03:42 PM
o-Xylene	22	0.042	1.0	ug/L	1	8/21/2013 03:42 PM
sec-Butylbenzene	1.4	0.036	1.0	ug/L	1	8/21/2013 03:42 PM
Styrene	ND	0.040	1.0	ug/L	1	8/21/2013 03:42 PM
Tert-amyl methyl ether	ND	0.054	1.0	ug/L	1	8/21/2013 03:42 PM
Tert-Butanol	550	10	50	ug/L	10	8/21/2013 03:15 PM
tert-Butylbenzene	ND	0.040	1.0	ug/L	1	8/21/2013 03:42 PM
Tetrachloroethene	ND	0.12	1.0	ug/L	1	8/21/2013 03:42 PM
Toluene	32	0.034	2.0	ug/L	1	8/21/2013 03:42 PM
trans-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	8/21/2013 03:42 PM
trans-1,3-Dichloropropene	ND	0.060	1.0	ug/L	1	8/21/2013 03:42 PM
Trichloroethene	ND	0.075	1.0	ug/L	1	8/21/2013 03:42 PM
Trichlorofluoromethane	ND	0.057	1.0	ug/L	1	8/21/2013 03:42 PM
Vinyl chloride	ND	0.082	1.0	ug/L	1	8/21/2013 03:42 PM
Xylenes, Total	85	1.5	2.0	ug/L	1	8/21/2013 03:42 PM

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

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



Advanced Technology  
 Laboratories, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

<b>CLIENT:</b> CH2M HILL	<b>Client Sample ID:</b> INF-08-16
<b>Lab Order:</b> N010816	<b>Collection Date:</b> 8/16/2013 11:30:00 AM
<b>Project:</b> SFPP - Norwalk Site	<b>Matrix:</b> WASTEWATER
<b>Lab ID:</b> N010816-001	

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

**EPA 8260B**

RunID: <b>MS5_130821A</b>	QC Batch: <b>P13VW128</b>	PrepDate:	Analyst: <b>QBM</b>
Surr: 1,2-Dichloroethane-d4	103 0	72-119	%REC 100
Surr: 1,2-Dichloroethane-d4	105 0	72-119	%REC 10
Surr: 1,2-Dichloroethane-d4	113 0	72-119	%REC 1
Surr: 4-Bromofluorobenzene	105 0	76-119	%REC 100
Surr: 4-Bromofluorobenzene	104 0	76-119	%REC 10
Surr: 4-Bromofluorobenzene	104 0	76-119	%REC 1
Surr: Dibromofluoromethane	119 0	85-115	S %REC 10
Surr: Dibromofluoromethane	127 0	85-115	S %REC 1
Surr: Dibromofluoromethane	114 0	85-115	%REC 100
Surr: Toluene-d8	104 0	81-120	%REC 100
Surr: Toluene-d8	105 0	81-120	%REC 1
Surr: Toluene-d8	104 0	81-120	%REC 10

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID: <b>GC1_130820B</b>	QC Batch: <b>43721</b>	PrepDate: <b>8/20/2013</b>	Analyst: <b>MDM</b>
TPH-Diesel (C13-C22)	5900 130	510	ug/L 10
TPH-Oil (C23-C36)	530 9.7	51	ug/L 1
Surr: Octacosane	72.8 0	26-152	%REC 1
Surr: p-Terphenyl	84.3 0	57-132	%REC 1

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID: <b>GC4_130821A</b>	QC Batch: <b>E13VW045</b>	PrepDate:	Analyst: <b>PN</b>
TPH-Gasoline (C4-C12)	3800 8.5	100	ug/L 1
Surr: Chlorobenzene - d5	106 0	74-138	%REC 1

**TOTAL TPH**

**EPA 3510C**

**EPA 8015B**

RunID: <b>GC1_130820B</b>	QC Batch: <b>43721</b>	PrepDate: <b>8/20/2013</b>	Analyst: <b>MDM</b>
Total TPH	10230 8.5	100	ug/L 1

<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



Advanced Technology  
Laboratories, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

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

Sample ID: <b>MB-43721</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>8/20/2013</b>	RunNo: <b>90070</b>						
Client ID: <b>PBW</b>	Batch ID: <b>43721</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>8/20/2013</b>	SeqNo: <b>1636404</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	50									
TPH-Oil (C23-C36)	11.835	50									J
Surr: Octacosane	70.079		80.00		87.6	26	152				
Surr: p-Terphenyl	76.393		80.00		95.5	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               |



Advanced Technology  
Laboratories, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_W\_SFPTOT**

Sample ID: <b>MB-43721</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date: <b>8/20/2013</b>	RunNo: <b>90070</b>						
Client ID: <b>PBW</b>	Batch ID: <b>43721</b>	TestNo: <b>EPA 8015B</b>	<b>EPA 3510C</b>	Analysis Date: <b>8/20/2013</b>	SeqNo: <b>1636407</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	100									

**Qualifiers:**

- |  |  |  |
|--|--|--|
| B Analyte detected in the associated Method Blank              | 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:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
<b>E130821LCS</b>	<b>LCS</b>	<b>8015GAS_WS</b>	<b>ug/L</b>		<b>90068</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E13VW045</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636383</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	904.000	100	1000	0	90.4	67	136				
Surr: Chlorobenzene - d5	51376.000		50000		103	74	138				
Sample ID: <b>E130821MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90068</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E13VW045</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636384</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	100									
Surr: Chlorobenzene - d5	50564.000		50000		101	74	138				
Sample ID: <b>N010812-032ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90068</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW045</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636387</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	100						0	0	0	
Surr: Chlorobenzene - d5	54688.000		50000		109	74	138		0	0	
Sample ID: <b>N010812-026AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90068</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW045</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636388</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	985.000	100	1000	0	98.5	67	136				
Surr: Chlorobenzene - d5	51427.000		50000		103	74	138				
Sample ID: <b>N010812-026AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90068</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW045</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636389</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	980.000	100	1000	0	98.0	67	136	985.0	0.509	30	

**Qualifiers:**

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



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**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015GAS\_WSFPP**

Sample ID: <b>N010812-026AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90068</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>E13VW045</b>	TestNo: <b>EPA 8015B</b>	Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636389</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Chlorobenzene - d5	52187.000		50000		104	74	138		0	0	

**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: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130821LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636436</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.840	1.0	20.00	0	104	81	129				
1,1,1-Trichloroethane	20.550	1.0	20.00	0	103	67	132				
1,1,2,2-Tetrachloroethane	22.280	1.0	20.00	0	111	63	128				
1,1,2-Trichloroethane	19.980	1.0	20.00	0	99.9	75	125				
1,1-Dichloroethane	20.040	0.50	20.00	0	100	69	133				
1,1-Dichloroethene	17.060	1.0	20.00	0	85.3	68	130				
1,1-Dichloropropene	19.530	1.0	20.00	0	97.6	73	132				
1,2,3-Trichlorobenzene	23.370	1.0	20.00	0	117	67	137				
1,2,3-Trichloropropane	20.670	1.0	20.00	0	103	73	124				
1,2,4-Trichlorobenzene	23.550	1.0	20.00	0	118	66	134				
1,2,4-Trimethylbenzene	21.610	1.0	20.00	0	108	74	132				
1,2-Dibromo-3-chloropropane	23.510	2.0	20.00	0	118	50	132				
1,2-Dibromoethane	20.320	1.0	20.00	0	102	80	121				
1,2-Dichlorobenzene	22.040	1.0	20.00	0	110	71	122				
1,2-Dichloroethane	18.690	0.50	20.00	0	93.5	69	132				
1,2-Dichloropropane	19.630	1.0	20.00	0	98.2	75	125				
1,3,5-Trimethylbenzene	21.220	1.0	20.00	0	106	74	131				
1,3-Dichlorobenzene	21.870	1.0	20.00	0	109	75	124				
1,3-Dichloropropane	19.650	1.0	20.00	0	98.2	73	126				
1,4-Dichlorobenzene	21.000	1.0	20.00	0	105	74	123				
2,2-Dichloropropane	21.470	1.0	20.00	0	107	69	137				
2-Butanone	186.230	10	200.0	0	93.1	49	136				
2-Chlorotoluene	21.140	1.0	20.00	0	106	73	126				
4-Chlorotoluene	21.240	1.0	20.00	0	106	74	128				
4-Isopropyltoluene	22.040	1.0	20.00	0	110	73	130				
4-Methyl-2-pentanone	195.780	10	200.0	0	97.9	58	134				
Acetone	239.140	10	200.0	0	120	40	135				
Acrolein	159.860	20	200.0	0	79.9	75	125				
Acrylonitrile	208.600	20	200.0	0	104	75	125				
Benzene	19.350	1.0	20.00	0	96.8	81	122				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130821LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636436</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	20.990	1.0	20.00	0	105	76	124				
Bromochloromethane	20.080	1.0	20.00	0	100	65	129				
Bromodichloromethane	20.570	1.0	20.00	0	103	76	121				
Bromoform	23.290	1.0	20.00	0	116	69	128				
Bromomethane	12.730	1.0	20.00	0	63.6	53	141				
Carbon disulfide	17.470	1.0	20.00	0	87.4	75	125				
Carbon tetrachloride	20.390	1.0	20.00	0	102	66	138				
Chlorobenzene	19.560	1.0	20.00	0	97.8	81	122				
Chloroethane	17.540	1.0	20.00	0	87.7	58	133				
Chloroform	20.510	1.0	20.00	0	103	69	128				
Chloromethane	20.850	1.0	20.00	0	104	56	131				
cis-1,2-Dichloroethene	20.680	1.0	20.00	0	103	72	126				
cis-1,3-Dichloropropene	20.700	1.0	20.00	0	104	69	131				
Di-isopropyl ether	20.130	1.0	20.00	0	101	70	130				
Dibromochloromethane	21.490	1.0	20.00	0	107	66	133				
Dibromomethane	19.210	1.0	20.00	0	96.0	76	125				
Dichlorodifluoromethane	17.020	1.0	20.00	0	85.1	53	153				
Ethyl tert-butyl ether	20.050	1.0	20.00	0	100	70	130				
Ethylbenzene	19.440	1.0	20.00	0	97.2	73	127				
Freon-113	17.310	1.0	20.00	0	86.6	75	125				
Hexachlorobutadiene	22.540	1.0	20.00	0	113	67	131				
Isopropylbenzene	21.150	1.0	20.00	0	106	75	127				
m,p-Xylene	39.650	1.0	40.00	0	99.1	76	128				
Methylene chloride	19.190	2.0	20.00	0	96.0	63	137				
MTBE	19.900	1.0	20.00	0	99.5	65	123				
n-Butylbenzene	22.450	1.0	20.00	0	112	69	137				
n-Propylbenzene	21.040	1.0	20.00	0	105	72	129				
Naphthalene	21.790	1.0	20.00	0	109	54	138				
o-Xylene	20.560	1.0	20.00	0	103	80	121				
sec-Butylbenzene	21.510	1.0	20.00	0	108	72	127				

