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# **Second Quarter 2012 Remediation Progress Report SFPP Norwalk Pump Station Norwalk, California**

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

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July 13, 2012



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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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July 13, 2012

Date

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# Acronyms and Abbreviations

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µg/L	micrograms per liter
1,2-DCA	1,2-dichloroethane
ASTM	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-fp	total petroleum hydrocarbons quantified as fuel product
TPH-g	total petroleum hydrocarbons quantified as gasoline
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 second quarter 2012 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 (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 April through June 2012 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 April through June 2012 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) groundwater extraction 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 second quarter 2012. The remediation system layout is presented in Figure 2.

### 3. Operations and Maintenance

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Tasks performed for O&M of the remediation systems during the reporting period included:

- 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)
- Removing, inspecting, and making repairs to the TFE/GWE pumps and associated discharge lines
- Measuring individual well vapor concentrations
- Collecting and analyzing system influent vapor and groundwater samples
- Rewiring and upgrading the electrical system in the TFE/GWE system control panel
- Repairing the groundwater conveyance line for wells GMW-SF-9 and GMW-SF-10 in the southeastern area
- Retrofitting and starting up well GMW-36 to extract both total fluids and soil vapor
- Installing an acid addition system in the influent sumps and the effluent tanks of the two FBBRs

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 second quarter 2012 period.

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 second quarter 2012 are summarized in Tables 2 and 3. The remediation systems operated during the second quarter 2012 with the following exceptions:

- On April 9, 2012, the SVE and TFE/GWE systems were turned off to facilitate gauging of the monitoring and extraction wells (under static conditions) for the second quarter 2012 semiannual groundwater monitoring event. The SVE and TFE/GWE systems were restarted on April 18, 2012.
- On April 23, 2012, the SVE and TFE/GWE systems were off on arrival. The 300 kilovolt-ampere (kVA) transformer feeder was tripped on April 21, 2012, at approximately 12:31 a.m. The feeder was reset and power was restored. The SVE system was restarted the same day. The two FBBRs also shut down during the power outage; therefore, the system was not turned on until the bioreactors were evaluated and confirmed to be operational. On April 24, 2012, it was determined that the biomass in the FBBRs survived the power outage, and therefore the system was restarted.

- On April 30, 2012, the SVE system was off on arrival due to a blown fuse. The fuse was replaced and the system was restarted the same day.
- On May 1, 2012, the system was shut down for approximately 7 hours to perform the electrical upgrades to the TFE/GWE control panel. The system was restarted the same day.
- On May 17, 23, and 31, and June 19 and 22, the system was down due to clogged bag filters downstream of the OWS and transfer tank. The bag filters were replaced and the system was restarted shortly thereafter.
- On May 31, 2012, the SVE system was off on arrival due to a blown fuse. On June 1, 2012, the fuse was replaced and the system was restarted.
- The SVE system was turned off on June 21, 2012, to allow the vadose zone to recover to ambient conditions prior to sampling the newly installed soil vapor probes in the southern offsite and southeastern areas.

Overall, during the second quarter 2012, the SVE system operated approximately 74 percent of the time, while the TFE/GWE system operated approximately 86 percent of the time. Without planned shutdowns for soil vapor and groundwater monitoring during the second quarter 2012, the SVE system operated approximately 90 percent of the time, while the TFE/GWE system operated approximately 98 percent of the time.

Vapor samples from the SVE system influent and water samples from TFE/GWE system influent were collected during the second quarter 2012 when the systems were in operation. During the second quarter 2012, influent vapor samples were collected on April 27, May 22, and June 19, 2012, when the SVE system was operating. Influent water samples were collected on April 27, May 22, and June 19, 2012, 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 American Society for Testing and Materials (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 and TPH quantified as fuel product (TPH-fp) 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 of the TFE/GWE and SVE wells were measured during the second quarter 2012 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 3,498 pounds during the second quarter 2012, for a cumulative mass removal of approximately 46,263 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 1,609,376 gallons of groundwater was extracted during the second quarter 2012 (Table 3). No water was extracted from the WSB area during the second quarter 2012.

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.

Removal of free product using TFE continued during the second quarter 2012. Because the amount of free product removed by TFE was significantly less than the volume of groundwater extracted, free product was emulsified in the relatively larger volume of groundwater extracted and was not observed to accumulate in the product holding tank of the groundwater treatment system. Therefore, the amount of free product removed by TFE was not estimated.

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 80 pounds during the second quarter 2012, for a cumulative mass removed from these areas of approximately 1,748 pounds since implementing the system upgrades described in the Second Addendum (Table 3). TPH-fp also was detected in the influent water samples; however, TPH-fp results were not used to calculate mass removal for dissolved petroleum hydrocarbons because the ranges of hydrocarbons for TPH-g and TPH-fp overlap. Because the nonoverlapping portion of the TPH-fp range was not used in the mass removal calculation, and the amount of free product removed by TFE was not estimated, the total mass of petroleum hydrocarbons removed by TFE may be underestimated.

## 5. System Evaluation and Optimization

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For the SVE treatment system, during the second quarter 2012, vapor-phase VOC concentrations were measured in individual wells using a PID on April 20 and May 29, 2012, as shown in Table 6. Vapor-phase VOC concentrations were not measured in June 2012 because the SVE system was turned off on June 21, 2012, prior to collecting monthly PID readings. The operation status of the SVE wells at the end of the second quarter 2012 is also shown in Table 1. PID readings recorded on April 20 and May 29, 2012, indicate VOC concentrations are close to, or higher than, 100 ppmv in several 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 2012 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, groundwater elevations and product thicknesses in the south-central area have generally decreased since implementing the Second Addendum. TFE will continue to be performed in areas with remaining free product. Selected remediation wells will continue to be monitored quarterly to assess remediation performance; remediation pump settings will be adjusted accordingly to optimize free product recovery and enhance hydraulic control of dissolved plumes.

The 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 second quarter 2012, there were five TFE wells online from the south-central area (MW-SF-3, MW-SF-12, MW-SF-14, MW-SF-15, and GMW-O-21) and four wells from the southeastern area (GMW-O-15, GMW-O-18, GMW-SF-9, and GMW-36). Additional extraction wells will be brought online during the third quarter 2012, as needed.

During the first quarter 2012, the lead polishing LGAC vessel became plugged occasionally due to solidification of the carbon. The reason for the solidification in the lead polishing LGAC vessel was the formation of carbonate precipitates in the pretreated water. The pH was adjusted at the bioreactors to reduce the formation of these precipitates. During the second quarter 2012, additional pH adjustments were made in the effluent tanks of each of the bioreactors to further reduce the formation of precipitates. These pH adjustments have been effective as there were no required carbon changeouts during the second quarter 2012.

## 6. Planned Third Quarter 2012 Activities

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During the third quarter 2012, SFPP plans to continue to focus remedial efforts on the south-central and southeastern areas. The following maintenance activities are planned to be completed during the third quarter 2012:

- 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.
- Continue to adjust pH of pretreated groundwater in the TBA treatment system to control the formation of precipitates.
- Install an overhead acid delivery system to facilitate automated delivery of acid from the acid storage tote directly to the FBBRs and effluent tanks.
- Install a 6-bag filter housing parallel to the existing bag filter housing in order to extend the life of the upstream bag filters. Two additional bag filter housings and a filter backwash system also will be installed upstream of the carbon polishing vessels and downstream of the FBBRs. It is anticipated that these upgrades to the treatment system will extend the life of the bag filters and granular activated carbon, and reduce the frequency of system shutdowns.

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 third quarter 2012 will be described in the Third Quarter 2012 Remediation Progress Report to be submitted by October 15, 2012.

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## 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 Second Quarter 2012 <sup>1</sup>	
						SVE	TFE/GWE
South-Central	MW-SF-1	6/18/1990	78.93	25 - 40	SVE	OFF	--
	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	<b>ON</b>	<b>ON</b>
	MW-SF-4	6/19/1990	79.38	25 - 40	SVE	<b>ON</b>	--
	MW-SF-5	9/19/1990	79.74	23 - 38	SVE	OFF	--
	MW-SF-6	9/19/1990	76.80	25 - 40	SVE; TFE	OFF	OFF
	MW-SF-9	6/15/1995	74.10	--	SVE	<b>ON</b>	--
	MW-SF-10	9/23/2003	76.53	10 - 30	SVE	OFF	--
	MW-SF-11	6/19/2007	78.56	20 - 40	SVE; TFE	OFF	OFF
	MW-SF-12	6/18/2007	78.07	20 - 40	SVE; TFE	<b>ON</b>	<b>ON</b>
	MW-SF-13	6/19/2007	73.40	20 - 40	SVE; TFE	OFF	OFF
	MW-SF-14	6/21/2007	78.16	20 - 40	SVE; TFE	OFF	<b>ON</b>
	MW-SF-15	6/21/2007	78.27	20 - 40	SVE; TFE	OFF	<b>ON</b>
	MW-SF-16	6/20/2007	78.21	20 - 40	SVE; TFE	<b>ON</b>	OFF
	GMW-9	7/8/1991	74.44	20 - 50	SVE; TFE	OFF	OFF
	GMW-10	7/8/1991	74.67	25 - 50	SVE	OFF	--
	GMW-22	8/2/1991	74.17	25 - 60	SVE; TFE	OFF	OFF
	GMW-24	8/5/1991	74.04	25 - 60	SVE; TFE	OFF	OFF
	GMW-25	1/10/1992	74.29	20 - 50	SVE; GWE	OFF	OFF
	GWR-3	1/10/1992	74.93	20 - 50	SVE; GWE	<b>ON</b>	OFF
	VEW-1	--	--	--	SVE	OFF	--
	VEW-2	--	--	--	SVE	OFF	--
	MW-O-1	1/22/1991	75.48	25 - 40	SVE; TFE	<b>ON</b>	OFF
	MW-O-2	1/23/1991	71.90	25 - 40	SVE; TFE	<b>ON</b>	OFF
	GMW-O-11	5/20/1992	74.17	20 - 50	SVE; TFE	OFF	OFF
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	<b>ON</b>	--
	GMW-O-20	6/15/1995	73.32	--	SVE; TFE	<b>ON</b>	OFF
GMW-O-21	10/1/1997	71.43	26 - 46	TFE	--	<b>ON</b>	
GMW-O-23	6/25/2007	73.63	20 - 40	SVE; TFE	<b>ON</b>	OFF	
MW-18 (MID)	6/10/1991	75.67	50 - 60	SVE	OFF	--	
HW-1	09/06/92	--	--	SVE	--	--	
HW-2	09/06/92	--	--	SVE	<b>ON</b>	--	
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	<b>ON</b>	<b>ON</b>
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	<b>ON</b>	<b>ON</b>
	GMW-36	4/11/1994	74.53	20 - 50	SVE; TFE	<b>ON</b>	<b>ON</b>
	GMW-SF-9	4/1/2003	73.00	37 - 46	GWE	--	<b>ON</b>
	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 ("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>First Quarter 2012 Totals</b>	<b>79,540</b>	<b>2,051</b>	--	--	--	--	<b>7,593</b>
04/03/12	79,635.4	96	--	0 <sup>5</sup>	1697	50	0
04/06/12	79,708.0	73	--	0	1934	50	0
04/20/12	79,828.4	120	--	90	1966	55	320
04/23/12	79,840.5	12	--	90 <sup>5</sup>	1805	55	29
04/24/12	79,861.4	21	--	55	1758	55	30
04/26/12	79,911.5	50	--	55 <sup>5</sup>	1730	55	72
04/27/12	79,932.7	21	39	55 <sup>5</sup>	1731	55	30
04/30/12	79,935.3	3	--	55 <sup>5</sup>	1765	55	4
05/01/12	79,958.1	23	--	38	1742	55	23
05/04/12	80,026.8	69	--	38 <sup>5</sup>	1735	55	68
05/08/12	80,122.6	96	--	22	1627	55	51
05/11/12	80,193.0	70	--	22 <sup>5</sup>	1727	55	40
05/15/12	80,292.0	99	--	57	1631	55	139
05/17/12	80,340.2	48	--	57 <sup>5</sup>	1634	55	68
05/22/12	80,460.2	120	65	350	1581	55	996
05/25/12	80,532.2	72	--	350 <sup>5</sup>	1645	55	622
05/29/12	80,626.1	94	--	17	1609	50	38
06/01/12	80,677.1	51	--	17 <sup>5</sup>	1751	50	22
06/05/12	80,770.4	93	--	100	1670	50	234
06/08/12	80,844.0	74	--	100 <sup>5</sup>	1699	50	188
06/11/12	80,915.7	72	--	100 <sup>5</sup>	1668	50	179
06/12/12	80,938.4	23	--	80	1644	50	45
06/15/12	81,007.6	69	--	80 <sup>5</sup>	1744	50	145
06/19/12	81,103.9	96	17	40	1728	50	100
06/21/12	81,157.5	54	--	40 <sup>5</sup>	1728 <sup>6</sup>	--	56
<b>Second Quarter 2012 Totals</b>	<b>81,157.5</b>	<b>1,618</b>	--	--	--	--	<b>3,498</b>
<b>Cumulative Mass Removed Since Implementation of RAP Upgrades<sup>4</sup></b>							<b>46,263</b>

Notes

- 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.
- The total mass removed is based on influent FID or PID readings, hours of operation, and flow rate.
- The 2007 total includes only operation after upgrades were made to the south-central system.
- Upgrades to the south-central system are described in the Second Addendum to Remedial Action Plan (Geomatrix, 2006).
- Used previous PID reading to obtain mass removed.
- Used previous flowmeter reading to obtain mass removed.

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  
 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>
<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>First Quarter 2012 Totals</b>	<b>1,600,698</b>	<b>0</b>	<b>1,600,698</b>	--	<b>69</b>
4/1/2012	23,897	0	23,897	6,100	1.21
4/2/2012	19,857	0	19,857	6,100	1.01
4/3/2012	18,333	0	18,333	6,100	0.93
4/4/2012	19,493	0	19,493	6,100	0.99
4/5/2012	20,769	0	20,769	6,100	1.06
4/6/2012	19,911	0	19,911	6,100	1.01
4/7/2012	18,749	0	18,749	6,100	0.95
4/8/2012	13,922	0	13,922	6,100	0.71
4/9/2012	12,966	0	12,966	6,100	0.66
4/10/2012	6,421	0	6,421	6,100	0.33
4/11/2012	0	0	0	6,100	0.00
4/12/2012	0	0	0	6,100	0.00
4/13/2012	1	0	1	6,100	0.00
4/14/2012	0	0	0	6,100	0.00
4/15/2012	0	0	0	6,100	0.00
4/16/2012	0	0	0	6,100	0.00
4/17/2012	0	0	0	6,100	0.00
4/18/2012	1	0	1	6,100	0.00
4/19/2012	12,869	0	12,869	6,100	0.65
4/20/2012	20,208	0	20,208	6,100	1.03
4/21/2012	20,940	0	20,940	6,100	1.06
4/22/2012	0	0	0	6,100	0.00
4/23/2012	0	0	0	6,100	0.00
4/24/2012	978	0	978	6,100	0.05
4/25/2012	9,398	0	9,398	6,100	0.48
4/26/2012	18,051	0	18,051	6,100	0.92
4/27/2012	17,025	0	17,025	5,100	0.72
4/28/2012	16,949	0	16,949	5,100	0.72
4/29/2012	16,713	0	16,713	5,100	0.71
4/30/2012	16,444	0	16,444	5,100	0.70
5/1/2012	16,554	0	16,554	5,100	0.70
5/2/2012	12,500	0	12,500	5,100	0.53
5/3/2012	16,787	0	16,787	5,100	0.71
5/4/2012	16,838	0	16,838	5,100	0.71
5/5/2012	16,291	0	16,291	5,100	0.69
5/6/2012	16,755	0	16,755	5,100	0.71
5/7/2012	16,593	0	16,593	5,100	0.70
5/8/2012	16,313	0	16,313	5,100	0.69
5/9/2012	18,002	0	18,002	5,100	0.76
5/10/2012	18,139	0	18,139	5,100	0.77
5/11/2012	20,246	0	20,246	5,100	0.86
5/12/2012	21,471	0	21,471	5,100	0.91
5/13/2012	25,021	0	25,021	5,100	1.06
5/14/2012	15,684	0	15,684	5,100	0.67
5/15/2012	10,213	0	10,213	5,100	0.43
5/16/2012	26,391	0	26,391	5,100	1.12
5/17/2012	23,079	0	23,079	5,100	0.98
5/18/2012	15,108	0	15,108	5,100	0.64
5/19/2012	24,004	0	24,004	5,100	1.02
5/20/2012	22,024	0	22,024	5,100	0.93
5/21/2012	14,575	0	14,575	5,100	0.62
5/22/2012	23,656	0	23,656	6,800	1.34
5/23/2012	23,906	0	23,906	6,800	1.35
5/24/2012	25,343	0	25,343	6,800	1.43
5/25/2012	8,810	0	8,810	6,800	0.50

**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>
5/26/2012	23,520	0	23,520	6,800	1.33
5/27/2012	24,820	0	24,820	6,800	1.40
5/28/2012	22,826	0	22,826	6,800	1.29
5/29/2012	24,959	0	24,959	6,800	1.41
5/30/2012	25,642	0	25,642	6,800	1.45
5/31/2012	26,977	0	26,977	6,800	1.53
6/1/2012	25,864	0	25,864	6,800	1.46
6/2/2012	16,534	0	16,534	6,800	0.93
6/3/2012	22,491	0	22,491	6,800	1.27
6/4/2012	22,094	0	22,094	6,800	1.25
6/5/2012	21,229	0	21,229	6,800	1.20
6/6/2012	19,522	0	19,522	6,800	1.10
6/7/2012	22,540	0	22,540	6,800	1.27
6/8/2012	23,213	0	23,213	6,800	1.31
6/9/2012	23,093	0	23,093	6,800	1.31
6/10/2012	24,050	0	24,050	6,800	1.36
6/11/2012	23,871	0	23,871	6,800	1.35
6/12/2012	21,302	0	21,302	6,800	1.20
6/13/2012	22,929	0	22,929	6,800	1.30
6/14/2012	28,150	0	28,150	6,800	1.59
6/15/2012	28,059	0	28,059	6,800	1.59
6/16/2012	27,599	0	27,599	6,800	1.56
6/17/2012	27,818	0	27,818	6,800	1.57
6/18/2012	27,610	0	27,610	6,800	1.56
6/19/2012	26,104	0	26,104	5,300	1.15
6/20/2012	13,182	0	13,182	5,300	0.58
6/21/2012	22,699	0	22,699	5,300	1.00
6/22/2012	18,985	0	18,985	5,300	0.84
6/23/2012	20,353	0	20,353	5,300	0.90
6/24/2012	21,850	0	21,850	5,300	0.96
6/25/2012	21,762	0	21,762	5,300	0.96
6/26/2012	19,025	0	19,025	5,300	0.84
6/27/2012	16,509	0	16,509	5,300	0.73
6/28/2012	17,246	0	17,246	5,300	0.76
6/29/2012	23,054	0	23,054	5,300	1.02
6/30/2012	23,697	0	23,697	5,300	1.04
<b>Second Quarter 2012 Totals</b>	<b>1,609,376</b>	<b>0</b>	<b>1,609,376</b>	<b>--</b>	<b>80</b>
<b>Cumulative TPH-g Removed Since Implementation of RAP Upgrades<sup>5</sup></b>					<b>1,748</b>

**Notes**

- The TPH-g 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 removed.
- Mass of TPH-g removed (pounds) is based on concentrations of dissolved TPH-g in the most recent TFE system influent samples and the volume of groundwater extracted by TFE. TPH-fp concentrations also were detected in the TFE system influent samples (see Table 5), but were not used in estimating the mass of petroleum hydrocarbons removed from groundwater.
- 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 Remedial Action Plan (Geomatrix, 2006).

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

**Abbreviations**

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

**Notes**

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

**Abbreviations**

ASTM = 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 Norwalk Pump Station, Norwalk, California

Date Sampled	EPA 8015M		EPA 8260B Volatile Organic Compounds (VOCs) <sup>2</sup>								
	TPH-g (µg/L)	TPH-fp (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	--	--	--	--
10/16/2007	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	-- <sup>4</sup>	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

**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-fp result from influent extracted groundwater sample collected on July 10, 2008.
- July 27, 2011 sample was not analyzed for TPH-fp, but for TPH-diesel (10,000µg/L) and TPH-oil (44J µg/L).

