

# PORT OF OAKLAND

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1:40 pm, Jul 19, 2007

Alameda County  
Environmental Health

July 16, 2007

Mr. Barney Chan  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, CA 94502

**RE: RO#0000010 and RO#0000187\_First Semi-Annual 2007 Groundwater Monitoring and Remediation System Operation and Maintenance Report - Port of Oakland, 651 and 555 Maritime Street, Oakland, CA\_2007-07-16**

Dear Mr. Chan:

Please find enclosed the report entitled *First Semi-Annual 2007 Groundwater Monitoring and Remediation System Operation and Maintenance Report - Port of Oakland, 651 and 555 Maritime Street, Oakland, CA* ("Report") dated July 2007, prepared by Baseline Environmental Consulting ("Baseline") on behalf of the Port of Oakland ("Port"). This Report is being submitted in accordance with Alameda County Health Care Services Agency ("County") requirements, as specified in County letters dated March 23, 2006<sup>1</sup> and January 19, 2007.<sup>2</sup>

The Port has retained Baseline to perform groundwater monitoring and maintenance of the remediation system. Results of the first 2007 semi-annual sampling event are contained in the enclosed report. The next monitoring event will be performed during the November/December 2007 time frame. If you have any questions or comments regarding the results, please contact Jeff Rubin at (510) 627-1134.

**I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report prepared by Baseline are true and correct to the best of my knowledge. Please note that the report is stamped by both a Professional Geologist and Registered Professional Engineer in the State of California.**

Sincerely,

*RR*  
Roberta L. Reinstein  
Manager  
Environmental Programs and Safety

Jeffrey L. Rubin, CPSS, REA  
Port Associate Environmental Scientist  
Environmental Programs and Safety

Enclosure: noted

Cc (w encl.): Michele Heffes

Cc (w/o encl.): Jeff Jones (Port of Oakland)  
James McCarty (Baseline Environmental)  
Yane Nordhav (Baseline Environmental)

<sup>1</sup> Letter from Mr. Barney Chan (County) to Mr. Jeff Rubin (Port), regarding *Fuel Leak Cases RO0000010 and RO0000185, 2277 and 2225 7<sup>th</sup> St., Oakland, CA 94607*, dated March 23, 2006.

<sup>2</sup> Letter from Mr. Barney Chan (County) to Mr. Jeff Rubin (Port), regarding *Fuel Leak Cases RO0000010 and RO0000185, 2277 and 2225 7<sup>th</sup> St., Oakland, CA 94607*, dated January 19, 2007.

FIRST SEMI-ANNUAL 2007  
GROUNDWATER MONITORING  
and  
REMEDIATION SYSTEM  
OPERATION AND  
MAINTENANCE REPORT

PORT OF OAKLAND  
651 and 555 Maritime Street  
Oakland, California

JULY 2007

FOR:  
Port of Oakland  
Oakland, California

Y5395-04.00756

# BASELINE

## ENVIRONMENTAL CONSULTING

16 July 2007  
Y5395-04.00756

Mr. Jeff Rubin  
Associate Environmental Scientist  
Port of Oakland  
530 Water Street  
Oakland, California 94607

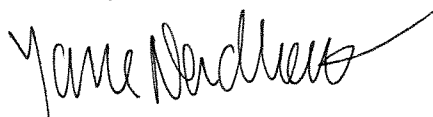
**Subject: First Semi-Annual 2007 Groundwater Monitoring and Remediation System Operation and Maintenance Report, Port of Oakland 651 and 555 Maritime Street, Oakland, California**

Dear Mr. Rubin:

Enclosed please find the First Semi-Annual 2007 Groundwater Monitoring and Remediation System Operation and Maintenance Report for 651 and 555 Maritime Street (formerly 2277 and 2225 Seventh Street), Alameda County Local Oversight Program case numbers RO0000010 and RO0000187, respectively. This report has been prepared for submittal to Alameda County Health Care Services, Department of Environmental Health ("ACHCS") on behalf of the Port of Oakland as required in ACHCS' letter to the Port dated 23 March 2006. The ACHCS requires semi-annual groundwater monitoring and reporting at these two parcels.


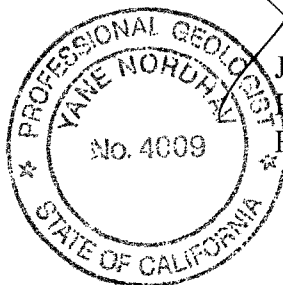
BASELINE Environmental Consulting has continued to operate the product recovery system at the sites during this reporting period. The remediation system recovered approximately 53 gallons of free-phase product during the past six months and approximately 166 gallons since beginning operation 14 December 2004.