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130821LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90071</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>P13VW128</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>		SeqNo: <b>1636436</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	21.470	1.0	20.00	0	107	65	134				
Tert-amyl methyl ether	19.420	1.0	20.00	0	97.1	70	130				
Tert-Butanol	94.050	5.0	100.0	0	94.0	70	130				
tert-Butylbenzene	21.620	1.0	20.00	0	108	70	129				
Tetrachloroethene	19.120	1.0	20.00	0	95.6	66	128				
Toluene	19.720	2.0	20.00	0	98.6	77	122				
trans-1,2-Dichloroethene	20.540	1.0	20.00	0	103	63	137				
trans-1,3-Dichloropropene	20.270	1.0	20.00	0	101	59	135				
Trichloroethene	19.300	1.0	20.00	0	96.5	70	127				
Trichlorofluoromethane	17.460	1.0	20.00	0	87.3	57	129				
Vinyl chloride	17.520	1.0	20.00	0	87.6	50	134				
Xylenes, Total	60.210	2.0	60.00	0	100	75	125				
Surr: 1,2-Dichloroethane-d4	25.960		25.00		104	72	119				
Surr: 4-Bromofluorobenzene	26.300		25.00		105	76	119				
Surr: Dibromofluoromethane	27.240		25.00		109	85	115				
Surr: Toluene-d8	25.980		25.00		104	81	120				

Sample ID: <b>P130821MB2</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90071</b>	
Client ID: <b>PBW</b>		Batch ID: <b>P13VW128</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>		SeqNo: <b>1636437</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
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									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	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 |
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**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130821MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>PBW</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636437</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	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 |
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**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130821MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>PBW</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636437</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	0.650	2.0									J
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
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									

**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 |
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CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130821MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636437</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	26.410		25.00		106	72	119				
Surr: 4-Bromofluorobenzene	25.880		25.00		104	76	119				
Surr: Dibromofluoromethane	27.810		25.00		111	85	115				
Surr: Toluene-d8	25.650		25.00		103	81	120				

Sample ID: <b>N010812-026ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636439</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0						0	0	20	
1,1,1-Trichloroethane	ND	1.0						0	0	20	
1,1,2,2-Tetrachloroethane	ND	1.0						0	0	20	
1,1,2-Trichloroethane	ND	1.0						0	0	20	
1,1-Dichloroethane	ND	0.50						0	0	20	
1,1-Dichloroethene	ND	1.0						0	0	20	
1,1-Dichloropropene	ND	1.0						0	0	20	
1,2,3-Trichlorobenzene	ND	1.0						0	0	20	
1,2,3-Trichloropropane	ND	1.0						0	0	20	
1,2,4-Trichlorobenzene	ND	1.0						0	0	20	
1,2,4-Trimethylbenzene	ND	1.0						0	0	20	
1,2-Dibromo-3-chloropropane	ND	2.0						0	0	20	
1,2-Dibromoethane	ND	1.0						0	0	20	
1,2-Dichlorobenzene	ND	1.0						0	0	20	
1,2-Dichloroethane	ND	0.50						0	0	20	
1,2-Dichloropropane	ND	1.0						0	0	20	
1,3,5-Trimethylbenzene	ND	1.0						0	0	20	
1,3-Dichlorobenzene	ND	1.0						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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010812-026ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636439</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	1.0						0	0	20	
1,4-Dichlorobenzene	ND	1.0						0	0	20	
2,2-Dichloropropane	ND	1.0						0	0	20	
2-Butanone	ND	10						0	0	20	
2-Chlorotoluene	ND	1.0						0	0	20	
4-Chlorotoluene	ND	1.0						0	0	20	
4-Isopropyltoluene	ND	1.0						0	0	20	
4-Methyl-2-pentanone	ND	10						0	0	20	
Acetone	ND	10						0	0	20	
Acrolein	ND	20						0	0	20	
Acrylonitrile	ND	20						0	0	20	
Benzene	ND	1.0						0	0	20	
Bromobenzene	ND	1.0						0	0	20	
Bromochloromethane	ND	1.0						0	0	20	
Bromodichloromethane	ND	1.0						0	0	20	
Bromoform	ND	1.0						0	0	20	
Bromomethane	ND	1.0						0	0	20	
Carbon disulfide	ND	1.0						0	0	20	
Carbon tetrachloride	ND	1.0						0	0	20	
Chlorobenzene	ND	1.0						0	0	20	
Chloroethane	ND	1.0						0	0	20	
Chloroform	0.500	1.0						0.5100	0	20	J
Chloromethane	ND	1.0						0	0	20	
cis-1,2-Dichloroethene	ND	1.0						0	0	20	
cis-1,3-Dichloropropene	ND	1.0						0	0	20	
Di-isopropyl ether	ND	1.0						0	0	20	
Dibromochloromethane	ND	1.0						0	0	20	
Dibromomethane	ND	1.0						0	0	20	
Dichlorodifluoromethane	ND	1.0						0	0	20	
Ethyl tert-butyl ether	ND	1.0						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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N010812-026ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636439</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0						0	0	20	
Freon-113	ND	1.0						0	0	20	
Hexachlorobutadiene	ND	1.0						0	0	20	
Isopropylbenzene	ND	1.0						0	0	20	
m,p-Xylene	ND	1.0						0	0	20	
Methylene chloride	ND	2.0						0	0	20	
MTBE	ND	1.0						0	0	20	
n-Butylbenzene	ND	1.0						0	0	20	
n-Propylbenzene	ND	1.0						0	0	20	
Naphthalene	ND	1.0						0	0	20	
o-Xylene	ND	1.0						0	0	20	
sec-Butylbenzene	ND	1.0						0	0	20	
Styrene	ND	1.0						0	0	20	
Tert-amyl methyl ether	ND	1.0						0	0	20	
Tert-Butanol	ND	5.0						0	0	20	
tert-Butylbenzene	ND	1.0						0	0	20	
Tetrachloroethene	ND	1.0						0	0	20	
Toluene	ND	2.0						0	0	20	
trans-1,2-Dichloroethene	ND	1.0						0	0	20	
trans-1,3-Dichloropropene	ND	1.0						0	0	20	
Trichloroethene	ND	1.0						0	0	20	
Trichlorofluoromethane	ND	1.0						0	0	20	
Vinyl chloride	ND	1.0						0	0	20	
Xylenes, Total	ND	2.0						0	0	20	
Surr: 1,2-Dichloroethane-d4	26.560		25.00		106	72	119		0		
Surr: 4-Bromofluorobenzene	26.040		25.00		104	76	119		0		
Surr: Dibromofluoromethane	27.850		25.00		111	85	115		0		
Surr: Toluene-d8	25.650		25.00		103	81	120		0		

**Qualifiers:**

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010829-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636441</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.780	1.0	20.00	0	104	81	129				
1,1,1-Trichloroethane	20.650	1.0	20.00	0	103	67	132				
1,1,2,2-Tetrachloroethane	22.070	1.0	20.00	0	110	63	128				
1,1,2-Trichloroethane	20.280	1.0	20.00	0	101	75	125				
1,1-Dichloroethane	20.380	0.50	20.00	0	102	69	133				
1,1-Dichloroethene	17.140	1.0	20.00	0	85.7	68	130				
1,1-Dichloropropene	19.390	1.0	20.00	0	97.0	73	132				
1,2,3-Trichlorobenzene	23.090	1.0	20.00	0	115	67	137				
1,2,3-Trichloropropane	20.430	1.0	20.00	0	102	73	124				
1,2,4-Trichlorobenzene	23.380	1.0	20.00	0	117	66	134				
1,2,4-Trimethylbenzene	21.440	1.0	20.00	0	107	74	132				
1,2-Dibromo-3-chloropropane	22.300	2.0	20.00	0	112	50	132				
1,2-Dibromoethane	20.440	1.0	20.00	0	102	80	121				
1,2-Dichlorobenzene	22.010	1.0	20.00	0	110	71	122				
1,2-Dichloroethane	18.390	0.50	20.00	0	92.0	69	132				
1,2-Dichloropropane	19.810	1.0	20.00	0	99.0	75	125				
1,3,5-Trimethylbenzene	21.030	1.0	20.00	0	105	74	131				
1,3-Dichlorobenzene	21.800	1.0	20.00	0	109	75	124				
1,3-Dichloropropane	19.810	1.0	20.00	0	99.0	73	126				
1,4-Dichlorobenzene	21.120	1.0	20.00	0	106	74	123				
2,2-Dichloropropane	21.050	1.0	20.00	0	105	69	137				
2-Butanone	166.850	10	200.0	0	83.4	49	136				
2-Chlorotoluene	20.860	1.0	20.00	0	104	73	126				
4-Chlorotoluene	21.200	1.0	20.00	0	106	74	128				
4-Isopropyltoluene	21.940	1.0	20.00	0	110	73	130				
4-Methyl-2-pentanone	192.570	10	200.0	0	96.3	58	134				
Acetone	169.170	10	200.0	0	84.6	40	135				
Acrolein	160.460	20	200.0	0	80.2	75	125				
Acrylonitrile	212.700	20	200.0	0	106	75	125				
Benzene	19.550	1.0	20.00	0	97.8	81	122				