**Abbreviations**

TPH-g = total petroleum hydrocarbons quantified as gasoline (C4-C12)  
 TPH-fp = total petroleum hydrocarbons quantified as fuel products (C7-C28)  
 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	4/20/2012 (ppmv as Hexane) <sup>1</sup>	5/29/2012 (ppmv as Hexane) <sup>1</sup>
South-Central	MW-SF-1	SVE	10	22.7
	MW-SF-2	SVE; TFE	20	3.2
	MW-SF-3	SVE; TFE	260	125
	MW-SF-4	SVE	0	53.6
	MW-SF-5	SVE	0	0.7
	MW-SF-6	SVE; TFE	0	5.8
	MW-SF-9	SVE	0	406
	MW-SF-10	SVE	0	2.4
	MW-SF-11	SVE; TFE	20	24.2
	MW-SF-12	SVE; TFE	60	854
	MW-SF-13	SVE; TFE	0	38.2
	MW-SF-14	SVE; TFE	20	20.5
	MW-SF-15	SVE; TFE	0	4.1
	MW-SF-16	SVE; TFE	0	105
	GMW-9	SVE; TFE	0	30.2
	GMW-10	SVE	0	1.1
	GMW-22	SVE; TFE	0	30.2
	GMW-24	SVE; TFE	0	11.1
	GMW-25	SVE; GWE	0	11.1
	GWR-3	SVE; GWE	300	243
	VEW-1	SVE	0	1.8
	VEW-2	SVE	0	5.2
	MW-O-1	SVE; TFE	0	NM <sup>3</sup>
	MW-O-2	SVE; TFE	0	9.8
	GMW-O-11	SVE; TFE	0	10.6
	GMW-O-12	SVE	0	5.5
	GMW-O-20	SVE; TFE	0	106
	GMW-O-23	SVE; TFE	0	20.6
	MW-18 (MID)	SVE	0	0
	HW-1 <sup>2</sup>	SVE	---	---
HW-2	SVE	0	444	
Southeastern	GMW-36	SVE; TFE	---	252
	GMW-O-15	SVE; TFE	420	252
	GMW-O-18	SVE; TFE	420	252

Notes

- Vapor readings measured in the field with a photoionization detector (PID) calibrated using 50 ppmv of hexane.
  - SVE well HW-1 is currently not connected to the SVE system.
  - Condensate was in the conveyance pipe when PID readings were collected.
- = does not apply

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  
 NM = not measured

**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	---	31.15	---	---	---	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	
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	Kinder Morgan
	9/3/2010	74.17	28.36	25.10	3.26	---	Kinder Morgan
	10/4/2010	74.17	27.65	---	---	46.52	Blaine Tech
	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	---	31.15	---	---	---	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
	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	

**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-24	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	--- <sup>1</sup>	30.49	30.31	0.18	---	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	--- <sup>1</sup>	30.31	---	---	---	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
	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	--- <sup>1</sup>	33.27	---	---	---	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
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
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	
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
	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	

**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-O-15	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
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
4/16/2012	74.36	27.1	---	---	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	
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	
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	
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

**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-O-23	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
	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	
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	73.00	26.99	---	---	46.01	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
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	---	29.56	---	---	---	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
	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

**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
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	
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
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
	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	
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

**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
MW-SF-2	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	
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	
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
	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	

**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
MW-SF-4	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
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
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	
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	
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

**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
MW-SF-9	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
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
	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
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	
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	

**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
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
	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	
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	
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
3/24/2009	78.27	30.32	29.93	0.39	---	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
MW-SF-15	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	
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	

<sup>1</sup> = top of casing elevation not available due to retrofit of the wellhead

**Abbreviations**

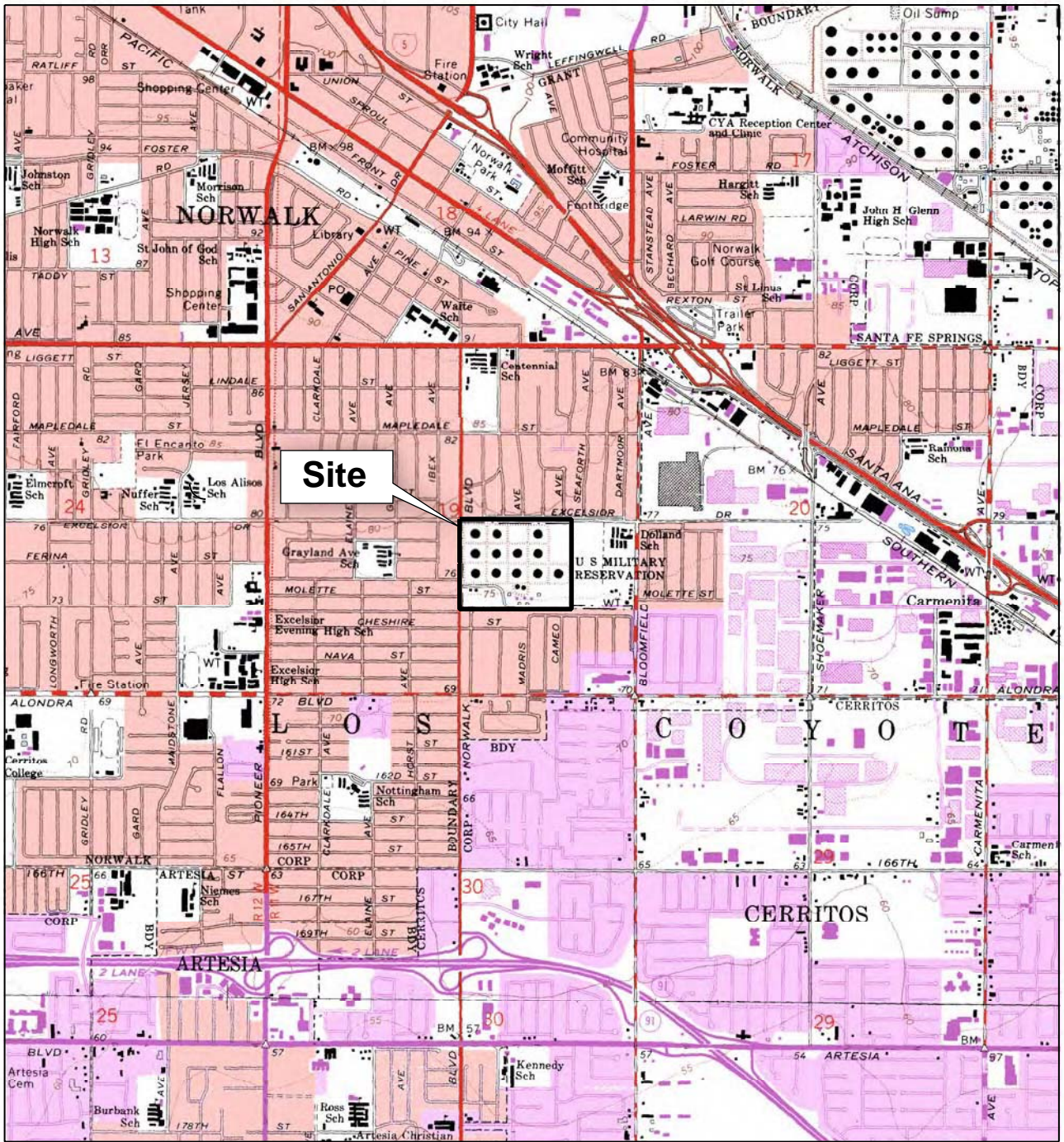
ft msl = feet above mean sea level based on National Geodetic Vertical Datum of 1929

ft btoc = feet below top of casing

--- = not detected or not applicable

## Figures

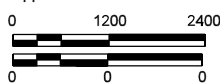
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Site



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\_LAYOUT\REMEDIATION\_SYSTEM\_LAYOUT.MXD SWD\FSH 7/9/2012 1:33:06 PM

# Appendix A

## Laboratory Analytical Reports

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July 09, 2012

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.: N007760

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on April 27, 2012 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.

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

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

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

Sincerely,



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:** N007760  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007760-001A	INF-04-27	Wastewater	4/27/2012 12:20:00 PM	4/27/2012	5/4/2012
N007760-001B	INF-04-27	Wastewater	4/27/2012 12:20:00 PM	4/27/2012	5/4/2012
N007760-001C	INF-04-27	Wastewater	4/27/2012 12:20:00 PM	4/27/2012	5/4/2012



**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N007760

**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 8015B\_GRO:**

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

**Analytical Comments for EPA 8260B:**

Surrogate Dibromofluoromethane recovery bias high for sample N007760-001 possibly due to matrix interference.

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





**Advanced Technology Laboratories, Inc.**

**ANALYTICAL RESULTS**

Print Date: 09-Jul-12

**CLIENT:** CH2M HILL  
**Lab Order:** N007760  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N007760-001

**Client Sample ID:** INF-04-27  
**Collection Date:** 4/27/2012 12:20:00 PM  
**Matrix:** WATEWATER

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

**EPA 8260B**

RunID: MS5_120504A	QC Batch: P12VW020	PrepDate:	Analyst: QBM			
1,1,1,2-Tetrachloroethane	ND	0.12	1.0	µg/L	1	5/4/2012 04:28 PM
1,1,1-Trichloroethane	ND	0.14	1.0	µg/L	1	5/4/2012 04:28 PM
1,1,2,2-Tetrachloroethane	ND	0.20	1.0	µg/L	1	5/4/2012 04:28 PM
1,1,2-Trichloroethane	ND	0.18	1.0	µg/L	1	5/4/2012 04:28 PM
1,1-Dichloroethane	ND	0.13	0.50	µg/L	1	5/4/2012 04:28 PM
1,1-Dichloroethene	ND	0.18	1.0	µg/L	1	5/4/2012 04:28 PM
1,1-Dichloropropene	ND	0.085	1.0	µg/L	1	5/4/2012 04:28 PM
1,2,3-Trichlorobenzene	ND	0.098	1.0	µg/L	1	5/4/2012 04:28 PM
1,2,3-Trichloropropane	ND	0.11	1.0	µg/L	1	5/4/2012 04:28 PM
1,2,4-Trichlorobenzene	ND	0.082	1.0	µg/L	1	5/4/2012 04:28 PM
1,2,4-Trimethylbenzene	31	0.076	1.0	µg/L	1	5/4/2012 04:28 PM
1,2-Dibromo-3-chloropropane	ND	0.34	2.0	µg/L	1	5/4/2012 04:28 PM
1,2-Dibromoethane	ND	0.10	1.0	µg/L	1	5/4/2012 04:28 PM
1,2-Dichlorobenzene	ND	0.095	1.0	µg/L	1	5/4/2012 04:28 PM
1,2-Dichloroethane	ND	0.10	0.50	µg/L	1	5/4/2012 04:28 PM
1,2-Dichloropropane	ND	0.17	1.0	µg/L	1	5/4/2012 04:28 PM
1,3,5-Trimethylbenzene	11	0.13	1.0	µg/L	1	5/4/2012 04:28 PM
1,3-Dichlorobenzene	ND	0.094	1.0	µg/L	1	5/4/2012 04:28 PM
1,3-Dichloropropane	ND	0.13	1.0	µg/L	1	5/4/2012 04:28 PM
1,4-Dichlorobenzene	ND	0.069	1.0	µg/L	1	5/4/2012 04:28 PM
2,2-Dichloropropane	ND	0.10	1.0	µg/L	1	5/4/2012 04:28 PM
2-Butanone	ND	0.59	10	µg/L	1	5/4/2012 04:28 PM
2-Chlorotoluene	ND	0.10	1.0	µg/L	1	5/4/2012 04:28 PM
4-Chlorotoluene	ND	0.083	1.0	µg/L	1	5/4/2012 04:28 PM
4-Isopropyltoluene	ND	0.054	1.0	µg/L	1	5/4/2012 04:28 PM
4-Methyl-2-pentanone	0.99	0.64	10	J µg/L	1	5/4/2012 04:28 PM
Acetone	ND	1.3	10	µg/L	1	5/4/2012 04:28 PM
Acrolein	ND	4.3	20	µg/L	1	5/4/2012 04:28 PM
Acrylonitrile	ND	0.61	20	µg/L	1	5/4/2012 04:28 PM
Benzene	3800	11	100	µg/L	100	5/4/2012 02:13 PM
Bromobenzene	ND	0.083	1.0	µg/L	1	5/4/2012 04:28 PM
Bromochloromethane	ND	0.15	1.0	µg/L	1	5/4/2012 04:28 PM
Bromodichloromethane	ND	0.11	1.0	µg/L	1	5/4/2012 04:28 PM
Bromoform	ND	0.18	1.0	µg/L	1	5/4/2012 04:28 PM
Bromomethane	ND	0.14	1.0	µg/L	1	5/4/2012 04:28 PM
Carbon disulfide	ND	0.15	1.0	µg/L	1	5/4/2012 04:28 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: 09-Jul-12

**CLIENT:** CH2M HILL  
**Lab Order:** N007760  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N007760-001

**Client Sample ID:** INF-04-27  
**Collection Date:** 4/27/2012 12:20:00 PM  
**Matrix:** WATEWATER

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

**EPA 8260B**

RunID: MS5_120504A	QC Batch: P12VW020	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.12	1.0	µg/L	1	5/4/2012 04:28 PM
Chlorobenzene	ND	0.11	1.0	µg/L	1	5/4/2012 04:28 PM
Chloroethane	ND	0.17	1.0	µg/L	1	5/4/2012 04:28 PM
Chloroform	ND	0.079	1.0	µg/L	1	5/4/2012 04:28 PM
Chloromethane	ND	0.19	1.0	µg/L	1	5/4/2012 04:28 PM
cis-1,2-Dichloroethene	ND	0.18	1.0	µg/L	1	5/4/2012 04:28 PM
cis-1,3-Dichloropropene	ND	0.16	1.0	µg/L	1	5/4/2012 04:28 PM
Di-isopropyl ether	38	0.12	1.0	µg/L	1	5/4/2012 04:28 PM
Dibromochloromethane	ND	0.16	1.0	µg/L	1	5/4/2012 04:28 PM
Dibromomethane	ND	0.11	1.0	µg/L	1	5/4/2012 04:28 PM
Dichlorodifluoromethane	ND	0.057	1.0	µg/L	1	5/4/2012 04:28 PM
Ethyl tert-butyl ether	ND	0.13	1.0	µg/L	1	5/4/2012 04:28 PM
Ethylbenzene	49	0.13	1.0	µg/L	1	5/4/2012 04:28 PM
Freon-113	ND	0.18	1.0	µg/L	1	5/4/2012 04:28 PM
Hexachlorobutadiene	ND	0.20	1.0	µg/L	1	5/4/2012 04:28 PM
Isopropylbenzene	19	0.11	1.0	µg/L	1	5/4/2012 04:28 PM
m,p-Xylene	120	0.16	1.0	µg/L	1	5/4/2012 04:28 PM
Methylene chloride	ND	0.14	2.0	µg/L	1	5/4/2012 04:28 PM
MTBE	150	0.89	10	µg/L	10	5/4/2012 03:34 PM
n-Butylbenzene	2.4	0.070	1.0	µg/L	1	5/4/2012 04:28 PM
n-Propylbenzene	40	0.076	1.0	µg/L	1	5/4/2012 04:28 PM
Naphthalene	120	0.10	1.0	µg/L	1	5/4/2012 04:28 PM
o-Xylene	26	0.10	1.0	µg/L	1	5/4/2012 04:28 PM
sec-Butylbenzene	2.9	0.096	1.0	µg/L	1	5/4/2012 04:28 PM
Styrene	ND	0.10	1.0	µg/L	1	5/4/2012 04:28 PM
Tert-amyl methyl ether	ND	0.12	1.0	µg/L	1	5/4/2012 04:28 PM
Tert-Butanol	500	3.0	5.0	µg/L	1	5/4/2012 04:28 PM
tert-Butylbenzene	ND	0.11	1.0	µg/L	1	5/4/2012 04:28 PM
Tetrachloroethene	ND	0.19	1.0	µg/L	1	5/4/2012 04:28 PM
Toluene	61	0.082	2.0	µg/L	1	5/4/2012 04:28 PM
trans-1,2-Dichloroethene	ND	0.13	1.0	µg/L	1	5/4/2012 04:28 PM
trans-1,3-Dichloropropene	ND	0.15	1.0	µg/L	1	5/4/2012 04:28 PM
Trichloroethene	ND	0.18	1.0	µg/L	1	5/4/2012 04:28 PM
Trichlorofluoromethane	ND	0.19	1.0	µg/L	1	5/4/2012 04:28 PM
Vinyl chloride	ND	0.23	1.0	µg/L	1	5/4/2012 04:28 PM
Xylenes, Total	150	1.5	2.0	µg/L	1	5/4/2012 04:28 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: 09-Jul-12

**CLIENT:** CH2M HILL  
**Lab Order:** N007760  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N007760-001

**Client Sample ID:** INF-04-27  
**Collection Date:** 4/27/2012 12:20:00 PM  
**Matrix:** WATEWATER

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

**EPA 8260B**

RunID:	MS5_120504A	QC Batch:	P12VW020	PrepDate:	Analyst:	QBM	
Surr:	1,2-Dichloroethane-d4	98.6	0	72-119	%REC	100	5/4/2012 02:13 PM
Surr:	1,2-Dichloroethane-d4	114	0	72-119	%REC	1	5/4/2012 04:28 PM
Surr:	1,2-Dichloroethane-d4	99.3	0	72-119	%REC	10	5/4/2012 03:34 PM
Surr:	4-Bromofluorobenzene	100	0	76-119	%REC	1	5/4/2012 04:28 PM
Surr:	4-Bromofluorobenzene	101	0	76-119	%REC	100	5/4/2012 02:13 PM
Surr:	4-Bromofluorobenzene	101	0	76-119	%REC	10	5/4/2012 03:34 PM
Surr:	Dibromofluoromethane	103	0	85-115	%REC	100	5/4/2012 02:13 PM
Surr:	Dibromofluoromethane	108	0	85-115	%REC	10	5/4/2012 03:34 PM
Surr:	Dibromofluoromethane	116	0	85-115	S %REC	1	5/4/2012 04:28 PM
Surr:	Toluene-d8	106	0	81-120	%REC	1	5/4/2012 04:28 PM
Surr:	Toluene-d8	104	0	81-120	%REC	10	5/4/2012 03:34 PM
Surr:	Toluene-d8	102	0	81-120	%REC	100	5/4/2012 02:13 PM

**TPH-FUEL PRODUCT BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID:	GC1_120501A	QC Batch:	39652	PrepDate:	4/30/2012	Analyst:	MDM
TPH-Fuel Product		2200	13	52	ug/L	1	5/1/2012 10:07 PM
Surr:	Octacosane	70.1	0	26-152	%REC	1	5/1/2012 10:07 PM
Surr:	p-Terphenyl	96.0	0	57-132	%REC	1	5/1/2012 10:07 PM

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID:	GC4_120501A	QC Batch:	E12VW018	PrepDate:	Analyst:	MCS	
TPH-Gasoline (C4-C12)		5100	8.5	100	µg/L	1	5/1/2012
Surr:	Chlorobenzene - d5	122	0	74-138	%REC	1	5/1/2012

**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

CLIENT: CH2M HILL

Work Order: N007760

Project: SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8015\_W\_FP\_SFPP

Sample ID: MB-39652	SampType: MBLK	TestCode: 8015_W_FP_	Units: ug/L	Prep Date: 4/30/2012	RunNo: 84104		
Client ID: PBW	Batch ID: 39652	TestNo: EPA 8015B	EPA 3510C	Analysis Date: 5/1/2012	SeqNo: 1389139		
Analyte	Result	PQL	SPK value	SPK Ref Val	%RPD	RPDLimit	Qual

TPH-Fuel Product

ND 50

Surr: Octacosane

44.179 80.00

55.2 26

152

Surr: p-Terphenyl

57.876 80.00

72.3 57

132

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - E Value above quantitation range
  - J Analyte detected below quantitation limits
  - ND Not Detected at the Reporting Limit
  - S Spike/Surrogate outside of limits due to matrix interference
  - DO Surrogate Diluted Out
  - 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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8015\_W\_GSFPP

Sample ID: <b>E120501LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84092</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>E12VW018</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>5/1/2012</b>	SeqNo: <b>1388501</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	817.000	100	1000	0	81.7	67	136				
Surr: Chlorobenzene - d5	51.484		50.00		103	74	138				

Sample ID: <b>E120501MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84092</b>						
Client ID: <b>PBW</b>	Batch ID: <b>E12VW018</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>5/1/2012</b>	SeqNo: <b>1388829</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	ND	100			111	74	138				
Surr: Chlorobenzene - d5	55.688		50.00								

Sample ID: <b>N007776-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84092</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E12VW018</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>5/1/2012</b>	SeqNo: <b>1388830</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	2918.000	100	1000	908.0	201	67	136				S
Surr: Chlorobenzene - d5	56.479		50.00		113	74	138				

Sample ID: <b>N007776-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84092</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E12VW018</b>	TestNo: <b>EPA 8015B</b>		Analysis Date: <b>5/1/2012</b>	SeqNo: <b>1388831</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Gasoline (C4-C12)	3224.000	100	1000	908.0	232	67	136	2918	9.96	30	S
Surr: Chlorobenzene - d5	55.997		50.00		112	74	138		0	0	

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - J Analyte detected below quantitation limits
  - S Spike/Surrogate outside of limits due to matrix interference
  - 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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P120504LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390230</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	Units	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.470	1.0	20.00	0		102	81	129				
1,1,1-Trichloroethane	19.750	1.0	20.00	0		98.8	67	132				
1,1,2,2-Tetrachloroethane	18.460	1.0	20.00	0		92.3	63	128				
1,1,2-Trichloroethane	19.100	1.0	20.00	0		95.5	75	125				
1,1-Dichloroethane	18.860	0.50	20.00	0		94.3	69	133				
1,1-Dichloroethene	18.580	1.0	20.00	0		92.9	68	130				
1,1-Dichloropropene	19.470	1.0	20.00	0		97.4	73	132				
1,2,3-Trichlorobenzene	20.310	1.0	20.00	0		102	67	137				
1,2,3-Trichloropropane	18.230	1.0	20.00	0		91.2	73	124				
1,2,4-Trichlorobenzene	20.810	1.0	20.00	0		104	66	134				
1,2,4-Trimethylbenzene	20.480	1.0	20.00	0		102	74	132				
1,2-Dibromo-3-chloropropane	19.380	2.0	20.00	0		96.9	50	132				
1,2-Dibromoethane	19.400	1.0	20.00	0		97.0	80	121				
1,2-Dichlorobenzene	19.920	1.0	20.00	0		99.6	71	122				
1,2-Dichloroethane	19.440	0.50	20.00	0		97.2	69	132				
1,2-Dichloropropane	19.670	1.0	20.00	0		98.4	75	125				
1,3,5-Trimethylbenzene	20.550	1.0	20.00	0		103	74	131				
1,3-Dichlorobenzene	19.840	1.0	20.00	0		99.2	75	124				
1,3-Dichloropropane	18.930	1.0	20.00	0		94.6	73	126				
1,4-Dichlorobenzene	19.440	1.0	20.00	0		97.2	74	123				
2,2-Dichloropropane	20.820	1.0	20.00	0		104	69	137				
2-Butanone	169.570	10	200.0	0		84.8	49	136				
2-Chlorotoluene	20.080	1.0	20.00	0		100	73	126				
4-Chlorotoluene	19.930	1.0	20.00	0		99.7	74	128				
4-Isopropyltoluene	20.550	1.0	20.00	0		103	73	130				
4-Methyl-2-pentanone	184.550	10	200.0	0		92.3	58	134				
Acetone	172.150	10	200.0	0		86.1	40	135				
Acrolein	222.800	20	200.0	0		111	75	125				
Acrylonitrile	179.230	20	200.0	0		89.6	75	125				
Benzene	19.350	1.0	20.00	0		96.8	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

**CLIENT:** CH2M HILL  
**Work Order:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120504LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390230</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.860	1.0	20.00	0	99.3	76	124				
Bromochloromethane	19.520	1.0	20.00	0	97.6	65	129				
Bromodichloromethane	19.700	1.0	20.00	0	98.5	76	121				
Bromoform	20.030	1.0	20.00	0	100	69	128				
Bromomethane	18.340	1.0	20.00	0	91.7	53	141				
Carbon disulfide	18.510	1.0	20.00	0	92.6	75	125				
Carbon tetrachloride	21.430	1.0	20.00	0	107	66	138				
Chlorobenzene	19.790	1.0	20.00	0	99.0	81	122				
Chloroethane	18.560	1.0	20.00	0	92.8	58	133				
Chloroform	17.460	1.0	20.00	0	87.3	69	128				
Chloromethane	15.680	1.0	20.00	0	78.4	56	131				
cis-1,2-Dichloroethene	18.760	1.0	20.00	0	93.8	72	126				
cis-1,3-Dichloropropene	20.490	1.0	20.00	0	102	69	131				
Di-isopropyl ether	18.500	1.0	20.00	0	92.5	70	130				
Dibromochloromethane	19.760	1.0	20.00	0	98.8	66	133				
Dibromomethane	19.310	1.0	20.00	0	96.6	76	125				
Dichlorodifluoromethane	20.180	1.0	20.00	0	101	53	153				
Ethyl tert-butyl ether	19.030	1.0	20.00	0	95.2	70	130				
Ethylbenzene	19.760	1.0	20.00	0	98.8	73	127				
Freon-113	18.860	1.0	20.00	0	94.3	75	125				
Hexachlorobutadiene	20.390	1.0	20.00	0	102	67	131				
Isopropylbenzene	20.270	1.0	20.00	0	101	75	127				
m,p-Xylene	40.470	1.0	40.00	0	101	76	128				
Methylene chloride	20.030	2.0	20.00	0	100	63	137				
MTBE	19.410	1.0	20.00	0	97.0	65	123				
n-Butylbenzene	20.530	1.0	20.00	0	103	69	137				
n-Propylbenzene	20.250	1.0	20.00	0	101	72	129				
Naphthalene	20.060	1.0	20.00	0	100	54	138				
o-Xylene	20.130	1.0	20.00	0	101	80	121				
sec-Butylbenzene	20.550	1.0	20.00	0	103	72	127				