Sincerely,



Yare Nordhav  
Principal  
Prof. Geologist No. 4009

YN:JM:km  
Enclosure



James McCarty  
Project Engineer  
Prof. Engineer No. C62618



Y5395-04.00756.final.doc-7/16/07

FIRST SEMI-ANNUAL 2007  
GROUNDWATER MONITORING  
and  
REMEDICATION SYSTEM OPERATION AND  
MAINTENANCE REPORT

PORT OF OAKLAND  
651 and 555 Maritime Street  
Oakland, California

JULY 2007

For:  
Port of Oakland  
Oakland, California

Y5395-04.00756

BASELINE Environmental Consulting  
5900 Hollis Street, Suite D, Emeryville, California 94608  
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# **FIRST SEMI-ANNUAL 2007 GROUNDWATER MONITORING and REMEDATION SYSTEM OPERATION AND MAINTENANCE REPORT**

**PORT OF OAKLAND 651 and 555 Maritime Street, Oakland, California**

## **INTRODUCTION**

This report summarizes the results of the first semi-annual groundwater monitoring event for 2007 performed at the Port of Oakland's ("Port") two contiguous properties, 651 and 555 Maritime Street (formerly 2277 and 2225 Seventh Street) in Oakland, California ("Site")<sup>1</sup> (Figure 1) by BASELINE Environmental Consulting ("BASELINE"). The Site has been impacted by petroleum releases from past operations of underground storage tanks ("USTs") and the Alameda County Health Care Services ("ACHCS") is providing regulatory oversight under the Local Oversight Program ("LOP"). The ACHCS LOP case number for 2277 Seventh Street is RO0000010 and for 2225 Seventh Street RO0000187. This report also summarizes the remediation system operation and maintenance ("O&M") activities and progress between January and June of 2007.

Together, the two properties of the Site encompass approximately 13 acres. The Port developed the eight acres of the eastern portion of the Site in 2004 into the Harbor Facilities Complex with an address of 651 Maritime Street. The remaining five acres of the Site were redeveloped by the Port in 2006 into the Maritime Support Center with an address of 555 Maritime Street and is currently leased to Shippers Transport Express ("STE") (Figure 2).

In 1993, Uribe and Associates ("Uribe") removed four Port-owned USTs from 2277 Seventh Street. Uribe collected soil samples from beneath the tanks at the time of UST removal and submitted them for laboratory analyses. The laboratory reported that the soil contained petroleum hydrocarbons in the diesel and gasoline range, as well as benzene, toluene, ethylbenzene, and xylenes ("BTEX") compounds. Uribe also observed free-phase product on the groundwater within the excavation. In 1994, Uribe installed three groundwater monitoring wells at 2277 Seventh Street (MW-1 through MW-3) and in 1995; Alisto Engineering Group ("Alisto") installed five additional wells (MW-4 through MW-8). Quarterly groundwater monitoring was initiated in 1996 in accordance with a workplan (Uribe, 1994) approved by ACHCS, dated 18 April 1995.

Former Port tenant Ringsby Terminals (formerly Dongary Investments) and/or its tenant owned and operated nine USTs at 2225 Seventh Street. One of the tanks in the cluster failed a tank integrity test in 1989 and National Environmental Service Company ("NESCO") removed the UST in March 1990. During the UST removal, NESCO collected soil and groundwater samples

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<sup>1</sup> The Site has been referred to in the past as the "Shippers" and "Ringsby" sites, based on the Port tenants occupying the site at the time of release discoveries. In addition, prior to site redevelopment in 2004, the site was referred to as 2277 and 2225 Seventh Street; the Site address after redevelopment is 651 Maritime Street.

from the excavation. Analytical results indicated the presence of diesel and BTEX. Ramcon Engineering and Environmental Contracting (“RAMCON”) removed seven of the USTs (six diesel and one bulk fuel oil) in 1992. RAMCON observed a hole in the bulk fuel tank and an unspecified petroleum product created a sheen on the groundwater in the excavation. During a separate event in 1992, RAMCON removed the remaining UST (a waste oil tank). Soil samples collected from that excavation indicated the presence of diesel, motor oil, benzene, xylenes, and polynuclear aromatic compounds (“PAHs”). A liquid sample collected from the excavation contained pure diesel. In 1993, RAMCON installed three groundwater monitoring wells (MW-1 through MW-3) at the 2225 Seventh Street site and in 1994 quarterly groundwater monitoring began, as required by ACHCS.<sup>2</sup>

The groundwater impact area from the two parcels of the Site consists of a co-mingled plume containing both dissolved and free-phase hydrocarbons in the diesel range. In addition, MW-4 on the 2277 Seventh Street parcel has historically contained dissolved hydrocarbons in the gasoline range.