**Qualifiers:**

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



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Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691



CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010829-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636441</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	21.030	1.0	20.00	0	105	76	124				
Bromochloromethane	20.480	1.0	20.00	0	102	65	129				
Bromodichloromethane	20.120	1.0	20.00	0	101	76	121				
Bromoform	22.430	1.0	20.00	0	112	69	128				
Bromomethane	13.000	1.0	20.00	0	65.0	53	141				
Carbon disulfide	18.690	1.0	20.00	0	93.5	75	125				
Carbon tetrachloride	19.530	1.0	20.00	0	97.6	66	138				
Chlorobenzene	19.450	1.0	20.00	0	97.3	81	122				
Chloroethane	17.830	1.0	20.00	0	89.2	58	133				
Chloroform	20.600	1.0	20.00	0	103	69	128				
Chloromethane	19.530	1.0	20.00	0	97.6	56	131				
cis-1,2-Dichloroethene	20.920	1.0	20.00	0	105	72	126				
cis-1,3-Dichloropropene	20.550	1.0	20.00	0	103	69	131				
Di-isopropyl ether	20.130	1.0	20.00	0	101	70	130				
Dibromochloromethane	20.800	1.0	20.00	0	104	66	133				
Dibromomethane	19.630	1.0	20.00	0	98.2	76	125				
Dichlorodifluoromethane	16.930	1.0	20.00	0	84.6	53	153				
Ethyl tert-butyl ether	19.850	1.0	20.00	0	99.2	70	130				
Ethylbenzene	19.300	1.0	20.00	0	96.5	73	127				
Freon-113	18.500	1.0	20.00	0	92.5	75	125				
Hexachlorobutadiene	22.140	1.0	20.00	0	111	67	131				
Isopropylbenzene	20.920	1.0	20.00	0	105	75	127				
m,p-Xylene	39.190	1.0	40.00	0	98.0	76	128				
Methylene chloride	18.730	2.0	20.00	0	93.6	63	137				
MTBE	19.730	1.0	20.00	0	98.6	65	123				
n-Butylbenzene	22.240	1.0	20.00	0	111	69	137				
n-Propylbenzene	20.980	1.0	20.00	0	105	72	129				
Naphthalene	21.480	1.0	20.00	0	107	54	138				
o-Xylene	20.230	1.0	20.00	0	101	80	121				
sec-Butylbenzene	21.430	1.0	20.00	0	107	72	127				

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010829-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636441</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	20.800	1.0	20.00	0	104	65	134				
Tert-amyl methyl ether	19.110	1.0	20.00	0	95.6	70	130				
Tert-Butanol	105.020	5.0	100.0	0	105	70	130				
tert-Butylbenzene	21.540	1.0	20.00	0	108	70	129				
Tetrachloroethene	19.080	1.0	20.00	0	95.4	66	128				
Toluene	19.710	2.0	20.00	0	98.6	77	122				
trans-1,2-Dichloroethene	20.690	1.0	20.00	0	103	63	137				
trans-1,3-Dichloropropene	20.240	1.0	20.00	0	101	59	135				
Trichloroethene	19.650	1.0	20.00	0	98.2	70	127				
Trichlorofluoromethane	17.730	1.0	20.00	0	88.6	57	129				
Vinyl chloride	17.380	1.0	20.00	0	86.9	50	134				
Xylenes, Total	59.420	2.0	60.00	0	99.0	75	125				
Surr: 1,2-Dichloroethane-d4	25.820		25.00		103	72	119				
Surr: 4-Bromofluorobenzene	25.520		25.00		102	76	119				
Surr: Dibromofluoromethane	27.650		25.00		111	85	115				
Surr: Toluene-d8	25.690		25.00		103	81	120				

Sample ID: <b>N010829-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636442</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.450	1.0	20.00	0	107	81	129	20.78	3.17	20	
1,1,1-Trichloroethane	20.680	1.0	20.00	0	103	67	132	20.65	0.145	20	
1,1,2,2-Tetrachloroethane	22.590	1.0	20.00	0	113	63	128	22.07	2.33	20	
1,1,2-Trichloroethane	20.430	1.0	20.00	0	102	75	125	20.28	0.737	20	
1,1-Dichloroethane	20.610	0.50	20.00	0	103	69	133	20.38	1.12	20	
1,1-Dichloroethene	17.290	1.0	20.00	0	86.5	68	130	17.14	0.871	20	
1,1-Dichloropropene	19.690	1.0	20.00	0	98.4	73	132	19.39	1.54	20	
1,2,3-Trichlorobenzene	23.760	1.0	20.00	0	119	67	137	23.09	2.86	20	
1,2,3-Trichloropropane	21.350	1.0	20.00	0	107	73	124	20.43	4.40	20	

**Qualifiers:**

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010829-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636442</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	23.940	1.0	20.00	0	120	66	134	23.38	2.37	20	
1,2,4-Trimethylbenzene	21.830	1.0	20.00	0	109	74	132	21.44	1.80	20	
1,2-Dibromo-3-chloropropane	23.620	2.0	20.00	0	118	50	132	22.30	5.75	20	
1,2-Dibromoethane	20.810	1.0	20.00	0	104	80	121	20.44	1.79	20	
1,2-Dichlorobenzene	22.470	1.0	20.00	0	112	71	122	22.01	2.07	20	
1,2-Dichloroethane	18.530	0.50	20.00	0	92.6	69	132	18.39	0.758	20	
1,2-Dichloropropane	19.940	1.0	20.00	0	99.7	75	125	19.81	0.654	20	
1,3,5-Trimethylbenzene	21.620	1.0	20.00	0	108	74	131	21.03	2.77	20	
1,3-Dichlorobenzene	22.010	1.0	20.00	0	110	75	124	21.80	0.959	20	
1,3-Dichloropropane	20.250	1.0	20.00	0	101	73	126	19.81	2.20	20	
1,4-Dichlorobenzene	21.970	1.0	20.00	0	110	74	123	21.12	3.95	20	
2,2-Dichloropropane	21.240	1.0	20.00	0	106	69	137	21.05	0.899	20	
2-Butanone	170.360	10	200.0	0	85.2	49	136	166.8	2.08	20	
2-Chlorotoluene	21.560	1.0	20.00	0	108	73	126	20.86	3.30	20	
4-Chlorotoluene	21.500	1.0	20.00	0	108	74	128	21.20	1.41	20	
4-Isopropyltoluene	22.560	1.0	20.00	0	113	73	130	21.94	2.79	20	
4-Methyl-2-pentanone	194.180	10	200.0	0	97.1	58	134	192.6	0.833	20	
Acetone	173.270	10	200.0	0	86.6	40	135	169.2	2.39	20	
Acrolein	163.260	20	200.0	0	81.6	75	125	160.5	1.73	20	
Acrylonitrile	216.050	20	200.0	0	108	75	125	212.7	1.56	20	
Benzene	19.640	1.0	20.00	0	98.2	81	122	19.55	0.459	20	
Bromobenzene	21.430	1.0	20.00	0	107	76	124	21.03	1.88	20	
Bromochloromethane	20.540	1.0	20.00	0	103	65	129	20.48	0.293	20	
Bromodichloromethane	20.600	1.0	20.00	0	103	76	121	20.12	2.36	20	
Bromoform	23.040	1.0	20.00	0	115	69	128	22.43	2.68	20	
Bromomethane	13.320	1.0	20.00	0	66.6	53	141	13.00	2.43	20	
Carbon disulfide	17.640	1.0	20.00	0	88.2	75	125	18.69	5.78	20	
Carbon tetrachloride	19.990	1.0	20.00	0	100	66	138	19.53	2.33	20	
Chlorobenzene	19.990	1.0	20.00	0	100	81	122	19.45	2.74	20	
Chloroethane	17.170	1.0	20.00	0	85.9	58	133	17.83	3.77	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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N010816  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>N010829-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636442</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	21.000	1.0	20.00	0	105	69	128	20.60	1.92	20	
Chloromethane	18.610	1.0	20.00	0	93.0	56	131	19.53	4.82	20	
cis-1,2-Dichloroethene	21.170	1.0	20.00	0	106	72	126	20.92	1.19	20	
cis-1,3-Dichloropropene	20.690	1.0	20.00	0	103	69	131	20.55	0.679	20	
Di-isopropyl ether	20.510	1.0	20.00	0	103	70	130	20.13	1.87	20	
Dibromochloromethane	21.680	1.0	20.00	0	108	66	133	20.80	4.14	20	
Dibromomethane	19.890	1.0	20.00	0	99.4	76	125	19.63	1.32	20	
Dichlorodifluoromethane	14.520	1.0	20.00	0	72.6	53	153	16.93	15.3	20	
Ethyl tert-butyl ether	20.290	1.0	20.00	0	101	70	130	19.85	2.19	20	
Ethylbenzene	19.970	1.0	20.00	0	99.8	73	127	19.30	3.41	20	
Freon-113	18.030	1.0	20.00	0	90.2	75	125	18.50	2.57	20	
Hexachlorobutadiene	22.810	1.0	20.00	0	114	67	131	22.14	2.98	20	
Isopropylbenzene	21.450	1.0	20.00	0	107	75	127	20.92	2.50	20	
m,p-Xylene	40.400	1.0	40.00	0	101	76	128	39.19	3.04	20	
Methylene chloride	18.880	2.0	20.00	0	94.4	63	137	18.73	0.798	20	
MTBE	19.830	1.0	20.00	0	99.2	65	123	19.73	0.506	20	
n-Butylbenzene	22.850	1.0	20.00	0	114	69	137	22.24	2.71	20	
n-Propylbenzene	21.470	1.0	20.00	0	107	72	129	20.98	2.31	20	
Naphthalene	22.030	1.0	20.00	0	110	54	138	21.48	2.53	20	
o-Xylene	20.890	1.0	20.00	0	104	80	121	20.23	3.21	20	
sec-Butylbenzene	22.100	1.0	20.00	0	110	72	127	21.43	3.08	20	
Styrene	21.540	1.0	20.00	0	108	65	134	20.80	3.50	20	
Tert-amyl methyl ether	19.280	1.0	20.00	0	96.4	70	130	19.11	0.886	20	
Tert-Butanol	109.210	5.0	100.0	0	109	70	130	105.0	3.91	20	
tert-Butylbenzene	22.000	1.0	20.00	0	110	70	129	21.54	2.11	20	
Tetrachloroethene	19.640	1.0	20.00	0	98.2	66	128	19.08	2.89	20	
Toluene	19.810	2.0	20.00	0	99.0	77	122	19.71	0.506	20	
trans-1,2-Dichloroethene	21.180	1.0	20.00	0	106	63	137	20.69	2.34	20	
trans-1,3-Dichloropropene	20.050	1.0	20.00	0	100	59	135	20.24	0.943	20	
Trichloroethene	19.660	1.0	20.00	0	98.3	70	127	19.65	0.0509	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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**CLIENT:** CH2M HILL  
**Work Order:** N010816  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N010829-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90071</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P13VW128</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>8/21/2013</b>	SeqNo: <b>1636442</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Trichlorofluoromethane	17.410	1.0	20.00	0	87.1	57	129	17.73	1.82	20	
Vinyl chloride	16.830	1.0	20.00	0	84.2	50	134	17.38	3.22	20	
Xylenes, Total	61.290	2.0	60.00	0	102	75	125	59.42	3.10	20	
Surr: 1,2-Dichloroethane-d4	26.160		25.00		105	72	119		0		
Surr: 4-Bromofluorobenzene	26.930		25.00		108	76	119		0		
Surr: Dibromofluoromethane	28.390		25.00		114	85	115		0		
Surr: Toluene-d8	26.120		25.00		104	81	120		0		