**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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120504LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390230</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Styrene	20.660	1.0	20.00	0	103	65	134				
Tert-amyl methyl ether	19.440	1.0	20.00	0	97.2	70	130				
Tert-Butanol	88.070	5.0	100.0	0	88.1	70	130				
tert-Butylbenzene	20.590	1.0	20.00	0	103	70	129				
Tetrachloroethene	19.690	1.0	20.00	0	98.4	66	128				
Toluene	19.410	2.0	20.00	0	97.0	77	122				
trans-1,2-Dichloroethene	20.170	1.0	20.00	0	101	63	137				
trans-1,3-Dichloropropene	20.110	1.0	20.00	0	101	59	135				
Trichloroethene	19.880	1.0	20.00	0	99.4	70	127				
Trichlorofluoromethane	19.780	1.0	20.00	0	98.9	57	129				
Vinyl chloride	18.780	1.0	20.00	0	93.9	50	134				
Xylenes, Total	60.600	2.0	60.00	0	101	75	125				
Surr: 1,2-Dichloroethane-d4	24.290		25.00		97.2	72	119				
Surr: 4-Bromofluorobenzene	25.900		25.00		104	76	119				
Surr: Dibromofluoromethane	24.220		25.00		96.9	85	115				
Surr: Toluene-d8	25.850		25.00		103	81	120				

Sample ID: <b>N007761-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390231</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	20.730	1.0	20.00	0	104	81	129				
1,1,1-Trichloroethane	19.020	1.0	20.00	0	95.1	67	132				
1,1,2,2-Tetrachloroethane	19.520	1.0	20.00	0	97.6	63	128				
1,1,2-Trichloroethane	19.030	1.0	20.00	0	95.2	75	125				
1,1-Dichloroethane	18.780	0.50	20.00	0	93.9	69	133				
1,1-Dichloroethene	17.670	1.0	20.00	0	88.4	68	130				
1,1-Dichloropropene	19.230	1.0	20.00	0	96.2	73	132				
1,2,3-Trichlorobenzene	21.090	1.0	20.00	0	105	67	137				
1,2,3-Trichloropropane	18.870	1.0	20.00	0	94.4	73	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



**CLIENT:** CH2M HILL  
**Work Order:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT


**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007761-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	RunNo: <b>84149</b>	
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		SeqNo: <b>1390231</b>	
		Prep Date:			
		Analysis Date: <b>5/4/2012</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	21.100	1.0	20.00	0	106	66	134				
1,2,4-Trimethylbenzene	20.760	1.0	20.00	0	104	74	132				
1,2-Dibromo-3-chloropropane	20.080	2.0	20.00	0	100	50	132				
1,2-Dibromoethane	19.200	1.0	20.00	0	96.0	80	121				
1,2-Dichlorobenzene	20.330	1.0	20.00	0	102	71	122				
1,2-Dichloroethane	19.180	0.50	20.00	0	95.9	69	132				
1,2-Dichloropropane	19.410	1.0	20.00	0	97.0	75	125				
1,3,5-Trimethylbenzene	20.840	1.0	20.00	0	104	74	131				
1,3-Dichlorobenzene	19.980	1.0	20.00	0	99.9	75	124				
1,3-Dichloropropane	19.290	1.0	20.00	0	96.5	73	126				
1,4-Dichlorobenzene	19.840	1.0	20.00	0	99.2	74	123				
2,2-Dichloropropane	21.190	1.0	20.00	0	106	69	137				
2-Butanone	117.000	10	200.0	0	58.5	49	136				
2-Chlorotoluene	20.440	1.0	20.00	0	102	73	126				
4-Chlorotoluene	20.260	1.0	20.00	0	101	74	128				
4-Isopropyltoluene	21.040	1.0	20.00	0	105	73	130				
4-Methyl-2-pentanone	184.150	10	200.0	0	92.1	58	134				S
Acetone	77.630	10	200.0	1.650	38.0	40	135				
Acrolein	181.890	20	200.0	0	90.9	75	125				
Acrylonitrile	177.980	20	200.0	0	89.0	75	125				
Benzene	19.310	1.0	20.00	0	96.6	81	122				
Bromobenzene	20.100	1.0	20.00	0	101	76	124				
Bromochloromethane	19.190	1.0	20.00	0	96.0	65	129				
Bromodichloromethane	19.780	1.0	20.00	0	98.9	76	121				
Bromoform	20.350	1.0	20.00	0	102	69	128				
Bromomethane	17.780	1.0	20.00	0	88.9	53	141				
Carbon disulfide	18.520	1.0	20.00	0	92.6	75	125				
Carbon tetrachloride	20.790	1.0	20.00	0	104	66	138				
Chlorobenzene	20.280	1.0	20.00	0	101	81	122				
Chloroethane	18.260	1.0	20.00	0	91.3	58	133				

**Qualifiers:**

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



**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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>N007761-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/14/2012</b>	SeqNo: <b>1390231</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloroform	17.280	1.0	20.00	0	86.4	69	128				
Chloromethane	15.720	1.0	20.00	0	78.6	56	131				
cis-1,2-Dichloroethene	18.640	1.0	20.00	0	93.2	72	126				
cis-1,3-Dichloropropene	20.420	1.0	20.00	0	102	69	131				
Di-isopropyl ether	18.540	1.0	20.00	0	92.7	70	130				
Dibromochloromethane	19.750	1.0	20.00	0	98.8	66	133				
Dibromomethane	18.840	1.0	20.00	0	94.2	76	125				
Dichlorodifluoromethane	18.370	1.0	20.00	0	91.9	53	153				
Ethyl tert-butyl ether	18.970	1.0	20.00	0	94.8	70	130				
Ethylbenzene	19.740	1.0	20.00	0	98.7	73	127				
Freon-113	18.010	1.0	20.00	0	90.1	75	125				
Hexachlorobutadiene	20.010	1.0	20.00	0	100	67	131				
Isopropylbenzene	20.490	1.0	20.00	0	102	75	127				
m,p-Xylene	40.490	1.0	40.00	0	101	76	128				
Methylene chloride	20.300	2.0	20.00	0	102	63	137				
MTBE	19.750	1.0	20.00	0	98.8	65	123				
n-Butylbenzene	21.080	1.0	20.00	0	105	69	137				
n-Propylbenzene	20.770	1.0	20.00	0	104	72	129				
Naphthalene	20.730	1.0	20.00	0	104	54	138				
o-Xylene	19.930	1.0	20.00	0	99.7	80	121				
sec-Butylbenzene	20.800	1.0	20.00	0	104	72	127				
Styrene	20.660	1.0	20.00	0	103	65	134				
Tert-amyl methyl ether	19.750	1.0	20.00	0	98.8	70	130				
Tert-Butanol	78.810	5.0	100.0	0	78.8	70	130				
tert-Butylbenzene	20.640	1.0	20.00	0	103	70	129				
Tetrachloroethene	20.110	1.0	20.00	0	101	66	128				
Toluene	19.370	2.0	20.00	0	96.9	77	122				
trans-1,2-Dichloroethene	20.760	1.0	20.00	0	104	63	137				
trans-1,3-Dichloropropene	20.400	1.0	20.00	0	102	59	135				
Trichloroethene	19.280	1.0	20.00	0	96.4	70	127				

**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



**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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007761-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390231</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	18.580	1.0	20.00	0	92.9	57	129				
Vinyl chloride	18.080	1.0	20.00	0	90.4	50	134				
Xylenes, Total	60.420	2.0	60.00	0	101	75	125				
Surr: 1,2-Dichloroethane-d4	24.660		25.00		98.6	72	119				
Surr: 4-Bromofluorobenzene	26.350		25.00		105	76	119				
Surr: Dibromofluoromethane	24.760		25.00		99.0	85	115				
Surr: Toluene-d8	26.220		25.00		105	81	120				

Sample ID: <b>N007761-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390232</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.260	1.0	20.00	0	101	81	129	20.73	2.29	20	
1,1,1-Trichloroethane	18.670	1.0	20.00	0	93.4	67	132	19.02	1.86	20	
1,1,2,2-Tetrachloroethane	19.060	1.0	20.00	0	95.3	63	128	19.52	2.38	20	
1,1,2-Trichloroethane	18.770	1.0	20.00	0	93.8	75	125	19.03	1.38	20	
1,1-Dichloroethane	18.290	0.50	20.00	0	91.4	69	133	18.78	2.64	20	
1,1-Dichloroethene	17.700	1.0	20.00	0	88.5	68	130	17.67	0.170	20	
1,1-Dichloropropene	18.490	1.0	20.00	0	92.5	73	132	19.23	3.92	20	
1,2,3-Trichlorobenzene	20.970	1.0	20.00	0	105	67	137	21.09	0.571	20	
1,2,3-Trichloropropane	18.870	1.0	20.00	0	94.4	73	124	18.87	0	20	
1,2,4-Trichlorobenzene	20.800	1.0	20.00	0	104	66	134	21.10	1.43	20	
1,2,4-Trimethylbenzene	20.220	1.0	20.00	0	101	74	132	20.76	2.64	20	
1,2-Dibromo-3-chloropropane	20.090	2.0	20.00	0	100	50	132	20.08	0.0498	20	
1,2-Dibromoethane	19.050	1.0	20.00	0	95.2	80	121	19.20	0.784	20	
1,2-Dichlorobenzene	20.080	1.0	20.00	0	100	71	122	20.33	1.24	20	
1,2-Dichloroethane	18.770	0.50	20.00	0	93.8	69	132	19.18	2.16	20	
1,2-Dichloropropane	18.650	1.0	20.00	0	93.3	75	125	19.41	3.99	20	
1,3,5-Trimethylbenzene	20.350	1.0	20.00	0	102	74	131	20.84	2.38	20	
1,3-Dichlorobenzene	19.900	1.0	20.00	0	99.5	75	124	19.98	0.401	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
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- ND Not Detected at the Reporting Limit
- Calculations are based on raw values

**CLIENT:** CH2M HILL  
**Work Order:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT


**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>N007761-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390232</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,3-Dichloropropane	19.110	1.0	20.00	0	95.6	73	126	19.29	0.938	20	
1,4-Dichlorobenzene	19.650	1.0	20.00	0	98.2	74	123	19.84	0.962	20	
2,2-Dichloropropane	20.250	1.0	20.00	0	101	69	137	21.19	4.54	20	
2-Butanone	115.930	1.0	200.0	0	58.0	49	136	117.0	0.919	20	
2-Chlorotoluene	19.930	1.0	20.00	0	99.7	73	126	20.44	2.53	20	
4-Chlorotoluene	19.730	1.0	20.00	0	98.6	74	128	20.26	2.65	20	
4-Isopropyltoluene	20.420	1.0	20.00	0	102	73	130	21.04	2.99	20	
4-Methyl-2-pentanone	181.820	1.0	200.0	0	90.9	58	134	184.2	1.27	20	
Acetone	76.980	1.0	200.0	1.650	37.7	40	135	77.63	0.841	20	S
Acrolein	175.320	2.0	200.0	0	87.7	75	125	181.9	3.68	20	
Acrylonitrile	172.770	2.0	200.0	0	86.4	75	125	178.0	2.97	20	
Benzene	18.750	1.0	20.00	0	93.8	81	122	19.31	2.94	20	
Bromobenzene	20.000	1.0	20.00	0	100	76	124	20.10	0.499	20	
Bromochloromethane	19.040	1.0	20.00	0	95.2	65	129	19.19	0.785	20	
Bromodichloromethane	19.170	1.0	20.00	0	95.9	76	121	19.78	3.13	20	
Bromoform	20.390	1.0	20.00	0	102	69	128	20.35	0.196	20	
Bromomethane	17.060	1.0	20.00	0	85.3	53	141	17.78	4.13	20	
Carbon disulfide	17.620	1.0	20.00	0	88.1	75	125	18.52	4.98	20	
Carbon tetrachloride	20.490	1.0	20.00	0	102	66	138	20.79	1.45	20	
Chlorobenzene	19.810	1.0	20.00	0	99.0	81	122	20.28	2.34	20	
Chloroethane	17.050	1.0	20.00	0	85.2	58	133	18.26	6.85	20	
Chloroform	16.830	1.0	20.00	0	84.2	69	128	17.28	2.64	20	
Chloromethane	15.200	1.0	20.00	0	76.0	56	131	15.72	3.36	20	
cis-1,2-Dichloroethene	18.310	1.0	20.00	0	91.6	72	126	18.64	1.79	20	
cis-1,3-Dichloropropene	19.950	1.0	20.00	0	99.8	69	131	20.42	2.33	20	
Di-isopropyl ether	17.880	1.0	20.00	0	89.4	70	130	18.54	3.62	20	
Dibromochloromethane	19.850	1.0	20.00	0	99.2	66	133	19.75	0.505	20	
Dibromomethane	18.750	1.0	20.00	0	93.8	76	125	18.84	0.479	20	
Dichlorodifluoromethane	17.580	1.0	20.00	0	87.9	53	153	18.37	4.39	20	
Ethyl tert-butyl ether	18.390	1.0	20.00	0	92.0	70	130	18.97	3.10	20	

**Qualifiers:**

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



**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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007761-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390232</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Ethylbenzene	19.260	1.0	20.00	0	96.3	73	127	19.74	2.46	20	
Freon-113	16.880	1.0	20.00	0	84.4	75	125	18.01	6.48	20	
Hexachlorobutadiene	20.350	1.0	20.00	0	102	67	131	20.01	1.68	20	
Isopropylbenzene	20.110	1.0	20.00	0	101	75	127	20.49	1.87	20	
m,p-Xylene	39.440	1.0	40.00	0	98.6	76	128	40.49	2.63	20	
Methylene chloride	19.750	2.0	20.00	0	98.8	63	137	20.30	2.75	20	
MTBE	19.420	1.0	20.00	0	97.1	65	123	19.75	1.68	20	
n-Butylbenzene	20.240	1.0	20.00	0	101	69	137	21.08	4.07	20	
n-Propylbenzene	20.150	1.0	20.00	0	101	72	129	20.77	3.03	20	
Naphthalene	20.780	1.0	20.00	0	104	54	138	20.73	0.241	20	
o-Xylene	19.820	1.0	20.00	0	99.1	80	121	19.93	0.553	20	
sec-Butylbenzene	20.240	1.0	20.00	0	101	72	127	20.80	2.73	20	
Styrene	20.130	1.0	20.00	0	101	65	134	20.66	2.60	20	
Tert-amyl methyl ether	19.450	1.0	20.00	0	97.3	70	130	19.75	1.53	20	
Tert-Butanol	80.400	5.0	100.0	0	80.4	70	130	78.81	2.00	20	
tert-Butylbenzene	20.300	1.0	20.00	0	102	70	129	20.64	1.66	20	
Tetrachloroethene	19.750	1.0	20.00	0	98.8	66	128	20.11	1.81	20	
Toluene	18.760	2.0	20.00	0	93.8	77	122	19.37	3.20	20	
trans-1,2-Dichloroethene	19.580	1.0	20.00	0	97.9	63	137	20.76	5.85	20	
trans-1,3-Dichloropropene	20.060	1.0	20.00	0	100	59	135	20.40	1.68	20	
Trichloroethene	18.970	1.0	20.00	0	94.8	70	127	19.28	1.62	20	
Trichlorofluoromethane	18.060	1.0	20.00	0	90.3	57	129	18.58	2.84	20	
Vinyl chloride	17.510	1.0	20.00	0	87.6	50	134	18.08	3.20	20	
Xylenes, Total	59.260	2.0	60.00	0	98.8	75	125	60.42	1.94	20	
Surr: 1,2-Dichloroethane-d4	23.900		25.00		95.6	72	119		0		
Surr: 4-Bromofluorobenzene	25.960		25.00		104	76	119		0		
Surr: Dibromofluoromethane	23.790		25.00		95.2	85	115		0		
Surr: Toluene-d8	25.370		25.00		101	81	120		0		

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - J Analyte detected below quantitation limits
  - S Spike/Surrogate outside of limits due to matrix interference
  - 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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120504MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390233</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									
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									

**Qualifiers:**

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

**CLIENT:** CH2M HILL  
**Work Order:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120504MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84149</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390233</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

**Qualifiers:**

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  - J Analyte detected below quantitation limits
  - S Spike/Surrogate outside of limits due to matrix interference
  - E Value above quantitation range
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- 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:** N007760  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120504MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	RunNo: <b>84149</b>							
Client ID: <b>PBW</b>	Batch ID: <b>P12VW020</b>	TestNo: <b>EPA 8260B</b>	Analysis Date: <b>5/4/2012</b>	SeqNo: <b>1390233</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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	25.050		25.00		100	72		119			
Surr: 4-Bromofluorobenzene	25.610		25.00		102	76		119			
Surr: Dibromofluoromethane	25.320		25.00		101	85		115			
Surr: Toluene-d8	25.280		25.00		101	81		120			

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - J Analyte detected below quantitation limits
  - S Spike/Surrogate outside of limits due to matrix interference
  - E Value above quantitation range
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- Calculations are based on raw values



**CHAIN OF CUSTODY RECORD**

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]

DATE: 4-27-12  
 PAGE: 1 OF 1

<b>LABORATORY CLIENT:</b> Kinder Morgan Energy Partners, Attn: Steve Defibaugh		<b>P.O. NO.:</b>
ADDRESS: 1100 Town & Country Road		<b>QUOTE NO.:</b>
CITY: Orange, CA 92868		<b>LAB USE ONLY</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>TEL:</b> 714-560-4802	<b>FAX:</b> 714-560-4601	<b>E-MAIL:</b> james_dye@kindermorgan.com
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.		

<b>CLIENT PROJECT NAME / NUMBER:</b> SFPP - Norwalk Site				
<b>PROJECT CONTACT:</b> James Dye				
<b>SAMPLER(S): (SIGNATURE)</b> 				

REQUESTED ANALYSIS					NO. OF CONT.	MAT. RIX
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING DATE	TIME		
	INF- 04-27	Influent	4-27-12 1220		8	

<b>Received by:</b>	Date: 4/27/12	Time: 1410
<b>Relinquished by:</b>	Date: 4/27/12	Time: 1410
<b>Relinquished by:</b>	Date: 4/28/12	Time: 1000

2.8 cc  
 (R# 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: 4/27/2012 Workorder: N007760  
 Rep sample Temp (Deg C): 2.8 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: ATL  
 Last 4 digits of Tracking No.: na Packing Material Used: None  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition?   | Yes <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

Reviewed By: 88 5/2/12

B102AN1023

800-334-5000



FROM (Company)  
 EDWARD TREATMENT CENTER, LTD #  
 Street Address  
 SUITE 725 WALNUT AVE  
 City  
 GONNELL HILL  
 State  
 CA  
 Zip Code (Required)  
 90755

PLEASE PRINT IN BLOC

Bill To  
 Bill To (Company)  
 Bill To (Address)  
 Bill To (City)  
 Bill To (State)  
 Bill To (Zip Code)  
 Bill To (Country)  
 Bill To (Phone)  
 Bill To (Fax)  
 Bill To (E-Mail)  
 Bill To (Web Site)  
 Bill To (Notes)  
 Bill To (Comments)  
 Bill To (Special Instructions)  
 Bill To (Remarks)  
 Bill To (Remarks 2)  
 Bill To (Remarks 3)  
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 Bill To (Remarks 8)  
 Bill To (Remarks 9)  
 Bill To (Remarks 10)  
 Bill To (Remarks 11)  
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 Bill To (Remarks 13)  
 Bill To (Remarks 14)  
 Bill To (Remarks 15)  
 Bill To (Remarks 16)  
 Bill To (Remarks 17)  
 Bill To (Remarks 18)  
 Bill To (Remarks 19)  
 Bill To (Remarks 20)



May 11, 2012

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.: N007759

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on April 27, 2012 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,

*for Mary Libuear*  
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

**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N007759  
**Contract No:**

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007759-001A	VINF-04-27	Air	4/27/2012 12:30:00 PM	4/27/2012	
N007759-001B	VINF-04-27	Air	4/27/2012 12:30:00 PM	4/27/2012	



---

**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N007759

**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.

**Subcontracted Analyses:**

EPA TO15 and EPA TO3 were subcontracted to Advanced Technology Laboratories-Signal Hill, CA .

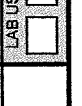






ASTM D1946 was subcontracted to ATL-Industry- City of Industry,CA.

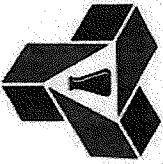


# CHAIN OF CUSTODY RECORD

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]

DATE: 4/27/12  
 PAGE: 1 OF 1

LABORATORY CLIENT: <b>Kinder Morgan Energy Partners, Attn: Steve Definbough</b> ADDRESS: <b>1100 Town &amp; Country Road</b> CITY: <b>Orange, CA 92868</b> TEL: <b>714-560-4802</b> FAX: <b>714-560-4801</b> E-MAIL: <b>james.dye@kindermorgan.com</b>			CLIENT PROJECT NAME/NUMBER: <b>SFPP - Norwalk Site</b> PROJECT CONTACT: <b>James Dye</b> SAMPLER(S) (SIGNATURE): 			P.O. NO.: QUOTE NO.: LAB USE ONLY: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
REQUESTED ANALYSIS								
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <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 <input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL <u> / / </u> 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.			NO. OF CONT. MAT-RIX SAMPLE ID: <b>VINF-04-27</b> LOCATION/DESCRIPTION: <b>Header</b> DATE: <b>4/27/12</b> TIME: <b>1230</b> AIR: <b>4</b>					
TO-15 <input checked="" type="checkbox"/> TO-3 (TPH-g) <input checked="" type="checkbox"/> ASTM-1946 (O2/Argon, CO2, CH4) <input checked="" type="checkbox"/>			Comments Monthly sample					
Relinquished by (Signature): 			Received by (Signature):  Date: <b>4/27/12</b> Time: <b>1410</b>					
Relinquished by (Signature): 			Received by (Signature):  Date: <b>4/27/12</b> Time: <b>1440</b>					
Relinquished by (Signature): 			Received by (Signature):  Date: <b>4/28/12</b> Time: <b>1000</b>					
Revised: 01/11/2011      2.8°C      1P422								



# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:  
ATL-Industry

TEL:  
FAX:  
Acct #:

Field Sampler: James Dye


City of Industry, CA

27-Apr-12

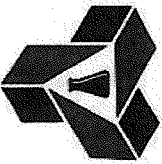
Sample ID	Matrix	Date Collected	Bottle Type	ASTM D1946	Requested Tests
N007759-001B / VINP-04-27	Air	4/27/2012 12:30:00 PM	BAG	1	

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

Please use PO#: N007759 Please fax results by: 5 day TAT

Relinquished by:	Date/Time	Relinquished by:	Date/Time
	4/27/12 12:30 PM	Received by:	
Relinquished by:		Received by:	





# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

**Subcontractor:**

Advanced Technology Laboratories - Signal Hill  
3283 Walnut Ave.  
Signal Hill, California

TEL: (562) 989-4045  
FAX: (562) 989-4045  
Acct #:

Field Sampler: James Dye


27-Apr-12

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA TO15	EPA TO3
N007759-001A / VINP-04-27	Air	4/27/2012 12:30:00 PM	BAG	1 ✓	1 ✓

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

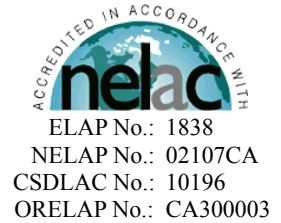
Please use PO#: N007759

Please fax results by: 5 day TAT

	Date/Time
Relinquished by: 	4/27/12 12:57
Relinquished by:	Received by:
	Received by:

May 04, 2012

Marlon Cartin  
Advanced Technology Laboratory-Las Vegas  
3151 W Post Rd.  
Las Vegas, NV 89118  
Tel: (702) 307-2659  
Fax:(702) 307-2691



Re: ATL Work Order Number : 1201574  
Client Reference : [none]

Enclosed are the results for sample(s) received on April 27, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Rodriguez".