In 1996, the Port installed a remediation system at 2277 Seventh Street to recover the free-phase product. The free product recovery system was operated until it was removed in 2003. Removal of this product recovery system was approved by the ACHCS on 27 March 2003, with the stipulation that a new free product recovery system should be installed. In 1998, Harding Lawson Associates abandoned MW-8 to facilitate the expansion of the railroad tracks north of 2277 Seventh Street and a replacement well, MW-8A, was installed in 2001. To facilitate the construction of the new Harbor Facilities Complex, groundwater monitoring wells MW-6 and MW-7 at 2277 Seventh Street and MW-1, MW-2, and MW-3 at 2225 Seventh Street were abandoned in 2002.

The Port has monitored groundwater quality at the Site since 1994. BASELINE, on the behalf of the Port, currently monitors groundwater quality using a network of six groundwater monitoring wells: MW-1, MW-2, MW-3, MW-4, MW-5, and MW-8A (Figure 2). The ACHCS approved a modification of the groundwater monitoring frequency from quarterly to semi-annually in a letter to the Port dated 23 March 2006. The first semi-annual monitoring event occurred on 28 July 2006. The ACHCS also approved the use of Oxygen Releasing Compound™ (“ORC”) socks in MW-4 in a letter to the Port dated 23 March 2006. The ORC increases the dissolved oxygen (“DO”) concentration in groundwater and stimulates aerobic bio-degradation of the total petroleum hydrocarbons as gasoline (“TPHg”) and BTEX reported in the groundwater at that location.

## **FIELD ACTIVITIES**

On 25 May 2007, one week prior to conducting groundwater monitoring, BASELINE removed the ORC socks from MW-4. BASELINE had previously replaced the socks in MW-4 following the groundwater monitoring event on 29 November 2006.

On 1 June 2007, BASELINE measured the depth to groundwater (and product, if present) from the top of the well casing (“TOC”) to the nearest one-hundredth of a foot in the monitoring well

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<sup>2</sup> Letter from ACHCS to Dongary Investments dated 26 July 1994.

network using a dual-phase interface probe. BASELINE decontaminated the dual-phase interface probe after each use by washing with an Alconox™ and water solution and then rinsing with deionized water.

Prior to sampling, BASELINE purged monitoring wells MW-2, MW-4, MW-5, and MW-8A of at least three well casing volumes of groundwater using a peristaltic pump and new disposable polyethylene and silicon tubing. Purging continued until the electrical conductivity, pH, DO, oxidation and reduction potential, and temperature of the water had stabilized. During purging, BASELINE first placed the pump intake at the bottom of the well to remove sediments. Once the groundwater appeared free of sediments, BASELINE raised the pump intake a few feet off the bottom of the well to complete the purging process. The monitoring details for each well are provided on the groundwater sampling forms in Appendix A.

BASELINE detected measurable free-phase product in monitoring wells MW-1 and MW-3; therefore, purging of groundwater and sample collection were not performed on these wells. BASELINE collected groundwater samples from MW-2, MW-4, MW-5, and MW-8A using a peristaltic pump with the intake of the tubing placed several feet from the bottom of the well. BASELINE decanted the groundwater samples directly into certified-clean containers from the discharge end of the tubing. BASELINE immediately labeled the sample containers with sample location, date, and time and then stored the samples in a cooler containing ice. The water samples were submitted to Curtis and Tompkins, Ltd. (“C&T”) – a California certified analytical laboratory – under chain-of-custody protocol and requested the following analyses:

- TPHg in accordance with EPA Method 8015M;
- Total extractable petroleum hydrocarbons as diesel (“TEPHd”) and motor oil (“TEPHmo”) in accordance with EPA Method 8015M with a silica gel cleanup; and
- BTEX and methyl tert-butyl ether (“MTBE”) in accordance with EPA Method 8260B.

BASELINE generated approximately 23 gallons of purge water and decontamination water during the monitoring event. BASELINE placed the purge water into a 55-gallon drum, which was labeled with the Port’s contact information and stored in a hazardous material storage locker located within Harbor Facilities Complex. The Port’s environmental services contractor will arrange proper purge water disposal.