**Qualifiers:**

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691



# Advanced Technology Laboratories, Inc.

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: 8/17/2013 Workorder: N010816  
 Rep sample Temp (Deg C): 5.4 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Ontrac  
 Last 4 digits of Tracking No.: 7386 Packing Material Used: None  
 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: JT For: MBC 8/20/2013

Reviewed By: *Erasmus*

# Advanced Technology Laboratories, Inc.

## WORK ORDER Summary

19-Aug-13

**WorkOrder:** N010816

**Client ID:** CH2HI01

**Project:** SFPP - Norwalk Site

**QC Level:** RTNE

**Date Received:** 8/17/2013

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

Direct Bill KMEP/SFPP-Steve Defibaugh-ref.AFE# 81195. "J" Flags requ

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N010816-001A	INF-08-16	8/16/2013 11:30:00 AM	8/26/2013	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N010816-001B			8/26/2013		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N010816-001C			8/26/2013		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/26/2013		EPA 8015B	TPH EXTRACTABLE BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/26/2013		EPA 8015B	Total TPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N010816-002A	FOLDER		8/26/2013	Folder	Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB





800.334.5000  
ontrac.com

# Waybill

### 2. FROM (Company)

L I T T L E									
Street Address									
S U N N Y V I L L E S U I T E									
City									
C O N N E C T I C U T									
State		ZIP Code			Phone Number				
CT		0 6 1 8 3 0			5 0 2 - 2 2 2 - 1 1 1 7				

**PLEASE PRINT IN BLOCK LETTERS WITH BLUE OR BLACK INK ONLY**

### 3. TO (Company) WE CANNOT DELIVER TO P.O. BOXES OR P.O. ZIP CODES

A V A N C E D T E C H									
Street Address									
7 3 7 3 4 5 0									
City									
B A S									
State		ZIP Code			Phone Number				
CT		0 6 1 8 3 0			5 0 2 - 2 2 2 - 1 1 1 7				
R E C I V I N G									
Recipient's Name									

### 4. Shipper's Reference Number

7 0 6 9 / 1 6 / 1 1									
---------------------	--	--	--	--	--	--	--	--	--

Recipient Copy

### 1a. OnTrac Account Number



### Tracking Number

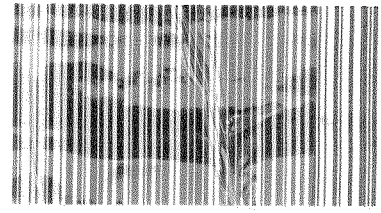
B10295747386

### 1b. Date

0	M	D	6	Y	Y
---	---	---	---	---	---

### Pre-Print Number

2 2 2 2 2 3									
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### 5. WEIGHT

SUBJECT TO VERIFICATION

8 oz. Letter or  **L B S**

### 6. SERVICE LEVEL

COMMITMENT TIMES MAY VARY

Sunrise  
NEXT BUSINESS MORNING  
*Default service if none selected*

Sunrise Gold  
EARLY NEXT BUSINESS MORNING  
*Please attach a Sunrise Gold sticker*

Palletized Freight  
NEXT BUSINESS DAY  
*300 lbs. minimum charge*

### 7. SERVICE OPTIONS

ADDITIONAL CHARGES MAY APPLY

Signature Required

Saturday Delivery  
AVAILABLE IN SELECT ZIP CODES  
*Please attach a Saturday Delivery sticker*

Hold for Pickup  
AT DESTINATION'S NEAREST FACILITY  
*Photo ID required at pickup*

### 8. COLLECT ON DELIVERY

\$10,000 LIMIT. PLEASE ATTACH COD TAG. ADDITIONAL CHARGE APPLIES.

SECURED PAYMENT  
*Money Order or Certified Check*

UNSECURED PAYMENT  
*Company or Personal Check*

\$ [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

### 9. DECLARED VALUE

ADDITIONAL CHARGE APPLIES. LIABILITY LIMITED TO \$100 UNLESS DECLARED. \$25,000 LIABILITY LIMIT. SHIPMENTS WITH A DECLARED VALUE REQUIRE A DELIVERY SIGNATURE.

\$ [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] .00

### 10. PAYMENT SHIPPER BILLED IF NONE SELECTED

Shipper  Other Account

### 11a. Shipper's Name

E	L	A	S	T	L	E													
---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--

### OnTrac Use: Driver Number / PU Time / Initials

1	2	3	4	5	
1	H	M	M	A/P	

### 11b. Shipper's Signature

BY USING THIS WAYBILL YOU AGREE TO THE TERMS AND CONDITIONS ON THE BACK OF THE "SHIPPER COPY"

October 01, 2013

Daniel Jablonski  
CH2M HILL  
155 Grand Avenue, Suite 1000  
Oakland, CA 94612  
TEL: (213)228-8271  
FAX: (510) 622-9129

CA-ELAP No.:2676  
NV Cert. No.:NV-009222007A

Workorder No.: N011103

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on September 26, 2013 by Advanced Technology Laboratories, Inc. . 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,



Jose Tenorio Jr.  
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.



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

---

**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N011103

**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.



**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N011103  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N011103-001A	INF-09-24	Wastewater	9/24/2013 12:10:00 PM	9/26/2013	10/1/2013
N011103-001B	INF-09-24	Wastewater	9/24/2013 12:10:00 PM	9/26/2013	10/1/2013
N011103-001C	INF-09-24	Wastewater	9/24/2013 12:10:00 PM	9/26/2013	10/1/2013