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 05/04/2012

**SUMMARY OF SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N007759-001A / VINP-04-27	1201574-01	Air	4/27/12 12:30	4/27/12 15:12



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 05/04/2012

**Client Sample ID N007759-001A / VINP-04-27**

**Lab ID: 1201574-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,1,1-Trichloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,1,2,2-Tetrachloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,1,2-Trichloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,1-Dichloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,1-Dichloroethene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,1-Dichloropropene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2,3-Trichloropropane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2,4-Trichlorobenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>1,2,4-Trimethylbenzene</b>	<b>34</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2-Dibromo-3-chloropropane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2-Dibromoethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2-Dichlorobenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2-Dichloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,2-Dichloropropane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,3,5-Trimethylbenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,3-Butadiene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,3-Dichlorobenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,4-Dichlorobenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
1,4-Dioxane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>2,2,4-Trimethylpentane</b>	<b>630</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
2-Butanone	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
2-Chloroethyl vinyl ether	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
2-Chlorotoluene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
2-Hexanone	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
2-Propanol	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
4-Chlorotoluene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
4-Ethyl Toluene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
4-Methyl-2-pentanone	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Acetone	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Acetonitrile	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Acrolein	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Acrylonitrile	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>Benzene</b>	<b>540</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	



Advanced Technology Laboratory-Las Vegas  
3151 W Post Rd.  
Las Vegas , NV 89118

Project Number : -  
Report To : Marlon Cartin  
Reported : 05/04/2012

Client Sample ID N007759-001A / VINP-04-27  
Lab ID: 1201574-01

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzyl chloride	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Bromobenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Bromodichloromethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Bromoform	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Bromomethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Carbon disulfide	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Carbon tetrachloride	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Chlorobenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Chloroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Chloroform	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Chloromethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
cis-1,2-Dichloroethene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
cis-1,3-Dichloropropene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>Cyclohexane</b>	<b>240</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Dibromochloromethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Dibromomethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Dichlorodifluoromethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Dichlorotetrafluoroethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Ethanol	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>Ethylbenzene</b>	<b>42</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Freon-113	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Hexachlorobutadiene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Isopropylbenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>m,p-Xylene</b>	<b>230</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Methylene chloride	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
MTBE	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
n-Butylbenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
n-Propylbenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Naphthalene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>o-Xylene</b>	<b>69</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
p-Isopropyltoluene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
sec-Butylbenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Styrene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
tert-Butylbenzene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	



Advanced Technology Laboratory-Las Vegas  
3151 W Post Rd.  
Las Vegas , NV 89118

Project Number : -  
Report To : Marlon Cartin  
Reported : 05/04/2012

**Client Sample ID N007759-001A / VINP-04-27**  
**Lab ID: 1201574-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Tetrachloroethene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<b>Toluene</b>	<b>630</b>	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
trans-1,2-Dichloroethene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
trans-1,3-Dichloropropene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Trichloroethene	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Trichlorofluoromethane	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Vinyl acetate	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
Vinyl chloride	ND	25	NA	100	B2D0986	04/27/2012	04/27/12 16:59	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>103 %</i>		<i>70 - 130</i>		B2D0986	04/27/2012	<i>04/27/12 16:59</i>	

**Gasoline Range Organics in Air by TO-3**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>39000</b>	2000	NA	100	B2D1020	04/28/2012	04/28/12 14:47	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.2 %</i>		<i>70 - 130</i>		B2D1020	04/28/2012	<i>04/28/12 14:47</i>	



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 05/04/2012

### QUALITY CONTROL SECTION

#### Volatile Organic Compounds in AIR by TO-15 - Quality Control

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
---------	------------------	---------------	----------------	------------------	----------------	-----------------	------------	--------------	-------

#### Batch B2D0986 - No\_Prep\_Air

##### Blank (B2D0986-BLK1)

Prepared: 4/27/2012 Analyzed: 4/27/2012

1,1,1,2-Tetrachloroethane	ND	0.25			NR				
1,1,1-Trichloroethane	ND	0.25			NR				
1,1,2,2-Tetrachloroethane	ND	0.25			NR				
1,1,2-Trichloroethane	ND	0.25			NR				
1,1-Dichloroethane	ND	0.25			NR				
1,1-Dichloroethene	ND	0.25			NR				
1,1-Dichloropropene	ND	0.25			NR				
1,2,3-Trichloropropane	ND	0.25			NR				
1,2,4-Trichlorobenzene	ND	0.25			NR				
1,2,4-Trimethylbenzene	ND	0.25			NR				
1,2-Dibromo-3-chloropropane	ND	0.25			NR				
1,2-Dibromoethane	ND	0.25			NR				
1,2-Dichlorobenzene	ND	0.25			NR				
1,2-Dichloroethane	ND	0.25			NR				
1,2-Dichloropropane	ND	0.25			NR				
1,3,5-Trimethylbenzene	ND	0.25			NR				
1,3-Butadiene	ND	0.25			NR				
1,3-Dichlorobenzene	ND	0.25			NR				
1,4-Dichlorobenzene	ND	0.25			NR				
1,4-Dioxane	ND	0.25			NR				
2,2,4-Trimethylpentane	ND	0.25			NR				
2-Butanone	ND	0.25			NR				
2-Chloroethyl vinyl ether	ND	0.25			NR				
2-Chlorotoluene	ND	0.25			NR				
2-Hexanone	ND	0.25			NR				
2-Propanol	ND	0.25			NR				
4-Chlorotoluene	ND	0.25			NR				
4-Ethyl Toluene	ND	0.25			NR				
4-Methyl-2-pentanone	ND	0.25			NR				
Acetone	ND	0.25			NR				
Acetonitrile	ND	0.25			NR				
Acrolein	ND	0.25			NR				
Acrylonitrile	ND	0.25			NR				
Benzene	ND	0.25			NR				
Benzyl chloride	ND	0.25			NR				
Bromobenzene	ND	0.25			NR				
Bromodichloromethane	ND	0.25			NR				
Bromoform	ND	0.25			NR				
Bromomethane	ND	0.25			NR				



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 05/04/2012

**Volatile Organic Compounds in AIR by TO-15 - Quality Control (cont'd)**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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**Batch B2D0986 - No\_Prep\_Air (continued)**

**Blank (B2D0986-BLK1) - Continued**

Prepared: 4/27/2012 Analyzed: 4/27/2012

Carbon disulfide	ND	0.25							NR
Carbon tetrachloride	ND	0.25							NR
Chlorobenzene	ND	0.25							NR
Chloroethane	ND	0.25							NR
Chloroform	ND	0.25							NR
Chloromethane	ND	0.25							NR
cis-1,2-Dichloroethene	ND	0.25							NR
cis-1,3-Dichloropropene	ND	0.25							NR
Cyclohexane	ND	0.25							NR
Dibromochloromethane	ND	0.25							NR
Dibromomethane	ND	0.25							NR
Dichlorodifluoromethane	ND	0.25							NR
Dichlorotetrafluoroethane	ND	0.25							NR
Ethanol	ND	0.25							NR
Ethylbenzene	ND	0.25							NR
Freon-113	ND	0.25							NR
Hexachlorobutadiene	ND	0.25							NR
Isopropylbenzene	ND	0.25							NR
m,p-Xylene	ND	0.25							NR
Methylene chloride	ND	0.25							NR
MTBE	ND	0.25							NR
n-Butylbenzene	ND	0.25							NR
n-Propylbenzene	ND	0.25							NR
Naphthalene	ND	0.25							NR
o-Xylene	ND	0.25							NR
p-Isopropyltoluene	ND	0.25							NR
sec-Butylbenzene	ND	0.25							NR
Styrene	ND	0.25							NR
tert-Butylbenzene	ND	0.25							NR
Tetrachloroethene	ND	0.25							NR
Toluene	ND	0.25							NR
trans-1,2-Dichloroethene	ND	0.25							NR
trans-1,3-Dichloropropene	ND	0.25							NR
Trichloroethene	ND	0.25							NR
Trichlorofluoromethane	ND	0.25							NR
Vinyl acetate	ND	0.25							NR
Vinyl chloride	ND	0.25							NR
<i>Surrogate: 4-Bromofluorobenzene</i>	2.5		2.50			101		70 - 130	

**LCS (B2D0986-BS1)**

Prepared: 4/27/2012 Analyzed: 4/27/2012

1,1-Dichloroethane	1.7	0.25	2.00			86.0		70 - 130	
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Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 05/04/2012

**Volatile Organic Compounds in AIR by TO-15 - Quality Control (cont'd)**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2D0986 - No\_Prep\_Air (continued)**

**LCS (B2D0986-BS1) - Continued**

Prepared: 4/27/2012 Analyzed: 4/27/2012

Benzene	2.0	0.25	2.00		102	70 - 130			
Chloroform	1.7	0.25	2.00		83.5	70 - 130			
o-Xylene	2.1	0.25	2.00		104	70 - 130			
Tetrachloroethene	1.9	0.25	2.00		96.0	70 - 130			
Toluene	2.0	0.25	2.00		99.0	70 - 130			
Trichloroethene	1.9	0.25	2.00		96.5	70 - 130			
Vinyl chloride	2.0	0.25	2.00		97.5	70 - 130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.6</i>		<i>2.50</i>		<i>105</i>	<i>70 - 130</i>			

**LCS Dup (B2D0986-BS1)**

Prepared: 4/27/2012 Analyzed: 4/27/2012

1,1-Dichloroethane	1.7	0.25	2.00		83.5	70 - 130	2.95	20	
Benzene	2.0	0.25	2.00		98.5	70 - 130	3.49	20	
Chloroform	1.6	0.25	2.00		81.0	70 - 130	3.04	20	
o-Xylene	2.1	0.25	2.00		105	70 - 130	0.477	20	
Tetrachloroethene	1.9	0.25	2.00		95.0	70 - 130	1.05	20	
Toluene	1.9	0.25	2.00		96.0	70 - 130	3.08	20	
Trichloroethene	1.9	0.25	2.00		94.5	70 - 130	2.09	20	
Vinyl chloride	1.9	0.25	2.00		96.5	70 - 130	1.03	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.6</i>		<i>2.50</i>		<i>106</i>	<i>70 - 130</i>			



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 05/04/2012

**Gasoline Range Organics in Air by TO-3 - Quality Control**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2D1020 - No\_Prep\_Air**

**Blank (B2D1020-BLK1)**

Prepared: 4/28/2012 Analyzed: 4/28/2012

Gasoline Range Organics	ND	20			NR				
<i>Surrogate: 4-Bromofluorobenzene</i>	2.1		2.50		83.2	70 - 130			

**LCS (B2D1020-BS1)**

Prepared: 4/28/2012 Analyzed: 4/28/2012

Gasoline Range Organics	220	20	200		108	70 - 130			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.5		2.50		101	70 - 130			

**LCS Dup (B2D1020-BSD1)**

Prepared: 4/28/2012 Analyzed: 4/28/2012

Gasoline Range Organics	180	20	200		90.1	70 - 130	18.3	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.3		2.50		93.2	70 - 130			



Advanced Technology Laboratory-Las Vegas

3151 W Post Rd.

Las Vegas , NV 89118

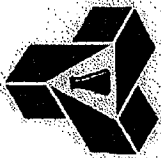
Project Number : -

Report To : Marlon Cartin

Reported : 05/04/2012

### Notes and Definitions

ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)



# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

**Subcontractor:**

Advanced Technology Laboratories - Signal Hill  
3283 Walnut Ave.  
Signal Hill, California

TEL: (562) 989-4045  
FAX: (562) 989-4045  
Acct #:

Field Sampler: James Dye

27-Apr-12

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA TO15	EPA TO3
N007759-001A / VINP-04-27	Air	4/27/2012 12:30:00 PM	BAG	1	1

120157401

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

Please use PO#: N007759

Please fax results by: 5 day TAT

Relinquished by:	Date/Time	Received by:	Date/Time
	4/27/12 11:57 AM		4/27/12 10:20
Relinquished by:		Received by:	

# CHAIN OF CUSTODY RECORD - PLEASE COMPLETE ALL SHADED AREAS

**ADVANCED TECHNOLOGY LABORATORIES**  
 3275 Walnut Ave., Signal Hill, CA 90755  
 Tel: (562) 989-4045 • Fax: (562) 989-4040

**Submitter (Print):** \_\_\_\_\_  
**Signature:** \_\_\_\_\_

**Client:** Advanced Technology Laboratory-Las Vegas  
 Address: 3151 W Post Rd.  
 City: Las Vegas State: NV Zip Code: 89118  
 Project #: CH2M HILL- Norwalk

**Relinquished by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Relinquished by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Relinquished by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Relinquished by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**FOR LABORATORY USE ONLY**

**Method of Transport**  
 Client  ATL  
 FedEx  OnTrac  
 GSO  Other: \_\_\_\_\_

**Sample Condition Upon Receipt**  
 1. CHILLED Y  N  4. SEALED Y  N   
 2. HEADSPACE (VOA) Y  N  5. # OF SPLS MATCH COC Y  N   
 3. CONTAINER INTACT Y  N  6. PRESERVED Y  N

**Special Instructions/Comments:**  
 15 mins shipping time

**Received by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: 4/27/12 Time: \_\_\_\_\_

**Received by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Received by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Received by:** (Signature and Printed Name) \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Quote #:** \_\_\_\_\_

**As the authorized agent of the below named company, I hereby purchase testing services from ATL as dictated below and guarantee payment in full.**

**City:** Las Vegas **State:** NV **Zip Code:** 89118

**Project #:** CH2M HILL- Norwalk

**Send Report to:** \_\_\_\_\_  
 Attn: \_\_\_\_\_ Email: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

**Special Instructions/Comments:**  
 15 mins shipping time

**Samples and Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples and Hard copy records will be disposed Forty-five (45) days after generation of report - electronic copies retained for five (5) years.  
 Storage Fees (applies when storage is requested):  
 ■ Samples: Forty-five (45) Days Complimentary - \$2.00 / sample (mo thereafter).  
 ■ Hardcopy Reports \$17.50 per report.

I T E M	BUSINESS HOURS 8:30 AM TO 5:30 PM	Lab No.	Sample ID / Location	Sample Description	Date	Time	CIRCLE or Write IN Analyses	
							8260 - 824 (Volatiles)	8015B (GRQ) / 8021 (BTEX)
1		1201574			4/27/2012			
2								
3								
4								
5								
6								
7								
8								
9								
10								

**CIRCLE APPROPRIATE MATRIX**

SOIL / SEDIMENT / SLUDGE	
WATER - DRINKING / GROUND	
WATER - STORM / WASTE	
AQUEOUS / LAYERED - OIL	

**Container(s)** \_\_\_\_\_ **TAT #** \_\_\_\_\_ **Type** \_\_\_\_\_

**Field Services**  
 300 (Antiox) / 314 (Perchlorate)  
 7199 - 218.6 (Hex. Chromium)  
 6020 - 200.8 - 1840 Metals  
 6010B - 200.7 Metals  
 6010B - 200.7 CAM Metals  
 6010B - 200.7 PMS  
 8082 PCBs  
 8081 OrgC / 8141 OrgPO4 Pest  
 8015B (DRO) / 8015B (HCID)  
 8270B - 825 (BNA) / 8310 (PAHs)  
 8015B (GRQ) / 8021 (BTEX)  
 8270B - 825 (TO-14 / TO-3 / RSK-175)

**QA/QC**  
 RTNE  CT  Legal   
 SWRCB Logcode  OTHER \_\_\_\_\_  
 REMARKS \_\_\_\_\_

**Material:** 1=Glass; 2=Plastic; 3=Metal

**Container Types:** 1=Tube; 2=VOA; 3=Liter; 4=Pin; 5=Jar; 6=Tealjar; 7 = Canister

**WEEKEND, HOLIDAY, OFF HOURS WORK - ASK FOR QUOTE**

TAT 0	TAT 1	TAT 2	TAT 3	TAT 4	TAT 5	TAT 10
300% SURCHARGE SAME BUSINESS DAY IF RCV BY 8:00 AM	100% SURCHARGE NEXT BUSINESS DAY DAY 5:30 PM	50% SURCHARGE 2ND BUSINESS DAY 5:30 PM	30% SURCHARGE 3RD BUSINESS DAY DAY 5:30 PM	20% SURCHARGE 4TH BUSINESS DAY 5:30 PM	NO SURCHARGE 5-7 BUSINESS DAYS 5:30 PM	10% DISCOUNT 10th BUSINESS DAY 5:30 PM

**Preservatives:** 1=HCl; 2=HNO3; 3=H2SO4; 4 = 4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

**FOR RUSH TOLP7 STL; ADD 2 DAYS TO RESPECTIVE TAT.**  
 Subcon. TAT is 10 - 15 business days; Dioxin and Furans 21 business days.

May 11, 2012

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



**FL Cert E8784/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: N007759  
Lab Number: D043002-01

Enclosed are results for sample(s) received 4/30/12 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, appearing to read 'Mark Johnson', is written over a white background.

Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

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

D043002-01

# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:  
ATL-Industry

Field Sampler: James Dye

City of Industry, CA

27-Apr-12

Sample ID	Matrix	Date Collected	Bottle Type	ASTM D1946	Requested Tests
N007759-001B / VINF-04-27	Air	4/27/2012 12:30:00 PM	BAG	1	

01

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

Please use PO#: N007759 Please fax results by: 5 day TAT

Relinquished by:	Date/Time
<i>[Signature]</i>	4/27/12 12:14 PM
Received by:	Date/Time
<i>[Signature]</i>	4/30/12 9:50

**Client:** ATL-Las Vegas  
**Attn:** Marlon Cartin  
**Project Name:** NA  
**Project No.:** N007759  
**Date Received:** 04/30/12  
**Matrix:** Air  
**Reporting Units:** % v/v

ASTM D1946							
<b>Lab No.:</b>	D043002-01						
<b>Client Sample I.D.:</b>	N007759-001B / VINP-04-27						
<b>Date Sampled:</b>	04/27/12						
<b>Date Analyzed:</b>	04/30/12						
<b>QC Batch No.:</b>	120430GC8A1						
<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	0.22	0.010					
Oxygen/Argon	21	0.50					
Nitrogen	78	1.0					
Methane	0.029	0.0010					

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

Reviewed/Approved By: Mark Johnson  
 Mark Johnson  
 Operations Manager

Date 5-11-12

The cover letter is an integral part of this analytical report




QC Batch No.: 120430GC8A1  
Matrix: Air  
Units: % v/v

Page 3 of 3  
D043002

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCSD					
Date Analyzed:	04/30/12	04/30/12	04/27/12					
Analyst Initials:	MJ	MJ	MJ					
Datafile:	30apr018	30apr008	27apr006					
Dilution Factor:	1.0	1.0	1.0					
ANALYTE	RL	Results	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Oxygen/Argon	0.50	ND	100	70-130%	99	70-130%	0.9	<30
Nitrogen	1.0	ND	101	70-130%	100	70-130%	0.7	<30
Methane	0.0010	ND	85	70-130%	84	70-130%	0.5	<30
Carbon Dioxide	0.010	ND	102	70-130%	103	70-130%	1.6	<30

PQL = Practical Quantitation Limit  
ND = Not Detected (Below RL).  
RL = PQL X Dilution Factor

Reviewed/Approved By:   
Mark J. Johnson  
Operations Manager

Date: 5-11-12

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



May 30, 2012

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.: N007924

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on May 23, 2012 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:** N007924

**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.



**Advanced Technology Laboratories, Inc.**

**ANALYTICAL RESULTS**

Print Date: 30-May-12

**CLIENT:** CH2M HILL  
**Lab Order:** N007924  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N007924-001

**Client Sample ID:** INF-05-22  
**Collection Date:** 5/22/2012 2:00:00 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_120523A	QC Batch: P12VW033	PrepDate:	Analyst: QBM			
1,1,1,2-Tetrachloroethane	ND	0.12	1.0	µg/L	1	5/23/2012 06:59 PM
1,1,1-Trichloroethane	ND	0.14	1.0	µg/L	1	5/23/2012 06:59 PM
1,1,2,2-Tetrachloroethane	ND	0.20	1.0	µg/L	1	5/23/2012 06:59 PM
1,1,2-Trichloroethane	ND	0.18	1.0	µg/L	1	5/23/2012 06:59 PM
1,1-Dichloroethane	ND	0.13	0.50	µg/L	1	5/23/2012 06:59 PM
1,1-Dichloroethene	ND	0.18	1.0	µg/L	1	5/23/2012 06:59 PM
1,1-Dichloropropene	ND	0.085	1.0	µg/L	1	5/23/2012 06:59 PM
1,2,3-Trichlorobenzene	ND	0.098	1.0	µg/L	1	5/23/2012 06:59 PM
1,2,3-Trichloropropane	ND	0.11	1.0	µg/L	1	5/23/2012 06:59 PM
1,2,4-Trichlorobenzene	ND	0.082	1.0	µg/L	1	5/23/2012 06:59 PM
1,2,4-Trimethylbenzene	64	0.076	1.0	µg/L	1	5/23/2012 06:59 PM
1,2-Dibromo-3-chloropropane	ND	0.34	2.0	µg/L	1	5/23/2012 06:59 PM
1,2-Dibromoethane	ND	0.10	1.0	µg/L	1	5/23/2012 06:59 PM
1,2-Dichlorobenzene	ND	0.095	1.0	µg/L	1	5/23/2012 06:59 PM
1,2-Dichloroethane	1.2	0.10	0.50	µg/L	1	5/23/2012 06:59 PM
1,2-Dichloropropane	ND	0.17	1.0	µg/L	1	5/23/2012 06:59 PM
1,3,5-Trimethylbenzene	21	0.13	1.0	µg/L	1	5/23/2012 06:59 PM
1,3-Dichlorobenzene	ND	0.094	1.0	µg/L	1	5/23/2012 06:59 PM
1,3-Dichloropropane	ND	0.13	1.0	µg/L	1	5/23/2012 06:59 PM
1,4-Dichlorobenzene	ND	0.069	1.0	µg/L	1	5/23/2012 06:59 PM
2,2-Dichloropropane	ND	0.10	1.0	µg/L	1	5/23/2012 06:59 PM
2-Butanone	ND	0.59	10	µg/L	1	5/23/2012 06:59 PM
2-Chlorotoluene	ND	0.10	1.0	µg/L	1	5/23/2012 06:59 PM
4-Chlorotoluene	ND	0.083	1.0	µg/L	1	5/23/2012 06:59 PM
4-Isopropyltoluene	1.6	0.054	1.0	µg/L	1	5/23/2012 06:59 PM
4-Methyl-2-pentanone	ND	0.64	10	µg/L	1	5/23/2012 06:59 PM
Acetone	16	1.3	10	µg/L	1	5/23/2012 06:59 PM
Acrolein	ND	4.3	20	µg/L	1	5/23/2012 06:59 PM
Acrylonitrile	ND	0.61	20	µg/L	1	5/23/2012 06:59 PM
Benzene	2800	11	100	µg/L	100	5/23/2012 05:10 PM
Bromobenzene	ND	0.083	1.0	µg/L	1	5/23/2012 06:59 PM
Bromochloromethane	ND	0.15	1.0	µg/L	1	5/23/2012 06:59 PM
Bromodichloromethane	ND	0.11	1.0	µg/L	1	5/23/2012 06:59 PM
Bromoform	ND	0.18	1.0	µg/L	1	5/23/2012 06:59 PM
Bromomethane	ND	0.14	1.0	µg/L	1	5/23/2012 06:59 PM
Carbon disulfide	0.46	0.15	1.0	J µg/L	1	5/23/2012 06:59 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: 30-May-12