## **ANALYTICAL RESULTS**

Analytical results for the groundwater samples collected in June 2007 are summarized on Figure 3 and Table 1. The laboratory analytical reports are provided in Appendix B. Historical analytical results for the Site, including samples collected by others, are summarized in Appendix C, Table C-2.

### **TPHg**

The laboratory reported TPHg in the groundwater sample from monitoring well MW-4 at a concentration of 100 micrograms per liter (“µg/L”) (100 µg/L were also reported in the duplicate



sample). The laboratory report indicated that lighter hydrocarbons contributed to the quantitation of TPHg and that the sample exhibited a chromatographic pattern that does not match the gasoline standard. The laboratory did not report TPHg above the reporting limit in any of the groundwater samples from the other monitoring wells.

## **BTEX and MTBE**

The laboratory reported benzene at a concentration of 10 µg/L (11 µg/L in the duplicate sample) in the groundwater sample from MW-4. The laboratory did not report any BTEX constituents above the reporting limits in any of the samples from the other sampled monitoring wells. The laboratory did not report any MTBE above the reporting limit in any of the collected groundwater samples.

## **TEPHd and TEPHmo**

The laboratory did not identify TEPHd and TEPHmo in any of the groundwater samples collected from the monitoring well network above laboratory reporting limits.

## **GROUNDWATER FLOW DIRECTION**

BASELINE used the re-surveyed elevations of the top of each groundwater monitoring well casing and the measured depth to groundwater to calculate the groundwater elevation and flow direction. The groundwater elevation and product thickness data are summarized in Table 2. Product thickness is discussed in more detail below. Groundwater contours for June 2007 are presented on Figure 4. The groundwater flow direction at the time of measurement was toward the north at a gradient of 0.004 foot/foot. Historical groundwater and product levels for the Site are included in Appendix C, Table C-1.

## **QUALITY ANALYSIS AND QUALITY CONTROL**

BASELINE collected a field duplicate sample from monitoring well MW-4 (“MW-4Dup”) to check sample collection procedures and an equipment blank (“QCEB”) to check the sample equipment as a possible source of contaminants. Groundwater samples were stored with a trip blank (“QCTB”) prepared by C&T until delivered to the laboratory to check for cross-contamination. MW-4Dup and the equipment blank were analyzed for TEPHd, TPHg, and BTEX. The trip blank as analyzed for volatile analytes TPHg and BTEX only.

The analytical laboratory reported concentrations of TPHg and benzene in groundwater samples from both MW-4 and MW-4Dup. The relative percent difference (“RPD”) between the original and the duplicate sample was zero and ten percent for TPHg and benzene, respectively:

$$\text{TPHg RPD} \quad |100-100|/[(100+100)/2] = 0\%$$

$$\text{Benzene RPD} \quad |10-11|/[(10+11)/2] = 10\%$$

The U.S. Environmental Protection Agency considers an RPD of less than 25 percent for field duplicate water samples as appropriate (U.S. EPA, 2001).

BASELINE prepared an equipment blank by transferring deionized water into sample containers using the same technique as was used to collect groundwater samples. The laboratory did not report any TPHg, TEPHd, TEPHmo, BTEX, or MTBE in the equipment blank prepared by BASELINE, indicating that the sampling procedure did not result in contamination of the samples.

C&T prepared a trip blank as a quality control water sample prepared by an analytical laboratory using deionized water. The QCTB was stored in a cooler to accompany groundwater samples from collection to transport to the laboratory. The laboratory did not report any TPHg, BTEX, or MTBE in the trip blank, indicating that the groundwater samples were not compromised from sample preservation, transportation, storage, and analysis.

BASELINE also reviewed the laboratory data for completeness and accuracy (see Quality Control Checklist in Appendix B). All of the laboratory quality assurance and quality control (“QA/QC”) goals were met. Based on the above QA/QC evaluation, BASELINE considers the data collected during the first semi-annual 2007 groundwater monitoring event valid and representative of Site conditions.

## **PRODUCT THICKNESS**

BASELINE measured product thickness in monitoring wells MW-1 and MW-3 during the groundwater monitoring event on 1 June 2007. Product thickness was measured in MW-1 at 0.34 foot and in MW-3 at 0.69 foot (Table 2). Product has been removed from MW-3 using a peristaltic pump and polyethylene tubing as part of O&M activities. The product thickness in MW-3 has ranged from approximately 0.42 to 1.21 feet from January to June 2007 (Table 3). BASELINE placed the recovered product from MW-3 in the system convault.