**Advanced Technology Laboratories, Inc.**

**ANALYTICAL RESULTS**

Print Date: 01-Oct-13

**CLIENT:** CH2M HILL  
**Lab Order:** N011103  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N011103-001

**Client Sample ID:** INF-09-24  
**Collection Date:** 9/24/2013 12:10:00 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: MS5_130927A	QC Batch: P13VW153	PrepDate:	Analyst: QBM			
1,1,1,2-Tetrachloroethane	ND	0.068	1.0	ug/L	1	9/27/2013 08:59 PM
1,1,1-Trichloroethane	ND	0.072	1.0	ug/L	1	9/27/2013 08:59 PM
1,1,2,2-Tetrachloroethane	ND	0.10	1.0	ug/L	1	9/27/2013 08:59 PM
1,1,2-Trichloroethane	ND	0.13	1.0	ug/L	1	9/27/2013 08:59 PM
1,1-Dichloroethane	ND	0.062	0.50	ug/L	1	9/27/2013 08:59 PM
1,1-Dichloroethene	ND	0.16	1.0	ug/L	1	9/27/2013 08:59 PM
1,1-Dichloropropene	ND	0.073	1.0	ug/L	1	9/27/2013 08:59 PM
1,2,3-Trichlorobenzene	ND	0.084	1.0	ug/L	1	9/27/2013 08:59 PM
1,2,3-Trichloropropane	ND	0.11	1.0	ug/L	1	9/27/2013 08:59 PM
1,2,4-Trichlorobenzene	ND	0.10	1.0	ug/L	1	9/27/2013 08:59 PM
1,2,4-Trimethylbenzene	220	0.36	10	ug/L	10	9/27/2013 05:23 AM
1,2-Dibromo-3-chloropropane	ND	0.34	2.0	ug/L	1	9/27/2013 08:59 PM
1,2-Dibromoethane	ND	0.090	1.0	ug/L	1	9/27/2013 08:59 PM
1,2-Dichlorobenzene	ND	0.048	1.0	ug/L	1	9/27/2013 08:59 PM
1,2-Dichloroethane	2.1	0.044	0.50	ug/L	1	9/27/2013 08:59 PM
1,2-Dichloropropane	ND	0.094	1.0	ug/L	1	9/27/2013 08:59 PM
1,3,5-Trimethylbenzene	72	0.054	1.0	ug/L	1	9/27/2013 08:59 PM
1,3-Dichlorobenzene	ND	0.061	1.0	ug/L	1	9/27/2013 08:59 PM
1,3-Dichloropropane	ND	0.081	1.0	ug/L	1	9/27/2013 08:59 PM
1,4-Dichlorobenzene	ND	0.078	1.0	ug/L	1	9/27/2013 08:59 PM
2,2-Dichloropropane	ND	0.061	1.0	ug/L	1	9/27/2013 08:59 PM
2-Butanone	ND	0.70	10	ug/L	1	9/27/2013 08:59 PM
2-Chlorotoluene	ND	0.054	1.0	ug/L	1	9/27/2013 08:59 PM
4-Chlorotoluene	ND	0.039	1.0	ug/L	1	9/27/2013 08:59 PM
4-Isopropyltoluene	2.3	0.044	1.0	ug/L	1	9/27/2013 08:59 PM
4-Methyl-2-pentanone	ND	0.59	10	ug/L	1	9/27/2013 08:59 PM
Acetone	ND	1.2	10	ug/L	1	9/27/2013 08:59 PM
Acrolein	ND	0.89	20	ug/L	1	9/27/2013 08:59 PM
Acrylonitrile	ND	0.68	20	ug/L	1	9/27/2013 08:59 PM
Benzene	990	0.48	10	ug/L	10	9/27/2013 05:23 AM
Bromobenzene	ND	0.054	1.0	ug/L	1	9/27/2013 08:59 PM
Bromochloromethane	ND	0.15	1.0	ug/L	1	9/27/2013 08:59 PM
Bromodichloromethane	ND	0.048	1.0	ug/L	1	9/27/2013 08:59 PM
Bromoform	ND	0.18	1.0	ug/L	1	9/27/2013 08:59 PM
Bromomethane	0.30	0.13	1.0	J ug/L	1	9/27/2013 08:59 PM
Carbon disulfide	0.39	0.040	1.0	J ug/L	1	9/27/2013 08:59 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



**Advanced Technology Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

**Advanced Technology Laboratories, Inc.**

**ANALYTICAL RESULTS**

Print Date: 01-Oct-13

**CLIENT:** CH2M HILL  
**Lab Order:** N011103  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N011103-001

**Client Sample ID:** INF-09-24  
**Collection Date:** 9/24/2013 12:10:00 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: MS5_130927A	QC Batch: P13VW153	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.057	0.50	ug/L	1	9/27/2013 08:59 PM
Chlorobenzene	ND	0.044	1.0	ug/L	1	9/27/2013 08:59 PM
Chloroethane	ND	0.17	1.0	ug/L	1	9/27/2013 08:59 PM
Chloroform	ND	0.048	1.0	ug/L	1	9/27/2013 08:59 PM
Chloromethane	ND	0.043	1.0	ug/L	1	9/27/2013 08:59 PM
cis-1,2-Dichloroethene	ND	0.057	1.0	ug/L	1	9/27/2013 08:59 PM
cis-1,3-Dichloropropene	ND	0.051	1.0	ug/L	1	9/27/2013 08:59 PM
Di-isopropyl ether	20	0.038	1.0	ug/L	1	9/27/2013 08:59 PM
Dibromochloromethane	ND	0.070	1.0	ug/L	1	9/27/2013 08:59 PM
Dibromomethane	ND	0.11	1.0	ug/L	1	9/27/2013 08:59 PM
Dichlorodifluoromethane	ND	0.054	1.0	ug/L	1	9/27/2013 08:59 PM
Ethyl tert-butyl ether	ND	0.061	1.0	ug/L	1	9/27/2013 08:59 PM
Ethylbenzene	53	0.036	1.0	ug/L	1	9/27/2013 08:59 PM
Freon-113	ND	0.15	1.0	ug/L	1	9/27/2013 08:59 PM
Hexachlorobutadiene	ND	0.070	1.0	ug/L	1	9/27/2013 08:59 PM
Isopropylbenzene	10	0.073	1.0	ug/L	1	9/27/2013 08:59 PM
m,p-Xylene	470	1.4	10	ug/L	10	9/27/2013 05:23 AM
Methylene chloride	ND	0.28	2.0	ug/L	1	9/27/2013 08:59 PM
MTBE	78	0.098	1.0	ug/L	1	9/27/2013 08:59 PM
n-Butylbenzene	6.5	0.076	1.0	ug/L	1	9/27/2013 08:59 PM
n-Propylbenzene	25	0.049	1.0	ug/L	1	9/27/2013 08:59 PM
Naphthalene	83	0.10	1.0	ug/L	1	9/27/2013 08:59 PM
o-Xylene	160	0.42	10	ug/L	10	9/27/2013 05:23 AM
sec-Butylbenzene	3.7	0.036	1.0	ug/L	1	9/27/2013 08:59 PM
Styrene	ND	0.040	1.0	ug/L	1	9/27/2013 08:59 PM
Tert-amyl methyl ether	ND	0.054	1.0	ug/L	1	9/27/2013 08:59 PM
Tert-Butanol	440	1.0	5.0	ug/L	1	9/27/2013 08:59 PM
tert-Butylbenzene	ND	0.040	1.0	ug/L	1	9/27/2013 08:59 PM
Tetrachloroethene	ND	0.12	1.0	ug/L	1	9/27/2013 08:59 PM
Toluene	400	0.34	20	ug/L	10	9/27/2013 05:23 AM
trans-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	9/27/2013 08:59 PM
trans-1,3-Dichloropropene	ND	0.060	1.0	ug/L	1	9/27/2013 08:59 PM
Trichloroethene	ND	0.075	1.0	ug/L	1	9/27/2013 08:59 PM
Trichlorofluoromethane	ND	0.057	1.0	ug/L	1	9/27/2013 08:59 PM
Vinyl chloride	ND	0.082	0.50	ug/L	1	9/27/2013 08:59 PM
Xylenes, Total	630	15	20	ug/L	10	9/27/2013 05:23 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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**Advanced Technology Laboratories, Inc.**

**ANALYTICAL RESULTS**

Print Date: 01-Oct-13

**CLIENT:** CH2M HILL  
**Lab Order:** N011103  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N011103-001

**Client Sample ID:** INF-09-24  
**Collection Date:** 9/24/2013 12:10:00 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:	MS5_130927A	QC Batch:	P13VW153	PrepDate:	Analyst:	QBM	
Surr:	1,2-Dichloroethane-d4	96.6	0	72-119	%REC	10	9/27/2013 05:23 AM
Surr:	1,2-Dichloroethane-d4	101	0	72-119	%REC	1	9/27/2013 08:59 PM
Surr:	4-Bromofluorobenzene	101	0	76-119	%REC	1	9/27/2013 08:59 PM
Surr:	4-Bromofluorobenzene	98.8	0	76-119	%REC	10	9/27/2013 05:23 AM
Surr:	Dibromofluoromethane	108	0	85-115	%REC	1	9/27/2013 08:59 PM
Surr:	Dibromofluoromethane	105	0	85-115	%REC	10	9/27/2013 05:23 AM
Surr:	Toluene-d8	102	0	81-120	%REC	1	9/27/2013 08:59 PM
Surr:	Toluene-d8	102	0	81-120	%REC	10	9/27/2013 05:23 AM

**TPH EXTRACTABLE BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID:	GC1_130930A	QC Batch:	43982	PrepDate:	9/30/2013	Analyst:	MDM
TPH-Diesel (C13-C22)	12000	130	510	ug/L	10	9/30/2013 08:20 PM	
TPH-Oil (C23-C36)	550	9.8	51	ug/L	1	9/30/2013 07:03 PM	
Surr: Octacosane	72.2	0	26-152	%REC	1	9/30/2013 07:03 PM	
Surr: p-Terphenyl	77.2	0	57-132	%REC	1	9/30/2013 07:03 PM	

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID:	GC4_130927B	QC Batch:	E13VW054	PrepDate:	Analyst:	PN
TPH-Gasoline (C4-C12)	5800	8.5	100	ug/L	1	9/27/2013 12:15 PM
Surr: Chlorobenzene - d5	101	0	74-138	%REC	1	9/27/2013 12:15 PM

**TOTAL TPH**

**EPA 3510C**

**EPA 8015B**

RunID:	GC1_130930A	QC Batch:	43982	PrepDate:	9/30/2013	Analyst:	MDM
Total TPH	18350	8.5	100	ug/L	1	9/30/2013 07:03 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



**Advanced Technology  
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CLIENT: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8015\_W\_FP\_SFPP

Sample ID: <b>MB-43982</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>9/30/2013</b>	RunNo: <b>90508</b>						
Client ID: <b>PBW</b>	Batch ID: <b>43982</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>9/30/2013</b>	SeqNo: <b>1652096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	50									
TPH-Oil (C23-C36)	10.162	50									J
Surr: Octacosane	56.670		80.00		70.8	26	152				
Surr: p-Terphenyl	55.373		80.00		69.2	57	132				

**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





**CLIENT:** CH2M HILL  
**Work Order:** N011103  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8015\_W\_SFPPTOT

Sample ID: <b>MB-43982</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_SFP</b>	Units: <b>ug/L</b>	Prep Date: <b>9/30/2013</b>	RunNo: <b>90508</b>						
Client ID: <b>PBW</b>	Batch ID: <b>43982</b>	TestNo: <b>EPA 8015B EPA 3510C</b>		Analysis Date: <b>9/30/2013</b>	SeqNo: <b>1652104</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total TPH	ND	100									