**CLIENT:** CH2M HILL  
**Lab Order:** N007924  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N007924-001

**Client Sample ID:** INF-05-22  
**Collection Date:** 5/22/2012 2:00:00 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_120523A	QC Batch: P12VW033	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.12	1.0	µg/L	1	5/23/2012 06:59 PM
Chlorobenzene	ND	0.11	1.0	µg/L	1	5/23/2012 06:59 PM
Chloroethane	ND	0.17	1.0	µg/L	1	5/23/2012 06:59 PM
Chloroform	ND	0.079	1.0	µg/L	1	5/23/2012 06:59 PM
Chloromethane	ND	0.19	1.0	µg/L	1	5/23/2012 06:59 PM
cis-1,2-Dichloroethene	ND	0.18	1.0	µg/L	1	5/23/2012 06:59 PM
cis-1,3-Dichloropropene	ND	0.16	1.0	µg/L	1	5/23/2012 06:59 PM
Di-isopropyl ether	30	0.12	1.0	µg/L	1	5/23/2012 06:59 PM
Dibromochloromethane	ND	0.16	1.0	µg/L	1	5/23/2012 06:59 PM
Dibromomethane	ND	0.11	1.0	µg/L	1	5/23/2012 06:59 PM
Dichlorodifluoromethane	ND	0.057	1.0	µg/L	1	5/23/2012 06:59 PM
Ethyl tert-butyl ether	ND	0.13	1.0	µg/L	1	5/23/2012 06:59 PM
Ethylbenzene	49	0.13	1.0	µg/L	1	5/23/2012 06:59 PM
Freon-113	ND	0.18	1.0	µg/L	1	5/23/2012 06:59 PM
Hexachlorobutadiene	ND	0.20	1.0	µg/L	1	5/23/2012 06:59 PM
Isopropylbenzene	13	0.11	1.0	µg/L	1	5/23/2012 06:59 PM
m,p-Xylene	200	0.16	1.0	µg/L	1	5/23/2012 06:59 PM
Methylene chloride	ND	0.14	2.0	µg/L	1	5/23/2012 06:59 PM
MTBE	150	0.89	10	µg/L	10	5/23/2012 06:05 PM
n-Butylbenzene	2.7	0.070	1.0	µg/L	1	5/23/2012 06:59 PM
n-Propylbenzene	28	0.076	1.0	µg/L	1	5/23/2012 06:59 PM
Naphthalene	92	0.10	1.0	µg/L	1	5/23/2012 06:59 PM
o-Xylene	62	0.10	1.0	µg/L	1	5/23/2012 06:59 PM
sec-Butylbenzene	2.3	0.096	1.0	µg/L	1	5/23/2012 06:59 PM
Styrene	ND	0.10	1.0	µg/L	1	5/23/2012 06:59 PM
Tert-amyl methyl ether	ND	0.12	1.0	µg/L	1	5/23/2012 06:59 PM
Tert-Butanol	690	30	50	µg/L	10	5/23/2012 06:05 PM
tert-Butylbenzene	ND	0.11	1.0	µg/L	1	5/23/2012 06:59 PM
Tetrachloroethene	ND	0.19	1.0	µg/L	1	5/23/2012 06:59 PM
Toluene	140	0.82	20	µg/L	10	5/23/2012 06:05 PM
trans-1,2-Dichloroethene	ND	0.13	1.0	µg/L	1	5/23/2012 06:59 PM
trans-1,3-Dichloropropene	ND	0.15	1.0	µg/L	1	5/23/2012 06:59 PM
Trichloroethene	ND	0.18	1.0	µg/L	1	5/23/2012 06:59 PM
Trichlorofluoromethane	ND	0.19	1.0	µg/L	1	5/23/2012 06:59 PM
Vinyl chloride	ND	0.23	1.0	µg/L	1	5/23/2012 06:59 PM
Xylenes, Total	260	1.5	2.0	µg/L	1	5/23/2012 06:59 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: 30-May-12

**CLIENT:** CH2M HILL  
**Lab Order:** N007924  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N007924-001

**Client Sample ID:** INF-05-22  
**Collection Date:** 5/22/2012 2:00:00 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_120523A	QC Batch:	P12VW033	PrepDate:	Analyst:	QBM	
Surr:	1,2-Dichloroethane-d4	98.4	0	72-119	%REC	10	5/23/2012 06:05 PM
Surr:	1,2-Dichloroethane-d4	96.3	0	72-119	%REC	100	5/23/2012 05:10 PM
Surr:	1,2-Dichloroethane-d4	109	0	72-119	%REC	1	5/23/2012 06:59 PM
Surr:	4-Bromofluorobenzene	99.2	0	76-119	%REC	100	5/23/2012 05:10 PM
Surr:	4-Bromofluorobenzene	101	0	76-119	%REC	10	5/23/2012 06:05 PM
Surr:	4-Bromofluorobenzene	106	0	76-119	%REC	1	5/23/2012 06:59 PM
Surr:	Dibromofluoromethane	102	0	85-115	%REC	100	5/23/2012 05:10 PM
Surr:	Dibromofluoromethane	114	0	85-115	%REC	1	5/23/2012 06:59 PM
Surr:	Dibromofluoromethane	107	0	85-115	%REC	10	5/23/2012 06:05 PM
Surr:	Toluene-d8	105	0	81-120	%REC	1	5/23/2012 06:59 PM
Surr:	Toluene-d8	101	0	81-120	%REC	10	5/23/2012 06:05 PM
Surr:	Toluene-d8	98.7	0	81-120	%REC	100	5/23/2012 05:10 PM

**TPH-FUEL PRODUCT BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID:	GC1_120529A	QC Batch:	39849	PrepDate:	5/25/2012	Analyst:	MDM
TPH-Fuel Product	31000	130	510	ug/L	10	5/29/2012 12:05 PM	
Surr:	Octacosane	111	0	26-152	%REC	1	5/29/2012 06:56 PM
Surr:	p-Terphenyl	94.9	0	57-132	%REC	1	5/29/2012 06:56 PM

**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B**

RunID:	GC4_120523B	QC Batch:	E12VW021	PrepDate:	Analyst:	QBM	
TPH-Gasoline (C4-C12)	6800	8.5	100	µg/L	1	5/23/2012	
Surr:	Chlorobenzene - d5	103	0	74-138	%REC	1	5/23/2012

**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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Laboratories, Inc.**

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

CLIENT: CH2M HILL

Work Order: N007924

Project: SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8015\_W\_FP\_SFPP

Sample ID: <b>MB-39849</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_FP_</b>	Units: <b>ug/L</b>	Prep Date: <b>5/25/2012</b>	RunNo: <b>84408</b>						
Client ID: <b>PBW</b>	Batch ID: <b>39849</b>	TestNo: <b>EPA 8015B</b>	<b>EPA 3510C</b>	Analysis Date: <b>5/29/2012</b>	SeqNo: <b>1399938</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH/Fuel Product	20.262	50									J
Surr: Octacosane	62.598		80.00		78.2	26	152				
Surr: p-Terphenyl	52.404		80.00		65.5	57	132				

**Qualifiers:**

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- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- 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

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

**TestCode: 8015\_W\_GSFPP**

Sample ID: <b>E120523LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	RunNo: <b>84379</b>
Client ID: <b>LCSW</b>	Batch ID: <b>E12VW021</b>	TestNo: <b>EPA 8015B</b>		SeqNo: <b>1399271</b>
Analyte	Result	PQL	SPK value	SPK Ref Val
TPH-Gasoline (C4-C12)	889.000	100	1000	0
Surr: Chlorobenzene - d5	46.349		50.00	
		%REC	LowLimit	HighLimit
		88.9	67	136
		92.7	74	138
			%RPD	RPDLimit
				Qual

Prep Date:

Analysis Date: **5/23/2012**

Sample ID: <b>E120523MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	RunNo: <b>84379</b>
Client ID: <b>PBW</b>	Batch ID: <b>E12VW021</b>	TestNo: <b>EPA 8015B</b>		SeqNo: <b>1399272</b>
Analyte	Result	PQL	SPK value	SPK Ref Val
TPH-Gasoline (C4-C12)	ND	100	50.00	
Surr: Chlorobenzene - d5	48.865		50.00	
		%REC	LowLimit	HighLimit
		97.7	74	138
			%RPD	RPDLimit
				Qual

Prep Date:

Analysis Date: **5/23/2012**

Sample ID: <b>N007924-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	RunNo: <b>84379</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E12VW021</b>	TestNo: <b>EPA 8015B</b>		SeqNo: <b>1399274</b>
Analyte	Result	PQL	SPK value	SPK Ref Val
TPH-Gasoline (C4-C12)	8930.000	100	2500	6776
Surr: Chlorobenzene - d5	54.538		50.00	
		%REC	LowLimit	HighLimit
		86.2	67	136
		109	74	138
			%RPD	RPDLimit
				Qual

Prep Date:

Analysis Date: **5/23/2012**

Sample ID: <b>N007924-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>	RunNo: <b>84379</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E12VW021</b>	TestNo: <b>EPA 8015B</b>		SeqNo: <b>1399275</b>
Analyte	Result	PQL	SPK value	SPK Ref Val
TPH-Gasoline (C4-C12)	8692.000	100	2500	6776
Surr: Chlorobenzene - d5	50.920		50.00	
		%REC	LowLimit	HighLimit
		76.6	67	136
		102	74	138
			%RPD	RPDLimit
				Qual

Prep Date:

Analysis Date: **5/23/2012**

**Qualifiers:**

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



**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P120523LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>	
Analyte	Result	PQL	SPK value
		%REC	SPK Ref Val
		LowLimit	HighLimit
		RPD Ref Val	RPDLimit
		%RPD	RPDLimit
		Qual	

RunNo: **84375**  
 SeqNo: **1399183**

Prep Date:  
 Analysis Date: **5/23/2012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.860	1.0	20.00	0	104	81	129			
1,1,1-Trichloroethane	20.850	1.0	20.00	0	104	67	132			
1,1,2,2-Tetrachloroethane	19.930	1.0	20.00	0	99.7	63	128			
1,1,2-Trichloroethane	19.590	1.0	20.00	0	98.0	75	125			
1,1-Dichloroethane	20.450	0.50	20.00	0	102	69	133			
1,1-Dichloroethene	20.410	1.0	20.00	0	102	68	130			
1,1-Dichloropropene	20.050	1.0	20.00	0	100	73	132			
1,2,3-Trichlorobenzene	21.550	1.0	20.00	0	108	67	137			
1,2,3-Trichloropropane	19.270	1.0	20.00	0	96.4	73	124			
1,2,4-Trichlorobenzene	21.530	1.0	20.00	0	108	66	134			
1,2,4-Trimethylbenzene	21.480	1.0	20.00	0	107	74	132			
1,2-Dibromo-3-chloropropane	19.980	2.0	20.00	0	99.9	50	132			
1,2-Dibromoethane	19.480	1.0	20.00	0	97.4	80	121			
1,2-Dichlorobenzene	20.980	1.0	20.00	0	105	71	122			
1,2-Dichloroethane	19.670	0.50	20.00	0	98.4	69	132			
1,2-Dichloropropane	20.080	1.0	20.00	0	100	75	125			
1,3,5-Trimethylbenzene	21.510	1.0	20.00	0	108	74	131			
1,3-Dichlorobenzene	20.870	1.0	20.00	0	104	75	124			
1,3-Dichloropropane	19.710	1.0	20.00	0	98.6	73	126			
1,4-Dichlorobenzene	20.670	1.0	20.00	0	103	74	123			
2,2-Dichloropropane	22.280	1.0	20.00	0	111	69	137			
2-Butanone	163.920	10	200.0	0	82.0	49	136			
2-Chlorotoluene	20.750	1.0	20.00	0	104	73	126			
4-Chlorotoluene	20.850	1.0	20.00	0	104	74	128			
4-Isopropyltoluene	21.420	1.0	20.00	0	107	73	130			
4-Methyl-2-pentanone	186.980	10	200.0	0	93.5	58	134			
Acetone	149.180	10	200.0	0	74.6	40	135			
Acrolein	153.580	20	200.0	0	76.8	75	125			
Acrylonitrile	207.080	20	200.0	0	104	75	125			
Benzene	19.790	1.0	20.00	0	99.0	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

**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P120523LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	RunNo: <b>84375</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		SeqNo: <b>1399183</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	21.130	1.0	20.00	0	106	76	124				
Bromochloromethane	21.250	1.0	20.00	0	106	65	129				
Bromodichloromethane	20.590	1.0	20.00	0	103	76	121				
Bromoforn	20.570	1.0	20.00	0	103	69	128				
Bromomethane	17.730	1.0	20.00	0	88.6	53	141				
Carbon disulfide	21.050	1.0	20.00	0	105	75	125				
Carbon tetrachloride	20.980	1.0	20.00	0	105	66	138				
Chlorobenzene	20.470	1.0	20.00	0	102	81	122				
Chloroethane	21.940	1.0	20.00	0	110	58	133				
Chloroform	18.220	1.0	20.00	0	91.1	69	128				
Chloromethane	16.480	1.0	20.00	0	82.4	56	131				
cis-1,2-Dichloroethene	20.220	1.0	20.00	0	101	72	126				
cis-1,3-Dichloropropene	20.780	1.0	20.00	0	104	69	131				
Di-isopropyl ether	19.440	1.0	20.00	0	97.2	70	130				
Dibromochloromethane	20.490	1.0	20.00	0	102	66	133				
Dibromomethane	19.560	1.0	20.00	0	97.8	76	125				
Dichlorodifluoromethane	19.100	1.0	20.00	0	95.5	53	153				
Ethyl tert-butyl ether	20.190	1.0	20.00	0	101	70	130				
Ethylbenzene	20.390	1.0	20.00	0	102	73	127				
Freon-113	21.160	1.0	20.00	0	106	75	125				
Hexachlorobutadiene	21.370	1.0	20.00	0	107	67	131				
Isopropylbenzene	21.260	1.0	20.00	0	106	75	127				
m,p-Xylene	41.670	1.0	40.00	0	104	76	128				
Methylene chloride	19.220	2.0	20.00	0	96.1	63	137				
MTBE	19.740	1.0	20.00	0	98.7	65	123				
n-Butylbenzene	21.570	1.0	20.00	0	108	69	137				
n-Propylbenzene	21.270	1.0	20.00	0	106	72	129				
Naphthalene	21.100	1.0	20.00	0	106	54	138				
o-Xylene	20.790	1.0	20.00	0	104	80	121				
sec-Butylbenzene	21.440	1.0	20.00	0	107	72	127				

**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
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- Calculations are based on raw values

**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P120523LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	RunNo: <b>84375</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		SeqNo: <b>1399183</b>								
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Styrene	21.640	1.0	20.00	0	108	65	134
Tert-amyl methyl ether	19.610	1.0	20.00	0	98.0	70	130
Tert-Butanol	82.740	5.0	100.0	0	82.7	70	130
tert-Butylbenzene	21.340	1.0	20.00	0	107	70	129
Tetrachloroethene	21.130	1.0	20.00	0	106	66	128
Toluene	20.550	2.0	20.00	0	103	77	122
trans-1,2-Dichloroethene	20.630	1.0	20.00	0	103	63	137
trans-1,3-Dichloropropene	20.790	1.0	20.00	0	104	59	135
Trichloroethene	19.700	1.0	20.00	0	98.5	70	127
Trichlorofluoromethane	21.710	1.0	20.00	0	109	57	129
Vinyl chloride	20.370	1.0	20.00	0	102	50	134
Xylenes, Total	62.460	2.0	60.00	0	104	75	125
Surr: 1,2-Dichloroethane-d4	25.280		25.00		101	72	119
Surr: 4-Bromofluorobenzene	25.730		25.00		103	76	119
Surr: Dibromofluoromethane	25.440		25.00		102	85	115
Surr: Toluene-d8	25.770		25.00		103	81	120

Sample ID: <b>P120523MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	RunNo: <b>84375</b>								
Client ID: <b>PBW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		SeqNo: <b>1399185</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	1.0	0	103	81	120
1,1,1-Trichloroethane	ND	1.0	20.00	0	101	72	119
1,1,2,2-Tetrachloroethane	ND	1.0	20.00	0	103	76	119
1,1,2-Trichloroethane	ND	1.0	20.00	0	102	85	115
1,1-Dichloroethane	ND	0.50	20.00	0	103	81	120
1,1-Dichloroethene	ND	1.0	20.00	0	101	72	119
1,1-Dichloropropene	ND	1.0	20.00	0	103	76	119
1,2,3-Trichlorobenzene	ND	1.0	20.00	0	102	85	115
1,2,3-Trichloropropane	ND	1.0	20.00	0	103	81	120

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - E Value above quantitation range
  - J Analyte detected below quantitation limits
  - ND Not Detected at the Reporting Limit
  - S Spike/Surrogate outside of limits due to matrix interference
  - DO Surrogate Diluted Out
  - H Holding times for preparation or analysis exceeded
  - R RPD outside accepted recovery limits
- 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:** N007924  
**Project:** SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120523MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84375</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/23/2012</b>	SeqNo: <b>1399185</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:**

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

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 R RPD outside accepted recovery limits  
 Calculations are based on raw values



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**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120523MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84375</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/23/2012</b>	SeqNo: <b>1399185</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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:**

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  - E Value above quantitation range
  - J Analyte detected below quantitation limits
  - ND Not Detected at the Reporting Limit
  - S Spike/Surrogate outside of limits due to matrix interference
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**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>P120523MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84375</b>						
Client ID: <b>PBW</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/23/2012</b>	SeqNo: <b>1399185</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	25.400		25.00		102	72	119				
Surr: 4-Bromofluorobenzene	25.320		25.00		101	76	119				
Surr: Dibromofluoromethane	25.890		25.00		104	85	115				
Surr: Toluene-d8	25.300		25.00		101	81	120				

Sample ID: <b>N007923-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84375</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/23/2012</b>	SeqNo: <b>1399189</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	19.790	1.0	20.00	0	99.0	81	129				
1,1,1-Trichloroethane	18.830	1.0	20.00	0	94.2	67	132				
1,1,2,2-Tetrachloroethane	18.150	1.0	20.00	0	90.8	63	128				
1,1,2-Trichloroethane	18.100	1.0	20.00	0	90.5	75	125				
1,1-Dichloroethane	18.550	0.50	20.00	0	92.8	69	133				
1,1-Dichloroethene	17.600	1.0	20.00	0	88.0	68	130				
1,1-Dichloropropene	17.960	1.0	20.00	0	89.8	73	132				
1,2,3-Trichlorobenzene	20.010	1.0	20.00	0	100	67	137				
1,2,3-Trichloropropane	18.080	1.0	20.00	0	90.4	73	124				
1,2,4-Trichlorobenzene	19.800	1.0	20.00	0	99.0	66	134				
1,2,4-Trimethylbenzene	19.610	1.0	20.00	0	98.0	74	132				
1,2-Dibromo-3-chloropropane	18.620	2.0	20.00	0	93.1	50	132				
1,2-Dibromoethane	18.000	1.0	20.00	0	90.0	80	121				
1,2-Dichlorobenzene	19.680	1.0	20.00	0	98.4	71	122				
1,2-Dichloroethane	18.180	0.50	20.00	0	90.9	69	132				
1,2-Dichloropropane	17.570	1.0	20.00	0	87.9	75	125				
1,3,5-Trimethylbenzene	19.960	1.0	20.00	0	99.8	74	131				
1,3-Dichlorobenzene	19.470	1.0	20.00	0	97.4	75	124				

**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:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>N007923-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84375</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>5/23/2012</b>	SeqNo: <b>1399189</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,3-Dichloropropane	18.270	1.0	20.00	0	91.4	73	126				
1,4-Dichlorobenzene	19.190	1.0	20.00	0	96.0	74	123				
2,2-Dichloropropane	21.290	1.0	20.00	0	106	69	137				
2-Butanone	111.940	1.0	200.0	0	56.0	49	136				
2-Chlorotoluene	19.020	1.0	20.00	0	95.1	73	126				
4-Chlorotoluene	19.130	1.0	20.00	0	95.7	74	128				
4-Isopropyltoluene	19.680	1.0	20.00	0	98.4	73	130				
4-Methyl-2-pentanone	173.280	1.0	200.0	0	86.6	58	134				
Acetone	74.610	1.0	200.0	1.420	36.6	40	135				S
Acrolein	169.370	2.0	200.0	0	84.7	75	125				
Acrylonitrile	189.760	2.0	200.0	0	94.9	75	125				
Benzene	18.160	1.0	20.00	0	90.8	81	122				
Bromobenzene	19.560	1.0	20.00	0	97.8	76	124				
Bromochloromethane	19.400	1.0	20.00	0	97.0	65	129				
Bromodichloromethane	18.780	1.0	20.00	0	93.9	76	121				
Bromoforn	19.370	1.0	20.00	0	96.9	69	128				
Bromomethane	14.500	1.0	20.00	0	72.5	53	141				
Carbon disulfide	18.640	1.0	20.00	0	93.2	75	125				
Carbon tetrachloride	19.440	1.0	20.00	0	97.2	66	138				
Chlorobenzene	19.330	1.0	20.00	0	96.7	81	122				
Chloroethane	18.840	1.0	20.00	0	94.2	58	133				
Chloroform	16.480	1.0	20.00	0	82.4	69	128				
Chloromethane	13.920	1.0	20.00	0	69.6	56	131				
cis-1,2-Dichloroethene	18.470	1.0	20.00	0	92.4	72	126				
cis-1,3-Dichloropropene	18.870	1.0	20.00	0	94.4	69	131				
Di-isopropyl ether	17.900	1.0	20.00	0	89.5	70	130				
Dibromochloromethane	19.110	1.0	20.00	0	95.6	66	133				
Dibromomethane	18.220	1.0	20.00	0	91.1	76	125				
Dichlorodifluoromethane	16.380	1.0	20.00	0	81.9	53	153				
Ethyl tert-butyl ether	18.600	1.0	20.00	0	93.0	70	130				