**Qualifiers:**

B	Analyte detected in the associated Method Blank	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: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS\_WSFP

Sample ID: <b>E130927LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90489</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E13VW054</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651473</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	1083.000	100	1000	0	108	67	136				
Surr: Chlorobenzene - d5	50947.000		50000		102	74	138				

Sample ID: <b>E130927MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90489</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E13VW054</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651474</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	52.000	100									J
Surr: Chlorobenzene - d5	51611.000		50000		103	74	138				

Sample ID: <b>N011104-001IMS</b>	SampType: <b>MS</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90489</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW054</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651476</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	1034.000	100	1000	57.00	97.7	67	136				
Surr: Chlorobenzene - d5	49554.000		50000		99.1	74	138				

Sample ID: <b>N011104-001IMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015GAS_WS</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90489</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E13VW054</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651477</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH-Gasoline (C4-C12)	1070.000	100	1000	57.00	101	67	136	1034	3.42	30	
Surr: Chlorobenzene - d5	49802.000		50000		99.6	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: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130926LCS2</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90482</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>P13VW152</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/26/2013</b>		SeqNo: <b>1651273</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	19.960	1.0	20.00	0	99.8	74	132				
Benzene	19.200	1.0	20.00	0	96.0	81	122				
m,p-Xylene	39.890	1.0	40.00	0	99.7	76	128				
o-Xylene	19.920	1.0	20.00	0	99.6	80	121				
Toluene	19.500	2.0	20.00	0	97.5	77	122				
Xylenes, Total	59.810	2.0	60.00	0	99.7	75	125				
Surr: 1,2-Dichloroethane-d4	24.110		25.00		96.4	72	119				
Surr: 4-Bromofluorobenzene	25.360		25.00		101	76	119				
Surr: Dibromofluoromethane	24.830		25.00		99.3	85	115				
Surr: Toluene-d8	25.410		25.00		102	81	120				

Sample ID: <b>P130926LCSD</b>		SampType: <b>LCSD</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90482</b>	
Client ID: <b>LCSS02</b>		Batch ID: <b>P13VW152</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/26/2013</b>		SeqNo: <b>1651274</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	19.830	1.0	20.00	0	99.2	74	132	19.96	0.653	20	
Benzene	19.010	1.0	20.00	0	95.1	81	122	19.20	0.995	20	
m,p-Xylene	39.580	1.0	40.00	0	99.0	76	128	39.89	0.780	20	
o-Xylene	19.780	1.0	20.00	0	98.9	80	121	19.92	0.705	20	
Toluene	19.440	2.0	20.00	0	97.2	77	122	19.50	0.308	20	
Xylenes, Total	59.360	2.0	60.00	0	98.9	75	125	59.81	0.755	20	
Surr: 1,2-Dichloroethane-d4	23.600		25.00		94.4	72	119		0		
Surr: 4-Bromofluorobenzene	25.960		25.00		104	76	119		0		
Surr: Dibromofluoromethane	24.690		25.00		98.8	85	115		0		
Surr: Toluene-d8	25.610		25.00		102	81	120		0		

Sample ID: <b>P130926MB4</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b>		Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90482</b>	
Client ID: <b>PBW</b>		Batch ID: <b>P13VW152</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>		SeqNo: <b>1651275</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              | 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                 |



**Advanced Technology  
Laboratories, Inc.**

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**CLIENT:** CH2M HILL  
**Work Order:** N011103  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130926MB4</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90482</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P13VW152</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651275</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0									
Benzene	ND	1.0									
m,p-Xylene	ND	1.0									
o-Xylene	ND	1.0									
Toluene	ND	2.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	23.610		25.00		94.4	72	119				
Surr: 4-Bromofluorobenzene	24.960		25.00		99.8	76	119				
Surr: Dibromofluoromethane	24.750		25.00		99.0	85	115				
Surr: Toluene-d8	25.040		25.00		100	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: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: P130927LCS	SampType: LCS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 90485						
Client ID: LCSW	Batch ID: P13VW153	TestNo: EPA 8260B	Analysis Date: 9/27/2013	SeqNo: 1651407							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.920	1.0	20.00	0	105	81	129				
1,1,1-Trichloroethane	18.470	1.0	20.00	0	92.4	67	132				
1,1,2,2-Tetrachloroethane	19.060	1.0	20.00	0	95.3	63	128				
1,1,2-Trichloroethane	18.840	1.0	20.00	0	94.2	75	125				
1,1-Dichloroethane	18.250	0.50	20.00	0	91.2	69	133				
1,1-Dichloroethene	18.570	1.0	20.00	0	92.8	68	130				
1,1-Dichloropropene	18.910	1.0	20.00	0	94.6	73	132				
1,2,3-Trichlorobenzene	21.640	1.0	20.00	0	108	67	137				
1,2,3-Trichloropropane	18.280	1.0	20.00	0	91.4	73	124				
1,2,4-Trichlorobenzene	22.000	1.0	20.00	0	110	66	134				
1,2,4-Trimethylbenzene	19.950	1.0	20.00	0	99.8	74	132				
1,2-Dibromo-3-chloropropane	18.860	2.0	20.00	0	94.3	50	132				
1,2-Dibromoethane	20.110	1.0	20.00	0	101	80	121				
1,2-Dichlorobenzene	20.750	1.0	20.00	0	104	71	122				
1,2-Dichloroethane	19.100	0.50	20.00	0	95.5	69	132				
1,2-Dichloropropane	18.510	1.0	20.00	0	92.6	75	125				
1,3,5-Trimethylbenzene	19.790	1.0	20.00	0	99.0	74	131				
1,3-Dichlorobenzene	20.430	1.0	20.00	0	102	75	124				
1,3-Dichloropropane	19.490	1.0	20.00	0	97.5	73	126				
1,4-Dichlorobenzene	20.040	1.0	20.00	0	100	74	123				
2,2-Dichloropropane	19.560	1.0	20.00	0	97.8	69	137				
2-Butanone	225.390	10	200.0	0	113	49	136				
2-Chlorotoluene	19.320	1.0	20.00	0	96.6	73	126				
4-Chlorotoluene	19.430	1.0	20.00	0	97.2	74	128				
4-Isopropyltoluene	20.040	1.0	20.00	0	100	73	130				
4-Methyl-2-pentanone	177.040	10	200.0	0	88.5	58	134				
Acetone	315.120	10	200.0	0	158	40	135				S
Acrolein	168.680	20	200.0	0	84.3	75	125				
Acrylonitrile	171.020	20	200.0	0	85.5	75	125				
Benzene	19.100	1.0	20.00	0	95.5	81	122				

**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: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130927LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651407</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	20.690	1.0	20.00	0	103	76	124				
Bromochloromethane	18.180	1.0	20.00	0	90.9	65	129				
Bromodichloromethane	19.760	1.0	20.00	0	98.8	76	121				
Bromoform	21.250	1.0	20.00	0	106	69	128				
Bromomethane	16.570	1.0	20.00	0	82.8	53	141				
Carbon disulfide	18.750	1.0	20.00	0	93.8	75	125				
Carbon tetrachloride	20.940	0.50	20.00	0	105	66	138				
Chlorobenzene	20.310	1.0	20.00	0	102	81	122				
Chloroethane	17.270	1.0	20.00	0	86.4	58	133				
Chloroform	18.020	1.0	20.00	0	90.1	69	128				
Chloromethane	13.590	1.0	20.00	0	68.0	56	131				
cis-1,2-Dichloroethene	18.290	1.0	20.00	0	91.4	72	126				
cis-1,3-Dichloropropene	19.470	1.0	20.00	0	97.4	69	131				
Di-isopropyl ether	16.750	1.0	20.00	0	83.8	70	130				
Dibromochloromethane	21.260	1.0	20.00	0	106	66	133				
Dibromomethane	19.870	1.0	20.00	0	99.4	76	125				
Dichlorodifluoromethane	18.590	1.0	20.00	0	93.0	53	153				
Ethyl tert-butyl ether	17.520	1.0	20.00	0	87.6	70	130				
Ethylbenzene	19.580	1.0	20.00	0	97.9	73	127				
Freon-113	19.300	1.0	20.00	0	96.5	75	125				
Hexachlorobutadiene	20.950	1.0	20.00	0	105	67	131				
Isopropylbenzene	19.760	1.0	20.00	0	98.8	75	127				
m,p-Xylene	39.680	1.0	40.00	0	99.2	76	128				
Methylene chloride	17.670	2.0	20.00	0	88.4	63	137				
MTBE	16.870	1.0	20.00	0	84.4	65	123				
n-Butylbenzene	20.180	1.0	20.00	0	101	69	137				
n-Propylbenzene	19.540	1.0	20.00	0	97.7	72	129				
Naphthalene	22.170	1.0	20.00	0	111	54	138				
o-Xylene	19.930	1.0	20.00	0	99.7	80	121				
sec-Butylbenzene	19.690	1.0	20.00	0	98.4	72	127				

**Qualifiers:**

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



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130927LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90485</b>			
Client ID: <b>LCSW</b>		Batch ID: <b>P13VW153</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>		SeqNo: <b>1651407</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	20.480	1.0	20.00	0	102	65	134				
Tert-amyl methyl ether	18.920	1.0	20.00	0	94.6	70	130				
Tert-Butanol	85.680	5.0	100.0	0	85.7	70	130				
tert-Butylbenzene	20.040	1.0	20.00	0	100	70	129				
Tetrachloroethene	20.400	1.0	20.00	0	102	66	128				
Toluene	19.500	2.0	20.00	0	97.5	77	122				
trans-1,2-Dichloroethene	18.300	1.0	20.00	0	91.5	63	137				
trans-1,3-Dichloropropene	19.470	1.0	20.00	0	97.4	59	135				
Trichloroethene	20.450	1.0	20.00	0	102	70	127				
Trichlorofluoromethane	19.360	1.0	20.00	0	96.8	57	129				
Vinyl chloride	17.440	0.50	20.00	0	87.2	50	134				
Xylenes, Total	59.610	2.0	60.00	0	99.4	75	125				
Surr: 1,2-Dichloroethane-d4	22.900		25.00		91.6	72	119				
Surr: 4-Bromofluorobenzene	25.360		25.00		101	76	119				
Surr: Dibromofluoromethane	24.330		25.00		97.3	85	115				
Surr: Toluene-d8	25.450		25.00		102	81	120				

Sample ID: <b>P130927MB2</b>		SampType: <b>MBLK</b>		TestCode: <b>8260_WP_SF</b> Units: <b>ug/L</b>		Prep Date:		RunNo: <b>90485</b>			
Client ID: <b>PBW</b>		Batch ID: <b>P13VW153</b>		TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>		SeqNo: <b>1651408</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
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									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									

**Qualifiers:**

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



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**CLIENT:** CH2M HILL  
**Work Order:** N011103  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130927MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651408</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	1.0									
Chloroethane	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                 |



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**CLIENT:** CH2M HILL  
**Work Order:** N011103  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P130927MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651408</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	ND	1.0									
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									

**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: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: <b>P130927MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651408</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	23.450		25.00		93.8	72	119				
Surr: 4-Bromofluorobenzene	24.850		25.00		99.4	76	119				
Surr: Dibromofluoromethane	24.240		25.00		97.0	85	115				
Surr: Toluene-d8	24.780		25.00		99.1	81	120				

Sample ID: <b>N011111-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	20.530	1.0	20.00	0	103	81	129				
1,1,1-Trichloroethane	18.250	1.0	20.00	0	91.2	67	132				
1,1,2,2-Tetrachloroethane	19.130	1.0	20.00	0	95.7	63	128				
1,1,2-Trichloroethane	18.610	1.0	20.00	0	93.0	75	125				
1,1-Dichloroethane	18.000	0.50	20.00	0	90.0	69	133				
1,1-Dichloroethene	18.210	1.0	20.00	0	91.1	68	130				
1,1-Dichloropropene	18.660	1.0	20.00	0	93.3	73	132				
1,2,3-Trichlorobenzene	21.150	1.0	20.00	0	106	67	137				
1,2,3-Trichloropropane	18.100	1.0	20.00	0	90.5	73	124				
1,2,4-Trichlorobenzene	21.480	1.0	20.00	0	107	66	134				
1,2,4-Trimethylbenzene	19.640	1.0	20.00	0	98.2	74	132				
1,2-Dibromo-3-chloropropane	18.550	2.0	20.00	0	92.8	50	132				
1,2-Dibromoethane	19.780	1.0	20.00	0	98.9	80	121				
1,2-Dichlorobenzene	20.410	1.0	20.00	0	102	71	122				
1,2-Dichloroethane	18.720	0.50	20.00	0	93.6	69	132				
1,2-Dichloropropane	18.050	1.0	20.00	0	90.3	75	125				
1,3,5-Trimethylbenzene	19.400	1.0	20.00	0	97.0	74	131				
1,3-Dichlorobenzene	20.200	1.0	20.00	0	101	75	124				

**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: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: N011111-005AMS	SampType: MS	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 90485						
Client ID: ZZZZZZ	Batch ID: P13VW153	TestNo: EPA 8260B		Analysis Date: 9/27/2013	SeqNo: 1651410						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	18.960	1.0	20.00	0	94.8	73	126				
1,4-Dichlorobenzene	19.690	1.0	20.00	0	98.4	74	123				
2,2-Dichloropropane	18.830	1.0	20.00	0	94.2	69	137				
2-Butanone	153.130	10	200.0	0	76.6	49	136				
2-Chlorotoluene	19.090	1.0	20.00	0	95.4	73	126				
4-Chlorotoluene	18.990	1.0	20.00	0	95.0	74	128				
4-Isopropyltoluene	19.810	1.0	20.00	0	99.0	73	130				
4-Methyl-2-pentanone	171.980	10	200.0	0	86.0	58	134				
Acetone	142.450	10	200.0	0	71.2	40	135				
Acrolein	139.230	20	200.0	0	69.6	75	125				S
Acrylonitrile	168.330	20	200.0	0	84.2	75	125				
Benzene	18.890	1.0	20.00	0	94.4	81	122				
Bromobenzene	20.590	1.0	20.00	0	103	76	124				
Bromochloromethane	18.040	1.0	20.00	0	90.2	65	129				
Bromodichloromethane	20.360	1.0	20.00	0.7100	98.2	76	121				
Bromoform	20.690	1.0	20.00	0	103	69	128				
Bromomethane	17.920	1.0	20.00	0	89.6	53	141				
Carbon disulfide	18.540	1.0	20.00	0	92.7	75	125				
Carbon tetrachloride	20.180	0.50	20.00	0	101	66	138				
Chlorobenzene	19.880	1.0	20.00	0	99.4	81	122				
Chloroethane	17.160	1.0	20.00	0	85.8	58	133				
Chloroform	18.830	1.0	20.00	1.110	88.6	69	128				
Chloromethane	14.840	1.0	20.00	0	74.2	56	131				
cis-1,2-Dichloroethene	18.160	1.0	20.00	0	90.8	72	126				
cis-1,3-Dichloropropene	18.930	1.0	20.00	0	94.6	69	131				
Di-isopropyl ether	16.500	1.0	20.00	0	82.5	70	130				
Dibromochloromethane	21.350	1.0	20.00	0.5500	104	66	133				
Dibromomethane	20.270	1.0	20.00	0	101	76	125				
Dichlorodifluoromethane	18.110	1.0	20.00	0	90.6	53	153				
Ethyl tert-butyl ether	17.180	1.0	20.00	0	85.9	70	130				

**Qualifiers:**

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



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**CLIENT:** CH2M HILL  
**Work Order:** N011103  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N011111-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	19.120	1.0	20.00	0	95.6	73	127				
Freon-113	19.200	1.0	20.00	0	96.0	75	125				
Hexachlorobutadiene	20.400	1.0	20.00	0	102	67	131				
Isopropylbenzene	19.550	1.0	20.00	0	97.8	75	127				
m,p-Xylene	38.830	1.0	40.00	0	97.1	76	128				
Methylene chloride	16.940	2.0	20.00	0	84.7	63	137				
MTBE	16.460	1.0	20.00	0	82.3	65	123				
n-Butylbenzene	19.350	1.0	20.00	0	96.8	69	137				
n-Propylbenzene	19.040	1.0	20.00	0	95.2	72	129				
Naphthalene	21.300	1.0	20.00	0	106	54	138				
o-Xylene	19.550	1.0	20.00	0	97.8	80	121				
sec-Butylbenzene	19.250	1.0	20.00	0	96.2	72	127				
Styrene	17.370	1.0	20.00	0	86.9	65	134				
Tert-amyl methyl ether	18.440	1.0	20.00	0	92.2	70	130				
Tert-Butanol	82.380	5.0	100.0	0	82.4	70	130				
tert-Butylbenzene	19.670	1.0	20.00	0	98.4	70	129				
Tetrachloroethene	19.970	1.0	20.00	0	99.8	66	128				
Toluene	19.250	2.0	20.00	0	96.2	77	122				
trans-1,2-Dichloroethene	18.200	1.0	20.00	0	91.0	63	137				
trans-1,3-Dichloropropene	19.320	1.0	20.00	0	96.6	59	135				
Trichloroethene	19.800	1.0	20.00	0	99.0	70	127				
Trichlorofluoromethane	19.270	1.0	20.00	0	96.4	57	129				
Vinyl chloride	17.680	0.50	20.00	0	88.4	50	134				
Xylenes, Total	58.380	2.0	60.00	0	97.3	75	125				
Surr: 1,2-Dichloroethane-d4	23.430		25.00		93.7	72	119				
Surr: 4-Bromofluorobenzene	25.330		25.00		101	76	119				
Surr: Dibromofluoromethane	24.260		25.00		97.0	85	115				
Surr: Toluene-d8	25.270		25.00		101	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                 |