**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:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007923-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>	
Prep Date:		RunNo: <b>84375</b>	
Analysis Date: <b>5/23/2012</b>		SeqNo: <b>1399189</b>	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	19.030	1.0	20.00	0	95.2	73	127				
Freon-113	18.730	1.0	20.00	0	93.6	75	125				
Hexachlorobutadiene	19.630	1.0	20.00	0	98.2	67	131				
Isopropylbenzene	19.490	1.0	20.00	0	97.5	75	127				
m,p-Xylene	38.530	1.0	40.00	0	96.3	76	128				
Methylene chloride	17.890	2.0	20.00	0	89.4	63	137				
MTBE	19.220	1.0	20.00	1.010	91.1	65	123				
n-Butylbenzene	19.730	1.0	20.00	0	98.6	69	137				
n-Propylbenzene	19.520	1.0	20.00	0	97.6	72	129				
Naphthalene	19.550	1.0	20.00	0	97.8	54	138				
o-Xylene	19.290	1.0	20.00	0	96.5	80	121				
sec-Butylbenzene	19.440	1.0	20.00	0	97.2	72	127				
Styrene	19.850	1.0	20.00	0	99.2	65	134				
Tert-amyl methyl ether	18.130	1.0	20.00	0	90.7	70	130				
Tert-Butanol	81.470	5.0	100.0	0	81.5	70	130				
tert-Butylbenzene	19.510	1.0	20.00	0	97.6	70	129				
Tetrachloroethene	19.170	1.0	20.00	0	95.9	66	128				
Toluene	18.900	2.0	20.00	0	94.5	77	122				
trans-1,2-Dichloroethene	18.610	1.0	20.00	0	93.0	63	137				
trans-1,3-Dichloropropene	19.210	1.0	20.00	0	96.0	59	135				
Trichloroethene	18.280	1.0	20.00	0	91.4	70	127				
Trichlorofluoromethane	18.930	1.0	20.00	0	94.6	57	129				
Vinyl chloride	17.660	1.0	20.00	0	88.3	50	134				
Xylenes, Total	57.820	2.0	60.00	0	96.4	75	125				
Surr: 1,2-Dichloroethane-d4	25.420		25.00		102	72	119				
Surr: 4-Bromofluorobenzene	26.170		25.00		105	76	119				
Surr: Dibromofluoromethane	25.320		25.00		101	85	115				
Surr: Toluene-d8	25.470		25.00		102	81	120				

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - E Value above quantitation range
  - J Analyte detected below quantitation limits
  - ND Not Detected at the Reporting Limit
  - S Spike/Surrogate outside of limits due to matrix interference
  - DO Surrogate Diluted Out
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**CLIENT:** CH2M HILL  
**Work Order:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007923-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>	Prep Date:
		Analysis Date: <b>5/23/2012</b>	RunNo: <b>84375</b>
			SeqNo: <b>1399190</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	19.130	1.0	20.00	0	95.7	81	129	19.79	3.39	20	
1,1,1-Trichloroethane	18.140	1.0	20.00	0	90.7	67	132	18.83	3.73	20	
1,1,2,2-Tetrachloroethane	18.840	1.0	20.00	0	94.2	63	128	18.15	3.73	20	
1,1,2-Trichloroethane	17.810	1.0	20.00	0	89.0	75	125	18.10	1.62	20	
1,1-Dichloroethane	17.820	0.50	20.00	0	89.1	69	133	18.55	4.01	20	
1,1-Dichloroethene	17.040	1.0	20.00	0	85.2	68	130	17.60	3.23	20	
1,1-Dichloropropene	18.100	1.0	20.00	0	90.5	73	132	17.96	0.776	20	
1,2,3-Trichlorobenzene	19.750	1.0	20.00	0	98.8	67	137	20.01	1.31	20	
1,2,3-Trichloropropane	18.130	1.0	20.00	0	90.7	73	124	18.08	0.276	20	
1,2,4-Trichlorobenzene	19.600	1.0	20.00	0	98.0	66	134	19.80	1.02	20	
1,2,4-Trimethylbenzene	19.290	1.0	20.00	0	96.5	74	132	19.61	1.65	20	
1,2-Dibromo-3-chloropropane	19.140	2.0	20.00	0	95.7	50	132	18.62	2.75	20	
1,2-Dibromoethane	18.140	1.0	20.00	0	90.7	80	121	18.00	0.775	20	
1,2-Dichlorobenzene	19.170	1.0	20.00	0	95.9	71	122	19.68	2.63	20	
1,2-Dichloroethane	17.990	0.50	20.00	0	90.0	69	132	18.18	1.05	20	
1,2-Dichloropropane	17.880	1.0	20.00	0	89.4	75	125	17.57	1.75	20	
1,3,5-Trimethylbenzene	19.610	1.0	20.00	0	98.0	74	131	19.96	1.77	20	
1,3-Dichlorobenzene	18.970	1.0	20.00	0	94.8	75	124	19.47	2.60	20	
1,3-Dichloropropane	18.060	1.0	20.00	0	90.3	73	126	18.27	1.16	20	
1,4-Dichlorobenzene	18.630	1.0	20.00	0	93.2	74	123	19.19	2.96	20	
2,2-Dichloropropane	19.930	1.0	20.00	0	99.7	69	137	21.29	6.60	20	
2-Butanone	110.460	10	200.0	0	55.2	49	136	111.9	1.33	20	
2-Chlorotoluene	18.910	1.0	20.00	0	94.6	73	126	19.02	0.580	20	
4-Chlorotoluene	19.110	1.0	20.00	0	95.6	74	128	19.13	0.105	20	
4-Isopropyltoluene	19.500	1.0	20.00	0	97.5	73	130	19.68	0.919	20	
4-Methyl-2-pentanone	176.250	10	200.0	0	88.1	58	134	173.3	1.70	20	
Acetone	74.650	10	200.0	1.420	36.6	40	135	74.61	0.0536	20	S
Acrolein	169.900	20	200.0	0	85.0	75	125	169.4	0.312	20	
Acrylonitrile	187.900	20	200.0	0	94.0	75	125	189.8	0.985	20	
Benzene	18.110	1.0	20.00	0	90.6	81	122	18.16	0.276	20	

**Qualifiers:**

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  - J Analyte detected below quantitation limits
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  - 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:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007923-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>	Prep Date:
RunNo: <b>84375</b>		SeqNo: <b>1399190</b>	
Analysis Date: <b>5/23/2012</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.190	1.0	20.00	0	96.0	76	124	19.56	1.91	20	
Bromochloromethane	18.550	1.0	20.00	0	92.8	65	129	19.40	4.48	20	
Bromodichloromethane	18.930	1.0	20.00	0	94.6	76	121	18.78	0.796	20	
Bromoforn	18.880	1.0	20.00	0	94.4	69	128	19.37	2.56	20	
Bromomethane	15.140	1.0	20.00	0	75.7	53	141	14.50	4.32	20	
Carbon disulfide	17.940	1.0	20.00	0	89.7	75	125	18.64	3.83	20	
Carbon tetrachloride	19.190	1.0	20.00	0	96.0	66	138	19.44	1.29	20	
Chlorobenzene	18.810	1.0	20.00	0	94.1	81	122	19.33	2.73	20	
Chloroethane	18.320	1.0	20.00	0	91.6	58	133	18.84	2.80	20	
Chloroform	15.960	1.0	20.00	0	79.8	69	128	16.48	3.21	20	
Chloromethane	13.860	1.0	20.00	0	69.3	56	131	13.92	0.432	20	
cis-1,2-Dichloroethene	17.930	1.0	20.00	0	89.7	72	126	18.47	2.97	20	
cis-1,3-Dichloropropene	18.740	1.0	20.00	0	93.7	69	131	18.87	0.691	20	
Di-isopropyl ether	17.630	1.0	20.00	0	88.2	70	130	17.90	1.52	20	
Dibromochloromethane	18.680	1.0	20.00	0	93.4	66	133	19.11	2.28	20	
Dibromomethane	18.060	1.0	20.00	0	90.3	76	125	18.22	0.882	20	
Dichlorodifluoromethane	15.900	1.0	20.00	0	79.5	53	153	16.38	2.97	20	
Ethyl tert-butyl ether	18.130	1.0	20.00	0	90.7	70	130	18.60	2.56	20	
Ethylbenzene	18.490	1.0	20.00	0	92.5	73	127	19.03	2.88	20	
Freon-113	17.670	1.0	20.00	0	88.4	75	125	18.73	5.82	20	
Hexachlorobutadiene	19.610	1.0	20.00	0	98.0	67	131	19.63	0.102	20	
Isopropylbenzene	19.260	1.0	20.00	0	96.3	75	127	19.49	1.19	20	
m,p-Xylene	38.070	1.0	40.00	0	95.2	76	128	38.53	1.20	20	
Methylene chloride	17.070	2.0	20.00	0	85.4	63	137	17.89	4.69	20	
MTBE	18.870	1.0	20.00	1.010	89.3	65	123	19.22	1.84	20	
n-Butylbenzene	19.330	1.0	20.00	0	96.7	69	137	19.73	2.05	20	
n-Propylbenzene	19.120	1.0	20.00	0	95.6	72	129	19.52	2.07	20	
Naphthalene	19.530	1.0	20.00	0	97.6	54	138	19.55	0.102	20	
o-Xylene	19.030	1.0	20.00	0	95.2	80	121	19.29	1.36	20	
sec-Butylbenzene	19.390	1.0	20.00	0	97.0	72	127	19.44	0.258	20	

**Qualifiers:**

- B Analyte detected in the associated Method Blank
  - J Analyte detected below quantitation limits
  - S Spike/Surrogate outside of limits due to matrix interference
  - E Value above quantitation range
  - 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



**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:** N007924  
**Project:** SFPP - Norwalk Site

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260\_WP\_SFPP**

Sample ID: <b>N007923-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>P12VW033</b>	TestNo: <b>EPA 8260B</b>	Prep Date:
RunNo: <b>84375</b>		SeqNo: <b>1399190</b>	
Analysis Date: <b>5/23/2012</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	19.570	1.0	20.00	0	97.9	65	134	19.85	1.42	20	
Tert-amyl methyl ether	18.300	1.0	20.00	0	91.5	70	130	18.13	0.933	20	
Tert-Butanol	83.750	5.0	100.0	0	83.8	70	130	81.47	2.76	20	
tert-Butylbenzene	19.200	1.0	20.00	0	96.0	70	129	19.51	1.60	20	
Tetrachloroethene	19.120	1.0	20.00	0	95.6	66	128	19.17	0.261	20	
Toluene	18.860	2.0	20.00	0	94.3	77	122	18.90	0.212	20	
trans-1,2-Dichloroethene	18.120	1.0	20.00	0	90.6	63	137	18.61	2.67	20	
trans-1,3-Dichloropropene	19.090	1.0	20.00	0	95.4	59	135	19.21	0.627	20	
Trichloroethene	18.210	1.0	20.00	0	91.1	70	127	18.28	0.384	20	
Trichlorofluoromethane	17.750	1.0	20.00	0	88.8	57	129	18.93	6.43	20	
Vinyl chloride	17.000	1.0	20.00	0	85.0	50	134	17.66	3.81	20	
Xylenes, Total	57.100	2.0	60.00	0	95.2	75	125	57.82	1.25	20	
Surr: 1,2-Dichloroethane-d4	24.700		25.00		98.8	72	119		0		
Surr: 4-Bromofluorobenzene	26.270		25.00		105	76	119		0		
Surr: Dibromofluoromethane	24.880		25.00		99.5	85	115		0		
Surr: Toluene-d8	25.840		25.00		103	81	120		0		

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 J Analyte detected below quantitation limits  
 S Spike/Surrogate outside of limits due to matrix interference  
 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





800-334-5000  
Call For A Pickup!

Account Number  
B10246440941

Date  
JUN 20 1994



FROM (Company)  
 ENVIRO TREATMENT & TECHNOLOGY\*  
 Street Address  
 3275 WALNUT AVE Suite  
 City  
 SIGNAL HILL  
 State  
 CA  
 Zip Code (Required)  
 90755  
 Phone Number

PLEASE PRINT IN BLOCK LETTERS with Blue / Black Ink

TO (Company) WE CANNOT DELIVER TO A P.O. BOX  
 Street Address  
 ATLANTA VLGAS  
 City  
 ATLANTA VLGAS  
 State  
 GA  
 Zip Code (Required)  
 30328  
 Phone Number  
 702-307-2651  
 Recipient's Name  
 WASHINGTON CARLIN  
 Shipper's Ref. #  
 CUNY HILL

Service Options	Billing Information	Weight
<input type="checkbox"/> SUNRISE - BY 10:30 AM* <input checked="" type="checkbox"/> SUNRISE GOLD - BY 8:00 AM* <input checked="" type="checkbox"/> HEAVYWEIGHT** <input type="checkbox"/> Saturday Delivery - Extra Charge (see Service Guide for details) <input type="checkbox"/> HOLD FOR PICKUP (This shipment requires a delivery signature) <input checked="" type="checkbox"/> Declared Value \$ (maximum \$25,000) <input type="checkbox"/> C.O.D. Amount \$, Limit \$10,000 (only C.O.D. tag to package)	<input type="checkbox"/> Bill Shipper's Account <input checked="" type="checkbox"/> Bill Other Acct # [REDACTED] Dim weight charge if greater than actual weight L in. X W in. X H in. 225 =	<input type="checkbox"/> 8 oz. Letter <input type="checkbox"/> or Weight lbs. (Subject to verification) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Secured Payment (Money Order or Certified Check) <input type="checkbox"/> Unsecured Payment (Company Check or Personal Check)	Shipper's Signature Driver # Pick-up Time Shipper's Name F B A S A	
Driver's Initials F B A S A		

# 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: 5/23/2012 Workorder: N007924  
 Rep sample Temp (Deg C): 0.8 IR Gun ID: 1  
 Temp Blank:  Yes  No  
 Carrier name: OnTrac  
 Last 4 digits of Tracking No.: 0941 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

*for*  
GG *5/24/12*

Reviewed By:

*CG 5/24/12*

# Advanced Technology Laboratories, Inc.

## WORK ORDER SUMMARY

24-May-12

WorkOrder: N007924

Client ID: CH2HI01

Project: SFPP - Norwalk Site

QC Level: RTNE

Date Received: 5/23/2012

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

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N007924-001A	INF-05-22	5/22/2012 2:00:00 PM	5/29/2012	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N007924-001B			5/29/2012		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N007924-001C			5/29/2012		EPA 8015B	TPH-Fuel Product BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
N007924-002A	FOLDER		5/29/2012		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WV
					Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB

# CHAIN OF CUSTODY RECORD

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)

DATE: 05/22/12  
 PAGE: 1 OF 1

LABORATORY CLIENT:		CLIENT PROJECT NAME / NUMBER:					
Kinder Morgan Energy Partners, Attn: Steve Defibaugh		SFPP - Norwalk Site					
1100 Town & Country Road		PROJECT CONTACT:					
Orange, CA 92868		James Dye					
TEL: 714-560-4802	FAX: 714-560-4601	SAMPLER(S) (SIGMA/USE)					
TURNAROUND TIME		<div style="border: 1px solid black; padding: 2px;"> <input type="checkbox"/> LAB USE ONLY  <input type="checkbox"/> LAB USE ONLY  <input type="checkbox"/> LAB USE ONLY  <input type="checkbox"/> LAB USE ONLY                 </div>					
<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.		<b>REQUESTED ANALYSIS</b>					
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING		NO. OF CONT.	MATERIAL	COMMENTS
			DATE	TIME			
	INF-05-02	Influent	5/22/12	1400	8	WW	X VOCs + Oxygenates (8260B) X TPH-p (8015M) X TPH-g (8015M)
Relinquished by: (Signature) <i>[Signature]</i>					Date: 5/22/12	Time: 1500	
Relinquished by: (Signature) <i>[Signature]</i>					Date: 5/22/12	Time: 1538	
Relinquished by: (Signature) <i>[Signature]</i>					Date: 5/22/12	Time: 1555	

Received by: (Signature) *[Signature]* Date: 5/22/12 Time: 1555  
 Onfile: D100406440941  
 Marlon Cartin (marlon@atl-labs.com)  
 Steve Defibaugh  
 0.82



June 05, 2012

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.: N007919

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on May 22, 2012 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.



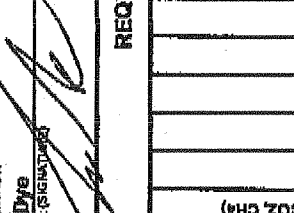
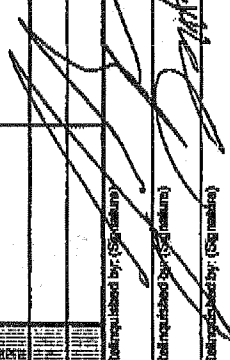

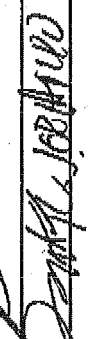

**Advanced Technology  
Laboratories, Inc.**

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

CHAIN OF CUSTODY RECORD

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

DATE: 05/22/12  
 PAGE: 1 OF 1

LABORATORY CLIENT: Kinder Morgan Energy Partners, Attn: Steve Deifaugh ADDRESS: 1100 Town & Country Road CITY: Orange, CA 92868 TEL: 714-560-4802 FAX: 714-560-4601 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"/> RWOOB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL / / SPECIAL INSTRUCTIONS: Report to D. Jablonski@KCH2M HILL, cc: KMEP Direct Bill KMEP/SFPP - Steve Deifaugh-ref. AFE# 81195 *J* flags required/Use lowest possible detection limit - all methods.		CLIENT PROJECT NAME/NUMBER: SFPP - Norwalk Site PROJECT CONTRACT: James Dye SUPPLIER(S) (SIGNATURES): 		P.O. NO.: QUOTE NO.: LABORATORY USE ONLY	
REQUESTED ANALYSIS ASTM-1946 (O2/Argon, CO2, CH4)			COMMENTS: Monthly sample 1007919-001		
SAMPLE ID: VINI-05-22		LOCATION/DESCRIPTION: Influent Vapor (from header)		MAT-RIX: Air	
SAMPLING DATE: 5-22-12		TIME: 1315		MOLE PERCENT: 4	
RECEIVED BY (SIGNATURE): 		RECEIVED BY (SIGNATURE): 		DATE: 5/22/12 TIME: 1500	
RECEIVED BY (SIGNATURE): 		RECEIVED BY (SIGNATURE): 		DATE: 5/22/12 TIME: 1538	

Revised: 04/27/2011

June 4, 2012

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



FL Cert E8784/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: N007919  
Lab Number: D052301-01

Enclosed are results for sample(s) received 5/23/12 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,

Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

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

D052301-01

# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

**Subcontractor:**

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

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

Field Sampler: James Dye

22-May-12



Sample ID	Matrix	Date Collected	Bottle Type	ASTM D1946	Requested Tests
N007919-001B / VINP-05-22	Air	5/22/2012 1:15:00 PM	BAG	1	

-01

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

Please use PO#: N007919

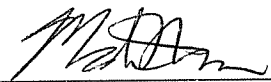
Please fax results by: Normal TAT

Date/Time	Date/Time
5/22/12 @ 1:00 PM via email	5/23/12 9:11 AM
Relinquished by: 	Received by: 
Relinquished by:	Received by:

**Client:** Advanced Technology Laboratories  
**Attn:** Marlon Cartin  
**Project Name:** NA  
**Project No.:** N007919  
**Date Received:** 05/23/12  
**Matrix:** Air  
**Reporting Units:** % v/v

ASTM D1946							
<b>Lab No.:</b>	D052301-01						
<b>Client Sample I.D.:</b>	N007919-001B / VINP-05-22						
<b>Date Sampled:</b>	05/22/12						
<b>Date Analyzed:</b>	05/23/12						
<b>QC Batch No.:</b>	120523GC8A1						
<b>Analyst Initials:</b>	MJ						
<b>Dilution Factor:</b>	1.0						
<b>ANALYTE</b>	<b>Result</b> % v/v	<b>RL</b> % v/v					
Carbon Dioxide	0.31	0.010					
Oxygen/Argon	20	0.50					
Methane	0.010	0.0010					

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

Reviewed/Approved By:   
 Mark Johnson  
 Operations Manager

Date 6-4-12

The cover letter is an integral part of this analytical report



QC Batch No.: 120523GC8A1  
 Matrix: Air  
 Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCS	LCS	LCS	LCS	LCS	LCS
Date Analyzed:	05/23/12	05/23/12	05/23/12	05/23/12	05/23/12	05/23/12	05/23/12	05/23/12
Analyst Initials:	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ
Datafile:	23may002	23 may	23 may	23 may	23 may	23 may	23 may	23 may
Dilution Factor:	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ANALYTE	RL	Results	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Dioxide	0.010	ND	95	70-130%	95	70-130%	0.3	<30
Oxygen/Argon	0.50	ND	97	70-130%	97	70-130%	0.0	<30
Methane	0.0010	ND	84	70-130%	87	70-130%	3.0	<30

PQL = Practical Quantitation Limit  
 ND = Not Detected (Below RL).  
 RL = PQL X Dilution Factor

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

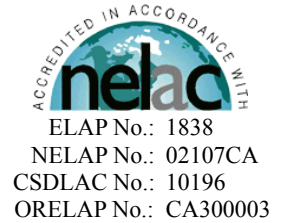
Date: 6-4-12

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



June 01, 2012

Marlon Cartin  
Advanced Technology Laboratory-Las Vegas  
3151 W Post Rd.  
Las Vegas, NV 89118  
Tel: (702) 307-2659  
Fax:(702) 307-2691



Re: ATL Work Order Number : 1201921  
Client Reference : [none]

Enclosed are the results for sample(s) received on May 22, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/01/2012

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N007919-001A / VINP-05-22	1201921-01	Air	5/22/12 13:15	5/22/12 16:06





Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/01/2012

**Client Sample ID N007919-001A / VINP-05-22**

**Lab ID: 1201921-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,1,1-Trichloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,1,2,2-Tetrachloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,1,2-Trichloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,1-Dichloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,1-Dichloroethene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,1-Dichloropropene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2,3-Trichloropropane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2,4-Trichlorobenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>1,2,4-Trimethylbenzene</b>	<b>300</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2-Dibromo-3-chloropropane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2-Dibromoethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2-Dichlorobenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2-Dichloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,2-Dichloropropane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>1,3,5-Trimethylbenzene</b>	<b>130</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,3-Butadiene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,3-Dichlorobenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,4-Dichlorobenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
1,4-Dioxane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>2,2,4-Trimethylpentane</b>	<b>520</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
2-Butanone	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
2-Chloroethyl vinyl ether	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
2-Chlorotoluene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
2-Hexanone	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
2-Propanol	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
4-Chlorotoluene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>4-Ethyl Toluene</b>	<b>91</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
4-Methyl-2-pentanone	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Acetone	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Acetonitrile	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Acrolein	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Acrylonitrile	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>Benzene</b>	<b>590</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	



Advanced Technology Laboratory-Las Vegas

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Las Vegas , NV 89118

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**Client Sample ID N007919-001A / VINP-05-22**

**Lab ID: 1201921-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzyl chloride	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Bromobenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Bromodichloromethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Bromoform	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Bromomethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Carbon disulfide	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Carbon tetrachloride	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Chlorobenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Chloroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Chloroform	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Chloromethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
cis-1,2-Dichloroethene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
cis-1,3-Dichloropropene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>Cyclohexane</b>	<b>260</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Dibromochloromethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Dibromomethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Dichlorodifluoromethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Dichlorotetrafluoroethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>Ethanol</b>	<b>24</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>Ethylbenzene</b>	<b>350</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Freon-113	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Hexachlorobutadiene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>Isopropylbenzene</b>	<b>27</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>m,p-Xylene</b>	<b>1600</b>	25	NA	100	B2E0740	05/24/2012	05/24/12 21:36	
Methylene chloride	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
MTBE	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
n-Butylbenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>n-Propylbenzene</b>	<b>77</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>Naphthalene</b>	<b>15</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<b>o-Xylene</b>	<b>470</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
p-Isopropyltoluene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
sec-Butylbenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Styrene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
tert-Butylbenzene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Tetrachloroethene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	



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**Client Sample ID N007919-001A / VINP-05-22**  
**Lab ID: 1201921-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Toluene</b>	<b>770</b>	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
trans-1,2-Dichloroethene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
trans-1,3-Dichloropropene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Trichloroethene	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Trichlorofluoromethane	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Vinyl acetate	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
Vinyl chloride	ND	12	NA	50	B2E0740	05/24/2012	05/24/12 16:50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>118 %</i>		<i>70 - 130</i>		B2E0740	05/24/2012	<i>05/24/12 16:50</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>118 %</i>		<i>70 - 130</i>		B2E0740	05/24/2012	<i>05/24/12 21:36</i>	

**Gasoline Range Organics in Air by TO-3**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>65000</b>	2000	NA	100	B2E0740	05/24/2012	05/24/12 21:36	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>106 %</i>		<i>70 - 130</i>		B2E0740	05/24/2012	<i>05/24/12 21:36</i>	



Advanced Technology Laboratory-Las Vegas

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Las Vegas , NV 89118

Reported : 06/01/2012

### QUALITY CONTROL SECTION

#### Volatile Organic Compounds in AIR by TO-15 - Quality Control

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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#### Batch B2E0740 - No\_Prep\_Air

##### Blank (B2E0740-BLK1)

Prepared: 5/24/2012 Analyzed: 5/24/2012

1,1,1,2-Tetrachloroethane	ND	0.25				NR			
1,1,1-Trichloroethane	ND	0.25				NR			
1,1,2,2-Tetrachloroethane	ND	0.25				NR			
1,1,2-Trichloroethane	ND	0.25				NR			
1,1-Dichloroethane	ND	0.25				NR			
1,1-Dichloroethene	ND	0.25				NR			
1,1-Dichloropropene	ND	0.25				NR			
1,2,3-Trichloropropane	ND	0.25				NR			
1,2,4-Trichlorobenzene	ND	0.25				NR			
1,2,4-Trimethylbenzene	ND	0.25				NR			
1,2-Dibromo-3-chloropropane	ND	0.25				NR			
1,2-Dibromoethane	ND	0.25				NR			
1,2-Dichlorobenzene	ND	0.25				NR			
1,2-Dichloroethane	ND	0.25				NR			
1,2-Dichloropropane	ND	0.25				NR			
1,3,5-Trimethylbenzene	ND	0.25				NR			
1,3-Butadiene	ND	0.25				NR			
1,3-Dichlorobenzene	ND	0.25				NR			
1,4-Dichlorobenzene	ND	0.25				NR			
1,4-Dioxane	ND	0.25				NR			
2,2,4-Trimethylpentane	ND	0.25				NR			
2-Butanone	ND	0.25				NR			
2-Chloroethyl vinyl ether	ND	0.25				NR			
2-Chlorotoluene	ND	0.25				NR			
2-Hexanone	ND	0.25				NR			
2-Propanol	ND	0.25				NR			
4-Chlorotoluene	ND	0.25				NR			
4-Ethyl Toluene	ND	0.25				NR			
4-Methyl-2-pentanone	ND	0.25				NR			
Acetone	ND	0.25				NR			
Acetonitrile	ND	0.25				NR			
Acrolein	ND	0.25				NR			
Acrylonitrile	ND	0.25				NR			
Benzene	ND	0.25				NR			
Benzyl chloride	ND	0.25				NR			
Bromobenzene	ND	0.25				NR			
Bromodichloromethane	ND	0.25				NR			
Bromoform	ND	0.25				NR			
Bromomethane	ND	0.25				NR			



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Las Vegas , NV 89118

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**Volatile Organic Compounds in AIR by TO-15 - Quality Control (cont'd)**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2E0740 - No\_Prep\_Air (continued)**

**Blank (B2E0740-BLK1) - Continued**

Prepared: 5/24/2012 Analyzed: 5/24/2012

Carbon disulfide	ND	0.25						NR	
Carbon tetrachloride	ND	0.25						NR	
Chlorobenzene	ND	0.25						NR	
Chloroethane	ND	0.25						NR	
Chloroform	ND	0.25						NR	
Chloromethane	ND	0.25						NR	
cis-1,2-Dichloroethene	ND	0.25						NR	
cis-1,3-Dichloropropene	ND	0.25						NR	
Cyclohexane	ND	0.25						NR	
Dibromochloromethane	ND	0.25						NR	
Dibromomethane	ND	0.25						NR	
Dichlorodifluoromethane	ND	0.25						NR	
Dichlorotetrafluoroethane	ND	0.25						NR	
Ethanol	ND	0.25						NR	
Ethylbenzene	ND	0.25						NR	
Freon-113	ND	0.25						NR	
Hexachlorobutadiene	ND	0.25						NR	
Isopropylbenzene	ND	0.25						NR	
m,p-Xylene	ND	0.25						NR	
Methylene chloride	ND	0.25						NR	
MTBE	ND	0.25						NR	
n-Butylbenzene	ND	0.25						NR	
n-Propylbenzene	ND	0.25						NR	
Naphthalene	ND	0.25						NR	
o-Xylene	ND	0.25						NR	
p-Isopropyltoluene	ND	0.25						NR	
sec-Butylbenzene	ND	0.25						NR	
Styrene	ND	0.25						NR	
tert-Butylbenzene	ND	0.25						NR	
Tetrachloroethene	ND	0.25						NR	
Toluene	ND	0.25						NR	
trans-1,2-Dichloroethene	ND	0.25						NR	
trans-1,3-Dichloropropene	ND	0.25						NR	
Trichloroethene	ND	0.25						NR	
Trichlorofluoromethane	ND	0.25						NR	
Vinyl acetate	ND	0.25						NR	
Vinyl chloride	ND	0.25						NR	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.9</i>		<i>2.50</i>			<i>118</i>		<i>70 - 130</i>	

**LCS (B2E0740-BS1)**

Prepared: 5/24/2012 Analyzed: 5/24/2012

1,1-Dichloroethane	2.1	0.25	2.00			104		70 - 130	
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Las Vegas , NV 89118

Reported : 06/01/2012

**Volatile Organic Compounds in AIR by TO-15 - Quality Control (cont'd)**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2E0740 - No\_Prep\_Air (continued)**

**LCS (B2E0740-BS1) - Continued**

Prepared: 5/24/2012 Analyzed: 5/24/2012

Benzene	2.0	0.25	2.00		97.5	70 - 130			
Chloroform	2.2	0.25	2.00		111	70 - 130			
o-Xylene	2.3	0.25	2.00		117	70 - 130			
Tetrachloroethene	2.3	0.25	2.00		114	70 - 130			
Toluene	2.0	0.25	2.00		99.5	70 - 130			
Trichloroethene	2.0	0.25	2.00		102	70 - 130			
Vinyl chloride	2.2	0.25	2.00		109	70 - 130			

<i>Surrogate: 4-Bromofluorobenzene</i>	2.9		2.50		115	70 - 130			
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**LCS Dup (B2E0740-BS1)**

Prepared: 5/24/2012 Analyzed: 5/24/2012

1,1-Dichloroethane	2.1	0.25	2.00		105	70 - 130	1.44	20	
Benzene	1.9	0.25	2.00		95.5	70 - 130	2.07	20	
Chloroform	2.4	0.25	2.00		118	70 - 130	5.69	20	
o-Xylene	2.4	0.25	2.00		118	70 - 130	1.27	20	
Tetrachloroethene	2.3	0.25	2.00		113	70 - 130	0.881	20	
Toluene	2.0	0.25	2.00		99.5	70 - 130	0.00	20	
Trichloroethene	2.0	0.25	2.00		102	70 - 130	0.489	20	
Vinyl chloride	2.4	0.25	2.00		122	70 - 130	11.7	20	

<i>Surrogate: 4-Bromofluorobenzene</i>	3.0		2.50		119	70 - 130			
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Advanced Technology Laboratory-Las Vegas

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Las Vegas , NV 89118

Project Number : -

Report To : Marlon Cartin

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**Gasoline Range Organics in Air by TO-3 - Quality Control**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2E0740 - No\_Prep\_Air**

**Blank (B2E0740-BLK1)**

Prepared: 5/24/2012 Analyzed: 5/24/2012

Gasoline Range Organics	ND	20				NR			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.6		2.50			102		70 - 130	

**LCS (B2E0740-BS2)**

Prepared: 5/24/2012 Analyzed: 5/24/2012

Gasoline Range Organics	160	20	200			82.3		70 - 130	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.7		2.50			109		70 - 130	

**LCS Dup (B2E0740-BSD2)**

Prepared: 5/24/2012 Analyzed: 5/24/2012

Gasoline Range Organics	180	20	200			88.4	7.06	70 - 130	20
<i>Surrogate: 4-Bromofluorobenzene</i>	2.8		2.50			111		70 - 130	



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### Notes and Definitions

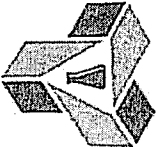
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)



# CHAIN-OF-CUSTODY RECORD

## Advanced Technology Laboratories

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



QC Level: RTNE

**Subcontractor:**

Advanced Technology Laboratories - Signal Hill  
3283 Walnut Ave.  
Signal Hill, California



TEL: (562) 989-4045  
FAX: (562) 989-4045  
Acct #:

Field Sampler: James Dye

22-May-12

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA TO15	EPA TO3
N007919-001A / VINP-05-22 / 20/521 / 01	Air	5/22/2012 1:15:00 PM	BAG	1	1

General Comments: Please email sample receipt acknowledgement to the PM.  
Please use PO#: N007919 Please fax results by: Normal TAT

Relinquished by: 	Date/Time: 5/22/12 09:00
Received by: 	Date/Time: 5/22/12 18:06
Relinquished by:	Received by:
Relinquished by:	Received by:

June 22, 2012

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.: N008028

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on June 20, 2012 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

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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  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N008028

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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.



**CLIENT:** CH2M HILL  
**Project:** SFPP - Norwalk Site  
**Lab Order:** N008028  
**Contract No:**

**Work Order Sample Summary**

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<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date</b>	<b>Date Received</b>	<b>Date Reported</b>
N008028-001A	INF-06-19	Wastewater	6/19/2012 12:00:00 PM	6/20/2012	6/22/2012
N008028-001B	INF-06-19	Wastewater	6/19/2012 12:00:00 PM	6/20/2012	6/22/2012
N008028-001C	INF-06-19	Wastewater	6/19/2012 12:00:00 PM	6/20/2012	6/22/2012



**CLIENT:** CH2M HILL  
**Lab Order:** N008028  
**Project:** SFPP - Norwalk Site  
**Lab ID:** N008028-001

**Client Sample ID:** INF-06-19  
**Collection Date:** 6/19/2012 12:00:00 PM  
**Matrix:** WASTEWATER

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

**EPA 8260B**

RunID: <b>MS5_120620A</b>	QC Batch: <b>P12VW043</b>				PrepDate:	Analyst: <b>QBM</b>	
1,1-Dichloroethane	ND	0.13	0.50	µg/L	1	6/20/2012 10:54 PM	
1,2-Dichloroethane	ND	0.10	0.50	µg/L	1	6/20/2012 10:54 PM	
2-Butanone	42	0.59	10	µg/L	1	6/20/2012 10:54 PM	
Benzene	3200	11	100	µg/L	100	6/20/2012 09:07 PM	
Di-isopropyl ether	33	0.12	1.0	µg/L	1	6/20/2012 10:54 PM	
Ethyl tert-butyl ether	ND	0.13	1.0	µg/L	1	6/20/2012 10:54 PM	
Ethylbenzene	45	0.13	1.0	µg/L	1	6/20/2012 10:54 PM	
m,p-Xylene	140	0.16	1.0	µg/L	1	6/20/2012 10:54 PM	
MTBE	220	0.89	10	µg/L	10	6/20/2012 09:34 PM	
o-Xylene	58	0.10	1.0	µg/L	1	6/20/2012 10:54 PM	
Tert-amyl methyl ether	ND	0.12	1.0	µg/L	1	6/20/2012 10:54 PM	
Tert-Butanol	2800	30	50	µg/L	10	6/20/2012 09:34 PM	
Toluene	230	0.82	20	µg/L	10	6/20/2012 09:34 PM	
Xylenes, Total	200	1.5	2.0	µg/L	1	6/20/2012 10:54 PM	
Surr: 1,2-Dichloroethane-d4	101	0	72-119	%REC	100	6/20/2012 09:07 PM	
Surr: 1,2-Dichloroethane-d4	101	0	72-119	%REC	10	6/20/2012 09:34 PM	
Surr: 1,2-Dichloroethane-d4	109	0	72-119	%REC	1	6/20/2012 10:54 PM	
Surr: 4-Bromofluorobenzene	104	0	76-119	%REC	1	6/20/2012 10:54 PM	
Surr: 4-Bromofluorobenzene	104	0	76-119	%REC	100	6/20/2012 09:07 PM	
Surr: 4-Bromofluorobenzene	103	0	76-119	%REC	10	6/20/2012 09:34 PM	
Surr: Dibromofluoromethane	103	0	85-115	%REC	100	6/20/2012 09:07 PM	
Surr: Dibromofluoromethane	112	0	85-115	%REC	1	6/20/2012 10:54 PM	
Surr: Dibromofluoromethane	110	0	85-115	%REC	10	6/20/2012 09:34 PM	
Surr: Toluene-d8	103	0	81-120	%REC	100	6/20/2012 09:07 PM	
Surr: Toluene-d8	104	0	81-120	%REC	10	6/20/2012 09:34 PM	
Surr: Toluene-d8	105	0	81-120	%REC	1	6/20/2012 10:54 PM	

**TPH-FUEL PRODUCT BY GC/FID**

**EPA 3510C**

**EPA 8015B**

RunID: <b>GC1_120620A</b>	QC Batch: <b>40009</b>				PrepDate: <b>6/20/2012</b>	Analyst: <b>MDM</b>	
TPH-Diesel (C13-C22)	21000	260	1000	ug/L	20	6/20/2012 03:29 PM	
TPH-Fuel Product	36000	260	1000	ug/L	20	6/20/2012 03:29 PM	
TPH-Oil (C23-C36)	2600	9.8	51	ug/L	1	6/20/2012 02:12 PM	
Surr: Octacosane	100	0	26-152	%REC	1	6/20/2012 02:12 PM	
Surr: p-Terphenyl	105	0	57-132	%REC	1	6/20/2012 02:12 PM	

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



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<b>CLIENT:</b> CH2M HILL	<b>Client Sample ID:</b> INF-06-19
<b>Lab Order:</b> N008028	<b>Collection Date:</b> 6/19/2012 12:00:00 PM
<b>Project:</b> SFPP - Norwalk Site	<b>Matrix:</b> WASTEWATER
<b>Lab ID:</b> N008028-001	

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

**EPA 8015B**

RunID: <b>GC4_120620A</b>	QC Batch: <b>E12VW024</b>	PrepDate:	Analyst: <b>QBM</b>
TPH-Gasoline (C4-C12)	5300 8.5 100	µg/L	1 6/20/2012
Surr: Chlorobenzene - d5	101 0 74-138	%REC	1 6/20/2012

<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



**ANALYTICAL QC SUMMARY REPORT**

**CLIENT:** CH2M HILL

**Work Order:** N008028

**Project:** SFPP - Norwalk Site

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

Sample ID: **MB-40009**      SampType: **MBLK**      TestCode: **8015\_W\_FP\_**      Units: **ug/L**      Prep Date: **6/20/2012**      RunNo: **84598**  
 Client ID: **PBW**      Batch ID: **40009**      TestNo: **EPA 8015B**      EPA **3510C**      Analysis Date: **6/20/2012**      SeqNo: **1406169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel (C13-C22)	ND	50									
TPH-Fuel Product	ND	50									
TPH-Oil (C23-C36)	26.683	50									
Surr: Octacosane	84.345		80.00		105	26	152				J
Surr: p-Terphenyl	84.603		80.00		106	57	132				

**Qualifiers:**

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



# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** CH2M HILL

**Work Order:** N008028

**Project:** SFPP - Norwalk Site

**TestCode:** 8015\_W\_GSFPP

Sample ID: <b>E120620LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>
Client ID: <b>LCSW</b>	Batch ID: <b>E12VW024</b>	TestNo: <b>EPA 8015B</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>	SeqNo: <b>1406359</b>
Analyte	Result	PQL	SPK value
TPH-Gasoline (C4-C12)	941.000	100	1000
Surr: Chlorobenzene - d5	54.837	50.00	50.00
	%REC	LowLimit	HighLimit
	94.1	67	136
	110	74	138
	%RPD	RPD Ref Val	RPDLimit

Sample ID: <b>E120620MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>
Client ID: <b>PBW</b>	Batch ID: <b>E12VW024</b>	TestNo: <b>EPA 8015B</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>	SeqNo: <b>1406360</b>
Analyte	Result	PQL	SPK value
TPH-Gasoline (C4-C12)	ND	100	50.00
Surr: Chlorobenzene - d5	51.738	50.00	50.00
	%REC	LowLimit	HighLimit
	103	74	138
	%RPD	RPD Ref Val	RPDLimit

Sample ID: <b>N008028-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E12VW024</b>	TestNo: <b>EPA 8015B</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>	SeqNo: <b>1406362</b>
Analyte	Result	PQL	SPK value
TPH-Gasoline (C4-C12)	7821.000	100	2500
Surr: Chlorobenzene - d5	48.534	50.00	50.00
	%REC	LowLimit	HighLimit
	98.9	67	136
	97.1	74	138
	%RPD	RPD Ref Val	RPDLimit

Sample ID: <b>N008028-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_W_GSF</b>	Units: <b>µg/L</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E12VW024</b>	TestNo: <b>EPA 8015B</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>	SeqNo: <b>1406363</b>
Analyte	Result	PQL	SPK value
TPH-Gasoline (C4-C12)	8163.000	100	2500
Surr: Chlorobenzene - d5	50.042	50.00	50.00
	%REC	LowLimit	HighLimit
	113	67	136
	100	74	138
	%RPD	RPD Ref Val	RPDLimit
	4.28	7821	30
	0	0	0

**Qualifiers:**

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



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# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** CH2M HILL

**Work Order:** N008028

**Project:** SFPP - Norwalk Site

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120620LCS</b>	SampType: <b>LCS</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>
Client ID: <b>LCSW</b>	Batch ID: <b>P12VW043</b>	TestNo: <b>EPA 8260B</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>	RunNo: <b>84603</b>
			SeqNo: <b>1406266</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.590	0.50	20.00	0	98.0	69	133				
1,2-Dichloroethane	19.830	0.50	20.00	0	99.2	69	132				
2-Butanone	271.660	10	200.0	0	136	49	136				
Benzene	19.640	1.0	20.00	0	98.2	81	122				
Di-isopropyl ether	20.420	1.0	20.00	0	102	70	130				
Ethyl tert-butyl ether	21.160	1.0	20.00	0	106	70	130				
Ethylbenzene	19.670	1.0	20.00	0	98.4	73	127				
m,p-Xylene	39.480	1.0	40.00	0	98.7	76	128				
MTBE	20.160	1.0	20.00	0	101	65	123				
o-Xylene	19.270	1.0	20.00	0	96.4	80	121				
Tert-amyl methyl ether	20.830	1.0	20.00	0	104	70	130				
Tert-Butanol	119.000	5.0	100.0	0	119	70	130				
Toluene	19.290	2.0	20.00	0	96.5	77	122				
Xylenes, Total	58.750	2.0	60.00	0	97.9	75	125				
Surr: 1,2-Dichloroethane-d4	24.910		25.00		99.6	72	119				
Surr: 4-Bromofluorobenzene	26.190		25.00		105	76	119				
Surr: Dibromofluoromethane	24.270		25.00		97.1	85	115				
Surr: Toluene-d8	25.440		25.00		102	81	120				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	19.640	0.50	20.00	0	98.2	69	133	19.59	0.255	20	
1,2-Dichloroethane	19.990	0.50	20.00	0	100	69	132	19.83	0.804	20	
2-Butanone	249.570	10	200.0	0	125	49	136	271.7	8.48	20	
Benzene	19.540	1.0	20.00	0	97.7	81	122	19.64	0.510	20	
Di-isopropyl ether	20.680	1.0	20.00	0	103	70	130	20.42	1.27	20	
Ethyl tert-butyl ether	22.120	1.0	20.00	0	111	70	130	21.16	4.44	20	
Ethylbenzene	19.890	1.0	20.00	0	99.4	73	127	19.67	1.11	20	

**Qualifiers:**

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



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# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** CH2M HILL

**Work Order:** N008028

**Project:** SFPP - Norwalk Site

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120620LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_WP_SF</b> Units: <b>µg/L</b>
Client ID: <b>LCSS02</b>	Batch ID: <b>P12VW043</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>
		RunNo: <b>84603</b>
		SeqNo: <b>1406267</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	40.290	1.0	40.00	0	101	76	128	39.48	2.03	20	20
MTBE	20.900	1.0	20.00	0	104	65	123	20.16	3.60	20	20
o-Xylene	19.240	1.0	20.00	0	96.2	80	121	19.27	0.156	20	20
Tert-amyl methyl ether	21.380	1.0	20.00	0	107	70	130	20.83	2.61	20	20
Tert-Butanol	124.450	5.0	100.0	0	124	70	130	119.0	4.48	20	20
Toluene	19.460	2.0	20.00	0	97.3	77	122	19.29	0.877	20	20
Xylenes, Total	59.530	2.0	60.00	0	99.2	75	125	58.75	1.32	20	20
Surr: 1,2-Dichloroethane-d4	25.030		25.00		100	72	119		0		
Surr: 4-Bromofluorobenzene	26.660		25.00		107	76	119		0		
Surr: Dibromofluoromethane	24.300		25.00		97.2	85	115		0		
Surr: Toluene-d8	25.760		25.00		103	81	120		0		

Sample ID: <b>P120620MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b> Units: <b>µg/L</b>
Client ID: <b>PBW</b>	Batch ID: <b>P12VW043</b>	Prep Date:
		Analysis Date: <b>6/20/2012</b>
		RunNo: <b>84603</b>
		SeqNo: <b>1406268</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
2-Butanone	ND	10									
Benzene	ND	1.0									
Di-isopropyl ether	ND	1.0									
Ethyl tert-butyl ether	ND	1.0									
Ethylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
MTBE	ND	1.0									
o-Xylene	ND	1.0									
Tert-amyl methyl ether	ND	1.0									
Tert-Butanol	ND	5.0									
Toluene	ND	2.0									
Xylenes, Total	ND	2.0									