**Advanced Technology  
Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: N011111-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 90485						
Client ID: ZZZZZZ	Batch ID: P13VW153	TestNo: EPA 8260B		Analysis Date: 9/27/2013	SeqNo: 1651411						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.190	1.0	20.00	0	106	81	129	20.53	3.16	20	
1,1,1-Trichloroethane	18.690	1.0	20.00	0	93.5	67	132	18.25	2.38	20	
1,1,2,2-Tetrachloroethane	19.240	1.0	20.00	0	96.2	63	128	19.13	0.573	20	
1,1,2-Trichloroethane	19.030	1.0	20.00	0	95.2	75	125	18.61	2.23	20	
1,1-Dichloroethane	18.360	0.50	20.00	0	91.8	69	133	18.00	1.98	20	
1,1-Dichloroethene	19.000	1.0	20.00	0	95.0	68	130	18.21	4.25	20	
1,1-Dichloropropene	18.890	1.0	20.00	0	94.4	73	132	18.66	1.23	20	
1,2,3-Trichlorobenzene	20.990	1.0	20.00	0	105	67	137	21.15	0.759	20	
1,2,3-Trichloropropane	18.800	1.0	20.00	0	94.0	73	124	18.10	3.79	20	
1,2,4-Trichlorobenzene	21.500	1.0	20.00	0	108	66	134	21.48	0.0931	20	
1,2,4-Trimethylbenzene	19.770	1.0	20.00	0	98.8	74	132	19.64	0.660	20	
1,2-Dibromo-3-chloropropane	18.030	2.0	20.00	0	90.2	50	132	18.55	2.84	20	
1,2-Dibromoethane	19.900	1.0	20.00	0	99.5	80	121	19.78	0.605	20	
1,2-Dichlorobenzene	20.470	1.0	20.00	0	102	71	122	20.41	0.294	20	
1,2-Dichloroethane	19.030	0.50	20.00	0	95.2	69	132	18.72	1.64	20	
1,2-Dichloropropane	18.650	1.0	20.00	0	93.3	75	125	18.05	3.27	20	
1,3,5-Trimethylbenzene	19.660	1.0	20.00	0	98.3	74	131	19.40	1.33	20	
1,3-Dichlorobenzene	20.440	1.0	20.00	0	102	75	124	20.20	1.18	20	
1,3-Dichloropropane	19.500	1.0	20.00	0	97.5	73	126	18.96	2.81	20	
1,4-Dichlorobenzene	19.940	1.0	20.00	0	99.7	74	123	19.69	1.26	20	
2,2-Dichloropropane	19.040	1.0	20.00	0	95.2	69	137	18.83	1.11	20	
2-Butanone	157.590	10	200.0	0	78.8	49	136	153.1	2.87	20	
2-Chlorotoluene	19.340	1.0	20.00	0	96.7	73	126	19.09	1.30	20	
4-Chlorotoluene	19.270	1.0	20.00	0	96.4	74	128	18.99	1.46	20	
4-Isopropyltoluene	19.950	1.0	20.00	0	99.8	73	130	19.81	0.704	20	
4-Methyl-2-pentanone	177.850	10	200.0	0	88.9	58	134	172.0	3.36	20	
Acetone	151.560	10	200.0	0	75.8	40	135	142.4	6.20	20	
Acrolein	141.840	20	200.0	0	70.9	75	125	139.2	1.86	20	S
Acrylonitrile	172.860	20	200.0	0	86.4	75	125	168.3	2.66	20	
Benzene	19.150	1.0	20.00	0	95.8	81	122	18.89	1.37	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**Advanced Technology Laboratories, Inc.**

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL  
 Work Order: N011103  
 Project: SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260\_WP\_SFPP

Sample ID: N011111-005AMSD	SampType: MSD	TestCode: 8260_WP_SF	Units: ug/L	Prep Date:	RunNo: 90485						
Client ID: ZZZZZZ	Batch ID: P13VW153	TestNo: EPA 8260B		Analysis Date: 9/27/2013	SeqNo: 1651411						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	20.550	1.0	20.00	0	103	76	124	20.59	0.194	20	
Bromochloromethane	18.330	1.0	20.00	0	91.7	65	129	18.04	1.59	20	
Bromodichloromethane	20.830	1.0	20.00	0.7100	101	76	121	20.36	2.28	20	
Bromoform	21.130	1.0	20.00	0	106	69	128	20.69	2.10	20	
Bromomethane	20.690	1.0	20.00	0	103	53	141	17.92	14.3	20	
Carbon disulfide	19.080	1.0	20.00	0	95.4	75	125	18.54	2.87	20	
Carbon tetrachloride	20.620	0.50	20.00	0	103	66	138	20.18	2.16	20	
Chlorobenzene	20.220	1.0	20.00	0	101	81	122	19.88	1.70	20	
Chloroethane	17.720	1.0	20.00	0	88.6	58	133	17.16	3.21	20	
Chloroform	19.360	1.0	20.00	1.110	91.2	69	128	18.83	2.78	20	
Chloromethane	15.590	1.0	20.00	0	78.0	56	131	14.84	4.93	20	
cis-1,2-Dichloroethene	18.590	1.0	20.00	0	93.0	72	126	18.16	2.34	20	
cis-1,3-Dichloropropene	19.580	1.0	20.00	0	97.9	69	131	18.93	3.38	20	
Di-isopropyl ether	17.020	1.0	20.00	0	85.1	70	130	16.50	3.10	20	
Dibromochloromethane	21.730	1.0	20.00	0.5500	106	66	133	21.35	1.76	20	
Dibromomethane	20.350	1.0	20.00	0	102	76	125	20.27	0.394	20	
Dichlorodifluoromethane	18.100	1.0	20.00	0	90.5	53	153	18.11	0.0552	20	
Ethyl tert-butyl ether	17.760	1.0	20.00	0	88.8	70	130	17.18	3.32	20	
Ethylbenzene	19.560	1.0	20.00	0	97.8	73	127	19.12	2.28	20	
Freon-113	19.660	1.0	20.00	0	98.3	75	125	19.20	2.37	20	
Hexachlorobutadiene	20.100	1.0	20.00	0	101	67	131	20.40	1.48	20	
Isopropylbenzene	19.760	1.0	20.00	0	98.8	75	127	19.55	1.07	20	
m,p-Xylene	39.740	1.0	40.00	0	99.4	76	128	38.83	2.32	20	
Methylene chloride	17.340	2.0	20.00	0	86.7	63	137	16.94	2.33	20	
MTBE	17.060	1.0	20.00	0	85.3	65	123	16.46	3.58	20	
n-Butylbenzene	19.700	1.0	20.00	0	98.5	69	137	19.35	1.79	20	
n-Propylbenzene	19.440	1.0	20.00	0	97.2	72	129	19.04	2.08	20	
Naphthalene	21.620	1.0	20.00	0	108	54	138	21.30	1.49	20	
o-Xylene	19.910	1.0	20.00	0	99.6	80	121	19.55	1.82	20	
sec-Butylbenzene	19.480	1.0	20.00	0	97.4	72	127	19.25	1.19	20	

**Qualifiers:**

- |  |  |  |
|--|--|--|
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**CLIENT:** CH2M HILL  
**Work Order:** N011103  
**Project:** SFPP - Norwalk Site

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N011111-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>ug/L</b>	Prep Date:	RunNo: <b>90485</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P13VW153</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>9/27/2013</b>	SeqNo: <b>1651411</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	18.280	1.0	20.00	0	91.4	65	134	17.37	5.11	20	
Tert-amyl methyl ether	18.760	1.0	20.00	0	93.8	70	130	18.44	1.72	20	
Tert-Butanol	85.890	5.0	100.0	0	85.9	70	130	82.38	4.17	20	
tert-Butylbenzene	19.680	1.0	20.00	0	98.4	70	129	19.67	0.0508	20	
Tetrachloroethene	20.160	1.0	20.00	0	101	66	128	19.97	0.947	20	
Toluene	19.490	2.0	20.00	0	97.5	77	122	19.25	1.24	20	
trans-1,2-Dichloroethene	18.630	1.0	20.00	0	93.2	63	137	18.20	2.34	20	
trans-1,3-Dichloropropene	19.850	1.0	20.00	0	99.2	59	135	19.32	2.71	20	
Trichloroethene	19.980	1.0	20.00	0	99.9	70	127	19.80	0.905	20	
Trichlorofluoromethane	19.830	1.0	20.00	0	99.2	57	129	19.27	2.86	20	
Vinyl chloride	17.970	0.50	20.00	0	89.8	50	134	17.68	1.63	20	
Xylenes, Total	59.650	2.0	60.00	0	99.4	75	125	58.38	2.15	20	
Surr: 1,2-Dichloroethane-d4	23.000		25.00		92.0	72	119		0		
Surr: 4-Bromofluorobenzene	24.930		25.00		99.7	76	119		0		
Surr: Dibromofluoromethane	23.920		25.00		95.7	85	115		0		
Surr: Toluene-d8	24.760		25.00		99.0	81	120		0		

**Qualifiers:**

- |  |  |  |
|--|--|--|
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# Advanced Technology Laboratories, Inc.

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: 9/26/2013 Workorder: N011103  
 Rep sample Temp (Deg C): 4.1 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: GSO  
 Last 4 digits of Tracking No.: 8704/3492 Packing Material Used: None  
 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: MBC *MBC* 9/26/2013

Reviewed By: *gidi*

PLEASE PRESS FIRMLY

<b>1</b>	DATE	9/25/2013		
	COMPANY	AT Laboratory		
	ADDRESS	2324 N. Nassau St		
	ADDRESS	STE/ ROOM		
	CITY	ZIP CODE	Barbante 91504	
SENDER'S NAME		PHONE NUMBER	Justin 118-525-3200	
<b>2</b>	COMPANY	Advanced Technology Lab.		
	NAME	PHONE NUMBER	Marlon Cortin 702-307-2659	
	ADDRESS	3151 W Post Road		
	ADDRESS	STE/ ROOM		
<b>3</b>	CITY	ZIP CODE	Las Vegas 89118	
	YOUR INTERNAL BILLING REFERENCE WILL APPEAR ON YOUR INVOICE 5157422			
SPECIAL INSTRUCTIONS				



**SHIPPING AIR BILL**

**4** PACKAGE INFORMATION

LETTER (MAX 8 OZ)

PACKAGE (WT) 20.46 / 11.81 x 6

DECLARED VALUE \$ \_\_\_\_\_

COD AMOUNT \$ \_\_\_\_\_  
(CASH NOT ACCEPTED)

PACKAGE LABEL

**5** DELIVERY SERVICE  PRIORITY OVERNIGHT BY 10:30 AM  EARLY PRIORITY BY 8:00 AM  SATURDAY DELIVERY

\*DELIVERY TIMES MAY BE LATER IN SOME AREAS • CONSULT YOUR SERVICE GUIDE OR CALL GOLDEN STATE OVERNIGHT.

**6** RELEASE SIGNATURE \_\_\_\_\_  
SIGN TO AUTHORIZE DELIVERY WITHOUT OBTAINING SIGNATURE

**7** \_\_\_\_\_

**8** PICK UP INFORMATION TIME 6:40 PM DRIVER # 91585 ROUTE #

106083492 PEEL OFF HERE 

**9** GSO TRACKING NUMBER 106083492