**Qualifiers:**

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

**CLIENT:** CH2M HILL

**Work Order:** N008028

**Project:** SFPP - Norwalk Site

**TestCode:** 8260\_WP\_SFPP

Sample ID: <b>P120620MB2</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_WP_SF</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>84603</b>
Client ID: <b>PBW</b>	Batch ID: <b>P12VW043</b>	TestNo: <b>EPA 8260B</b>		Analysis Date: <b>6/20/2012</b>	SeqNo: <b>1406268</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	25.580		25.00		102	72	119				
Surr: 4-Bromofluorobenzene	25.580		25.00		102	76	119				
Surr: Dibromofluoromethane	24.770		25.00		99.1	85	115				
Surr: Toluene-d8	24.980		25.00		99.9	81	120				

**Qualifiers:**

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



# CHAIN OF CUSTODY RECORD

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)

DATE: 6-19-12  
 PAGE: 1 OF 1

LABORATORY CLIENT: <b>Kinder Morgan Energy Partners, Attn: Steve Defibaugh</b> ADDRESS: <b>1100 Town &amp; Country Road</b> CITY: <b>Orange, CA 92868</b> TEL: <b>714-560-4802</b> FAX: <b>714-560-4601</b> E-MAIL: <b>James.DVE@kindermorgan.com</b>		CLIENT PROJECT NAME / NUMBER: <b>SPPP - Norwalk Site</b> PROJECT CONTACT: <b>James Dye</b> SAMPLER(S): (SIGNATURE)		P.O. NO.: QUOTE NO.: LAB USE ONLY <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <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 <input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL / / SPECIAL INSTRUCTIONS <b>Report to D. Jablonski/CH2M HILL, cc: KMEP</b> <b>Direct Bill KMEP/SPPP - Steve Defibaugh-ref. AFE# 81195</b> <b>"J" flags required/Use lowest possible detection limit - all methods.</b>		REQUESTED ANALYSIS						
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	DATE	TIME	MAT- RIX	NO. OF CONT.	X TPH - g (8015M) X TPH - lb (8015M) X VOCs + Oxygenates (8260B)	Comments 1008028-1
	INF-06-19	Influent	6-19-12	1200	WW	8		
Relinquished by: (Signature)							Date: <u>6/19/12</u> Time: <u>1400</u>	
Relinquished by: (Signature)							Date: <u>6/19/12</u> Time: <u>1430</u>	
Relinquished by: (Signature)							Date: <u>6/19/12</u> Time: <u>0800</u>	

4.0 °C 16h / 1st #2

Revised: 07/25/2011

# 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: 6/20/2012 Workorder: N008028  
 Rep sample Temp (Deg C): 4.0 IR Gun ID: 2  
 Temp Blank:  Yes  No  
 Carrier name: Ontrac  
 Last 4 digits of Tracking No.: 1191 Packing Material Used: Bubble Wrap  
 Cooling process:  Ice  Ice Pack  Dry Ice  Other  None

## Sample Receipt Checklist

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

Comments:

Checklist Completed B MBC 6/20/12

Reviewed By: 

# Advanced Technology Laboratories, Inc.

## WORK ORDER Summary

20-Jun-12

**WorkOrder:** N008028

**Client ID:** CH2HI01

**Project:** SFPP - Norwalk Site

**QC Level:** RTNE

**Date Received:** 6/20/2012

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

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub Storage
N008028-001A	INF-06-19	6/19/2012 12:00:00 PM	6/27/2012	Wastewater	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> WW
N008028-001B			6/27/2012		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> WW
			6/27/2012		EPA 8015B	TPH-Fuel Product BY GC/FID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> WW
N008028-001C			6/27/2012		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> WW
N008028-002A	FOLDER		6/27/2012		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> LAB

WWW.CALCOVER.COM

800-334-5000  
Call For A Pickup!



On-Time Delivery For Less

FROM (Company)

ENVIRO TREATMENT & TECHNOLOGY\*

Street Address

3275 WALNUT AVE

Suite

City

SIGNAL HILL

State

CA

Zip Code (Required)

90755

Phone Number

562-589-4045

**PLEASE PRINT IN BLOCK LETTERS with Blue / Black Ink**

TO (Company) WE CANNOT DELIVER TO A P.O. BOX

Street Address

ATLAS VEGAS

Suite #

3151 W POST ROAD

City

LAS VEGAS

State

NV

Zip Code (Required)

89118

Phone Number

702-307-2691

Recipient's Name

MARLON CARTIN

Shipper's Ref. #

CH2M HILL

Account Number

B10246441191

Date

04/09/02



B10246441191

Service Options	Billing Information	Weight
<input checked="" type="checkbox"/> SUNRISE - BY 10:30 AM* <input type="checkbox"/> SUNRISE GOLD - BY 8:00 AM* <input type="checkbox"/> HEAVYWEIGHT** <input type="checkbox"/> Saturday Delivery - Extra Charge (see Service Guide for details) <input type="checkbox"/> HOLD FOR PICKUP <input checked="" type="checkbox"/> This shipment requires a delivery signature <input type="checkbox"/> Declared Value \$ (maximum \$5,000)	<input type="checkbox"/> Bill Shipper's Account <input checked="" type="checkbox"/> Bill Other Acct #	8 oz. Letter or Weight lbs. (Subject to verification) L in. X W in. X H in. -225 =
<input type="checkbox"/> COD Amount \$ Limit \$10,000 (not valid for pickup) <input type="checkbox"/> Secured Payment (Money Order or Certified Check) <input type="checkbox"/> Unsecured Payment (Company Check or Personal Check)	Dim weight charge if greater than actual weight L in. X W in. X H in.	

Driver #

Pick-up Time

Shipper's Signature

Driver's Initials

Shipper's Name

FF

D D W A

June 30, 2012

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.: N008029

RE: SFPP - Norwalk Site

Attention: Daniel Jablonski

Enclosed are the results for sample(s) received on June 20, 2012 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.

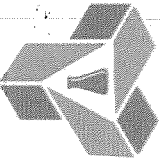


**Advanced Technology  
Laboratories, Inc.**

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







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

# CHAIN-OF-CUSTODY RECORD

**QC Level: RTNE**

Subcontractor:  
 ATL-Industry

TEL:  
 FAX:  
 Acct #:

Field Sampler: Signed

City of Industry, CA

19-Jun-12

Sample ID	Matrix	Date Collected	Bottle Type	ASTM D1946	Requested Tests
N008029-001B / VINP-06-19	Air	6/19/2012 11:45:00 AM	BAG	1	

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

Please use PO#: N008029

Please fax results by: Normal TAT

	Date/Time
Relinquished by: _____	_____
Relinquished by: _____	_____
Received by: <i>SA/REG/600</i>	_____
Received by: _____	_____



# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

**Subcontractor:**

Advanced Technology Laboratories - Signal Hill  
3283 Walnut Ave.  
Signal Hill, California

TEL: (562) 989-4045  
FAX: (562) 989-4045  
Acct #:

Field Sampler: Signed


19-Jun-12

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA TO15	EPA TO3
N008029-001A / VINP-06-19	Air	6/19/2012 11:45:00 AM	BAG	1	1

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

Please use PO#: N008029

Please fax results by: normal TAT

	Date/Time
Relinquished by: 	6/19/12 11:45:00
Received by:	
Relinquished by:	
Received by:	

# Advanced Technology Laboratories, Inc.

## WORK ORDER Summary

20-Jun-12

**WorkOrder:** N008029

**Client ID:** CH2HI01

**Project:** SFPP - Norwalk Site

**QC Level:** RTNE

**Date Received:** 6/20/2012

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

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N008029-001A	VINF-06-19	6/19/2012 11:45:00 AM	6/27/2012	Air	EPA TO15	SIM Mode	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N008029-001B			6/27/2012		EPA TO3	VOCs by GCMS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N008029-002A	FOLDER		6/27/2012		ASTM D1946	VOCs by GCMS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
					Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SUB

June 28, 2012

Marlon Cartin  
Advanced Technology Laboratory-Las Vegas  
3151 W Post Rd.  
Las Vegas, NV 89118  
Tel: (702) 307-2659  
Fax:(702) 307-2691

ACCREDITED IN ACCORDANCE WITH  
**nelac**  
ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No.: T104704502

Re: ATL Work Order Number : 1202247  
Client Reference : [none]

Enclosed are the results for sample(s) received on June 19, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N008029-001A / VINP-06-19	1202247-01	Air	6/19/12 11:45	6/19/12 16:00
N008029-001A / VINP-06-19	1202247-01	Air	6/19/12 11:45	6/19/12 16:00



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

**Client Sample ID N008029-001A / VINP-06-19**

**Lab ID: 1202247-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,1,1-Trichloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,1,2,2-Tetrachloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,1,2-Trichloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,1-Dichloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,1-Dichloroethene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,1-Dichloropropene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2,3-Trichloropropane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2,4-Trichlorobenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>1,2,4-Trimethylbenzene</b>	<b>20</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2-Dibromo-3-chloropropane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2-Dibromoethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2-Dichlorobenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2-Dichloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,2-Dichloropropane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>1,3,5-Trimethylbenzene</b>	<b>18</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,3-Butadiene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,3-Dichlorobenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,4-Dichlorobenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
1,4-Dioxane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>2,2,4-Trimethylpentane</b>	<b>420</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
2-Butanone	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
2-Chloroethyl vinyl ether	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
2-Chlorotoluene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
2-Hexanone	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
2-Propanol	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
4-Chlorotoluene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
4-Ethyl Toluene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
4-Methyl-2-pentanone	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Acetone	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Acetonitrile	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Acrolein	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Acrylonitrile	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>Benzene</b>	<b>130</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Benzyl chloride	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Bromobenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Bromodichloromethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

**Client Sample ID N008029-001A / VINP-06-19**

**Lab ID: 1202247-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromoform	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Bromomethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Carbon disulfide	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Carbon tetrachloride	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Chlorobenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Chloroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Chloroform	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Chloromethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
cis-1,2-Dichloroethene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
cis-1,3-Dichloropropene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>Cyclohexane</b>	<b>100</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Dibromochloromethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Dibromomethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Dichlorodifluoromethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Dichlorotetrafluoroethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Ethanol	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>Ethylbenzene</b>	<b>26</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Freon-113	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Hexachlorobutadiene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Isopropylbenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>m,p-Xylene</b>	<b>120</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Methylene chloride	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
MTBE	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
n-Butylbenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
n-Propylbenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Naphthalene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>o-Xylene</b>	<b>42</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
p-Isopropyltoluene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
sec-Butylbenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Styrene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
tert-Butylbenzene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Tetrachloroethene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<b>Toluene</b>	<b>150</b>	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
trans-1,2-Dichloroethene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
trans-1,3-Dichloropropene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Trichloroethene	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Trichlorofluoromethane	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	





Advanced Technology Laboratory-Las Vegas  
3151 W Post Rd.  
Las Vegas , NV 89118

Project Number : -  
Report To : Marlon Cartin  
Reported : 06/28/2012

**Client Sample ID N008029-001A / VINP-06-19**

**Lab ID: 1202247-01**

**Volatile Organic Compounds in AIR by TO-15**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
Vinyl chloride	ND	12	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>117 %</i>		<i>70 - 130</i>		B2F0543	06/22/2012	<i>06/22/12 11:10</i>	

**Gasoline Range Organics in Air by TO-3**

**Analyst: BB**

Analyte	Result (ppbv)	PQL (ppbv)	MDL (ppbv)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>17000</b>	1000	NA	50	B2F0543	06/22/2012	06/22/12 11:10	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>118 %</i>		<i>70 - 130</i>		B2F0543	06/22/2012	<i>06/22/12 11:10</i>	



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

### QUALITY CONTROL SECTION

#### Volatile Organic Compounds in AIR by TO-15 - Quality Control

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
---------	------------------	---------------	----------------	------------------	-------	-----------------	-----	--------------	-------

#### Batch B2F0543 - No\_Prep\_Air

##### Blank (B2F0543-BLK1)

Prepared: 6/22/2012 Analyzed: 6/22/2012

1,1,1,2-Tetrachloroethane	ND	0.25			NR
1,1,1-Trichloroethane	ND	0.25			NR
1,1,2,2-Tetrachloroethane	ND	0.25			NR
1,1,2-Trichloroethane	ND	0.25			NR
1,1-Dichloroethane	ND	0.25			NR
1,1-Dichloroethene	ND	0.25			NR
1,1-Dichloropropene	ND	0.25			NR
1,2,3-Trichloropropane	ND	0.25			NR
1,2,4-Trichlorobenzene	ND	0.25			NR
1,2,4-Trimethylbenzene	ND	0.25			NR
1,2-Dibromo-3-chloropropane	ND	0.25			NR
1,2-Dibromoethane	ND	0.25			NR
1,2-Dichlorobenzene	ND	0.25			NR
1,2-Dichloroethane	ND	0.25			NR
1,2-Dichloropropane	ND	0.25			NR
1,3,5-Trimethylbenzene	ND	0.25			NR
1,3-Butadiene	ND	0.25			NR
1,3-Dichlorobenzene	ND	0.25			NR
1,4-Dichlorobenzene	ND	0.25			NR
1,4-Dioxane	ND	0.25			NR
2,2,4-Trimethylpentane	ND	0.25			NR
2-Butanone	ND	0.25			NR
2-Chloroethyl vinyl ether	ND	0.25			NR
2-Chlorotoluene	ND	0.25			NR
2-Hexanone	ND	0.25			NR
2-Propanol	ND	0.25			NR
4-Chlorotoluene	ND	0.25			NR
4-Ethyl Toluene	ND	0.25			NR
4-Methyl-2-pentanone	ND	0.25			NR
Acetone	ND	0.25			NR
Acetonitrile	ND	0.25			NR
Acrolein	ND	0.25			NR
Acrylonitrile	ND	0.25			NR
Benzene	ND	0.25			NR
Benzyl chloride	ND	0.25			NR
Bromobenzene	ND	0.25			NR
Bromodichloromethane	ND	0.25			NR
Bromoform	ND	0.25			NR
Bromomethane	ND	0.25			NR



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

**Volatile Organic Compounds in AIR by TO-15 - Quality Control (cont'd)**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	Limits	RPD	RPD Limit	Notes
---------	------------------	---------------	----------------	------------------	----------------	--------	-----	--------------	-------

**Batch B2F0543 - No\_Prep\_Air (continued)**

**Blank (B2F0543-BLK1) - Continued**

Prepared: 6/22/2012 Analyzed: 6/22/2012

Carbon disulfide	ND	0.25			NR				
Carbon tetrachloride	ND	0.25			NR				
Chlorobenzene	ND	0.25			NR				
Chloroethane	ND	0.25			NR				
Chloroform	ND	0.25			NR				
Chloromethane	ND	0.25			NR				
cis-1,2-Dichloroethene	ND	0.25			NR				
cis-1,3-Dichloropropene	ND	0.25			NR				
Cyclohexane	ND	0.25			NR				
Dibromochloromethane	ND	0.25			NR				
Dibromomethane	ND	0.25			NR				
Dichlorodifluoromethane	ND	0.25			NR				
Dichlorotetrafluoroethane	ND	0.25			NR				
Ethanol	ND	0.25			NR				
Ethylbenzene	ND	0.25			NR				
Freon-113	ND	0.25			NR				
Hexachlorobutadiene	ND	0.25			NR				
Isopropylbenzene	ND	0.25			NR				
m,p-Xylene	ND	0.25			NR				
Methylene chloride	ND	0.25			NR				
MTBE	ND	0.25			NR				
n-Butylbenzene	ND	0.25			NR				
n-Propylbenzene	ND	0.25			NR				
Naphthalene	ND	0.25			NR				
o-Xylene	ND	0.25			NR				
p-Isopropyltoluene	ND	0.25			NR				
sec-Butylbenzene	ND	0.25			NR				
Styrene	ND	0.25			NR				
tert-Butylbenzene	ND	0.25			NR				
Tetrachloroethene	ND	0.25			NR				
Toluene	ND	0.25			NR				
trans-1,2-Dichloroethene	ND	0.25			NR				
trans-1,3-Dichloropropene	ND	0.25			NR				
Trichloroethene	ND	0.25			NR				
Trichlorofluoromethane	ND	0.25			NR				
Vinyl acetate	ND	0.25			NR				
Vinyl chloride	ND	0.25			NR				

Surrogate: 4-Bromofluorobenzene 2.8 2.50 112 70 - 130

**LCS (B2F0543-BS1)**

Prepared: 6/22/2012 Analyzed: 6/22/2012

1,1-Dichloroethane 1.6 0.25 2.00 81.0 70 - 130



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

**Volatile Organic Compounds in AIR by TO-15 - Quality Control (cont'd)**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2F0543 - No\_Prep\_Air (continued)**

**LCS (B2F0543-BS1) - Continued**

Prepared: 6/22/2012 Analyzed: 6/22/2012

Benzene	2.1	0.25	2.00		104	70 - 130			
Chloroform	1.5	0.25	2.00		76.5	70 - 130			
o-Xylene	1.9	0.25	2.00		95.5	70 - 130			
Tetrachloroethene	1.8	0.25	2.00		88.5	70 - 130			
Toluene	2.0	0.25	2.00		98.5	70 - 130			
Trichloroethene	1.9	0.25	2.00		94.0	70 - 130			
Vinyl chloride	1.4	0.25	2.00		71.5	70 - 130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.8</i>		<i>2.50</i>		<i>112</i>	<i>70 - 130</i>			

**LCS Dup (B2F0543-BSD1)**

Prepared: 6/22/2012 Analyzed: 6/22/2012

1,1-Dichloroethane	1.7	0.25	2.00		85.5	70 - 130	5.41	20	
Benzene	1.9	0.25	2.00		95.0	70 - 130	8.56	20	
Chloroform	1.7	0.25	2.00		83.5	70 - 130	8.75	20	
o-Xylene	1.9	0.25	2.00		96.5	70 - 130	1.04	20	
Tetrachloroethene	1.9	0.25	2.00		95.0	70 - 130	7.08	20	
Toluene	1.9	0.25	2.00		93.0	70 - 130	5.74	20	
Trichloroethene	1.9	0.25	2.00		97.0	70 - 130	3.14	20	
Vinyl chloride	1.5	0.25	2.00		74.0	70 - 130	3.44	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>2.9</i>		<i>2.50</i>		<i>115</i>	<i>70 - 130</i>			



Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

**Gasoline Range Organics in Air by TO-3 - Quality Control**

Analyte	Result (ppbv)	PQL (ppbv)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2F0543 - No\_Prep\_Air**

**Blank (B2F0543-BLK1)**

Prepared: 6/22/2012 Analyzed: 6/22/2012

Gasoline Range Organics	ND	20			NR				
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<i>Surrogate: 4-Bromofluorobenzene</i>	2.4		2.50		95.6	70 - 130			
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**LCS (B2F0543-BS1)**

Prepared: 6/22/2012 Analyzed: 6/22/2012

Gasoline Range Organics	160	20			NR	70 - 130			
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<i>Surrogate: 4-Bromofluorobenzene</i>	2.5		2.50		102	70 - 130			
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**LCS Dup (B2F0543-BSD1)**

Prepared: 6/22/2012 Analyzed: 6/22/2012

Gasoline Range Organics	170	20			NR	70 - 130	9.41	20	
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<i>Surrogate: 4-Bromofluorobenzene</i>	2.7		2.50		108	70 - 130			
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Advanced Technology Laboratory-Las Vegas

Project Number : -

3151 W Post Rd.

Report To : Marlon Cartin

Las Vegas , NV 89118

Reported : 06/28/2012

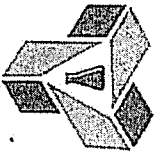
### Notes and Definitions

ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

# CHAIN-OF-CUSTODY RECORD

## Advanced Technology Laboratories

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



QC Level: RTNE

**Subcontractor:**

Advanced Technology Laboratories - Signal Hill  
 3283 Walnut Ave.  
 Signal Hill, California  
 TEL: (562) 989-4045  
 FAX: (562) 989-4045  
 Acct #:

Field Sampler: Signed

19-Jun-12

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				EPA TO15	EPA TO3
N008029-001A / VINP-06-19 1202247-01	Air	6/19/2012 11:45:00 AM	BAG	1	1

General Comments: Please email sample receipt acknowledgement to the PM.  
 Please use PO#: N008029 Please fax results by: normal TAT

Date/Time	Date/Time
6/19/12 1600	6/19/12 1600
Received by: <i>[Signature]</i>	Received by: <i>[Signature]</i>
Received by:	Received by:

June 29, 2012

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



FL Cert E8784/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: N008029  
Lab Number: D062001-01

Enclosed are results for sample(s) received 6/20/12 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,

Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

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



Doc 2001-01

# Advanced Technology Laboratories

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

# CHAIN-OF-CUSTODY RECORD

QC Level: RTNE

Subcontractor:

ATL-Industry

TEL:

FAX:

Acct #:

Field Sampler: Signed

City of Industry, CA

19-Jun-12

Sample ID	Matrix	Date Collected	Bottle Type	ASTM D1946	Requested Tests
N008029-001B / VINP-06-19	Air	6/19/2012 11:45:00 AM	BAG	1	


01

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

Please use PO#: N008029

Please fax results by: Normal TAT

D1946-C44-Oz/Argon, CO2 only

Relinquished by:	Date/Time	Received by:	Date/Time
	6/19/2012 6:00	<i>Paul DeLoe</i> (via email)	6/20/12
Relinquished by:		Received by:	

Client: **Advanced Technology Laboratories**  
 Attn: **Marlon Cartin**  
 Project Name: **NA**  
 Project No.: **N008029**  
 Date Received: **06/20/12**  
 Matrix: **Air**  
 Reporting Units: **% v/v**

**ASTM D1946**

<b>Lab No.:</b>	<b>D062001-01</b>						
<b>Client Sample I.D.:</b>	<b>N008029-001B / VINP-06-19</b>						
<b>Date Sampled:</b>	<b>06/19/12</b>						
<b>Date Analyzed:</b>	<b>06/21/12</b>						
<b>QC Batch No.:</b>	<b>120620GC8A1</b>						
<b>Analyst Initials:</b>	<b>MJ</b>						
<b>Dilution Factor:</b>	<b>1.0</b>						
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>					
Carbon Dioxide	0.41	0.010					
Oxygen/Argon	21	0.50					
Methane	0.0028	0.0010					

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

Reviewed/Approved By:   
**Mark Johnson**  
**Operations Manager**

Date 6-29-12

The cover letter is an integral part of this analytical report

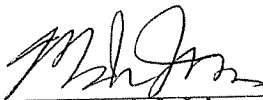


QC Batch No.: 120620GC8A1  
 Matrix: Air  
 Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCSD					
Date Analyzed:	06/20/12	06/20/12	06/20/12					
Analyst Initials:	MJ	MJ	MJ					
Datafile:	20jun016	20jun012	20jun013					
Dilution Factor:	1.0	1.0	1.0					
ANALYTE	RL	Results	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Oxygen/Argon	0.50	ND	97	70-130%	96	70-130%	1.2	<30
Methane	0.0010	ND	111	70-130%	112	70-130%	1.0	<30
Carbon Dioxide	0.010	ND	99	70-130%	98	70-130%	0.9	<30

PQL = Practical Quantitation Limit  
 ND = Not Detected (Below RL).  
 RL = PQL X Dilution Factor

Reviewed/Approved By:  Date: 6-29-12  
 Mark J. Johnson  
 Operations Manager

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