## **PRODUCT RECOVERY SYSTEM SUMMARY**

The Port installed the Free Product Recovery (“FPR”) system at the Harbor Facilities Complex in 2004 as required by the ACHCS in a letter dated 27 March 2003. The FPR system includes nine recovery wells, RW-1 through RW-9 (Figure 2). The Port installed a utility box around each recovery well wellhead, which includes plumbing for the air line, product discharge line, and a vacuum line. Five of the recovery wells (RW-3, RW-4, RW-6, RW-7, and RW-8) are equipped with air-actuated skimmer pumps manufactured by Xitech Instruments, Inc. A programmable controller controls the operation of the skimmer pumps. The frequency and duration that each skimmer pump runs is set by the programmable controller. The skimmers discharge recovered product into a 500-gallon concrete encased aboveground storage tank (“convault”) equipped with primary and secondary containment. The convault is also equipped with a sensor that activates a warning light and shuts off air supply to the skimmers if the tank is full.

BASELINE measured the product level in the recovery wells and checked the position of the pumps in the wells during the first six months of 2007. BASELINE adjusted the skimmer

pumps' depth, changed filters, or replaced pumps, as necessary. Adjustments were made to the frequency and duration of operation for each skimmer pump. On 23 February, BASELINE removed the skimmer pumps from RW-4 and RW-7; these wells have not yielded measurable product. On 9 March, BASELINE developed RW-3 using a surge block. The skimmer pump in this well was set to inactive for one week to allow settlement of sediments. On 28 March, the free product recovery system was deactivated due to a software upgrade performed on the pump controller. The recovery system was reactivated one week later. BASELINE also performed miscellaneous maintenance duties; the activities performed and the results of product measurements are summarized on Table 3; most of the recovered product has been from MW-3. BASELINE has recovered approximately 55 gallons of product during the first half of 2007 and approximately 166 gallons of product has been recovered since operation commenced in December of 2004.

BASELINE is currently in the process of upgrading the product recovery system to include application of low vacuum on the wellheads to improve product recovery. BASELINE installed a three horse-power blower with a moisture knockout tank and electrical controls to provide the low vacuum on the wellheads. Inducing a vacuum on the wellhead results in an air discharge containing petroleum vapors, which are treated by two vessels arranged in series containing 180 pounds of vapor-phase granular activated carbon ("GAC"). Treatment and discharge conditions are provided in a Permit-to-Operate from the Bay Area Air Quality Management District ("BAAQMD"). After running the system for a week, photo-ionization detector measurements indicated the GAC was spent and BASELINE collected air samples to determine the amount of GAC needed to effectively treat the 90 percent of the organic in the air discharge, as required by the BAAQMD permit.

## **ORC TREATMENT – MW-4**

BASELINE measured DO immediately after removing the ORC sock from MW-4 on 25 May 2007. The DO concentration in groundwater at that time was near saturation, at 8.79 milligrams per liter ("mg/L"). The DO concentration at the time of sampling on 1 June 2007 was 0.08 mg/L. These measurements indicate that: 1) the ORC was successfully increasing the DO levels in the groundwater at MW-4; and 2) the DO had returned to levels similar to other wells by the time the samples were collected (MW-2 was 0.56 mg/L, MW-5 was 0.64 mg/L, and MW-8A was 0.18 mg/L at the time sampled). The laboratory reported TPHg at 100 µg/L in the groundwater sample from MW-4, down from 300 µg/L in November 2006 and benzene at 10 µg/L, down from 42 µg/L in November 2006 (Appendix C). These results suggest that the TPHg and benzene are successfully being reduced through enhanced biodegradation using ORC.

## **CONCLUSIONS AND RECOMMENDATIONS**

The results from the first semi-annual 2007 groundwater monitoring event indicated that the free-phase product plume is stable; free-phase product was confined to the wells that historically contained free product. Reported concentrations of TPHg and benzene are confined to groundwater samples from MW-4 and results indicated the concentrations are decreasing. Dissolved TEPHd and TEPHmo were not reported in any of the groundwater samples collected

in June 2007, demonstrating the limited mobility of the product in the subsurface. The next groundwater sampling will be performed in November/December 2007.

## **REFERENCES**

Uribe and Associates, 1994, Port of Oakland Building C-401, 2277 7<sup>th</sup> Street, Oakland, Report of Underground Storage Tank Removals, Appendix G – Workplan for Additional Site Characterization Activities, 23 February.

U.S. Environmental Protection Agency, 2001, Training Course for CLP, Organic Data Validation.

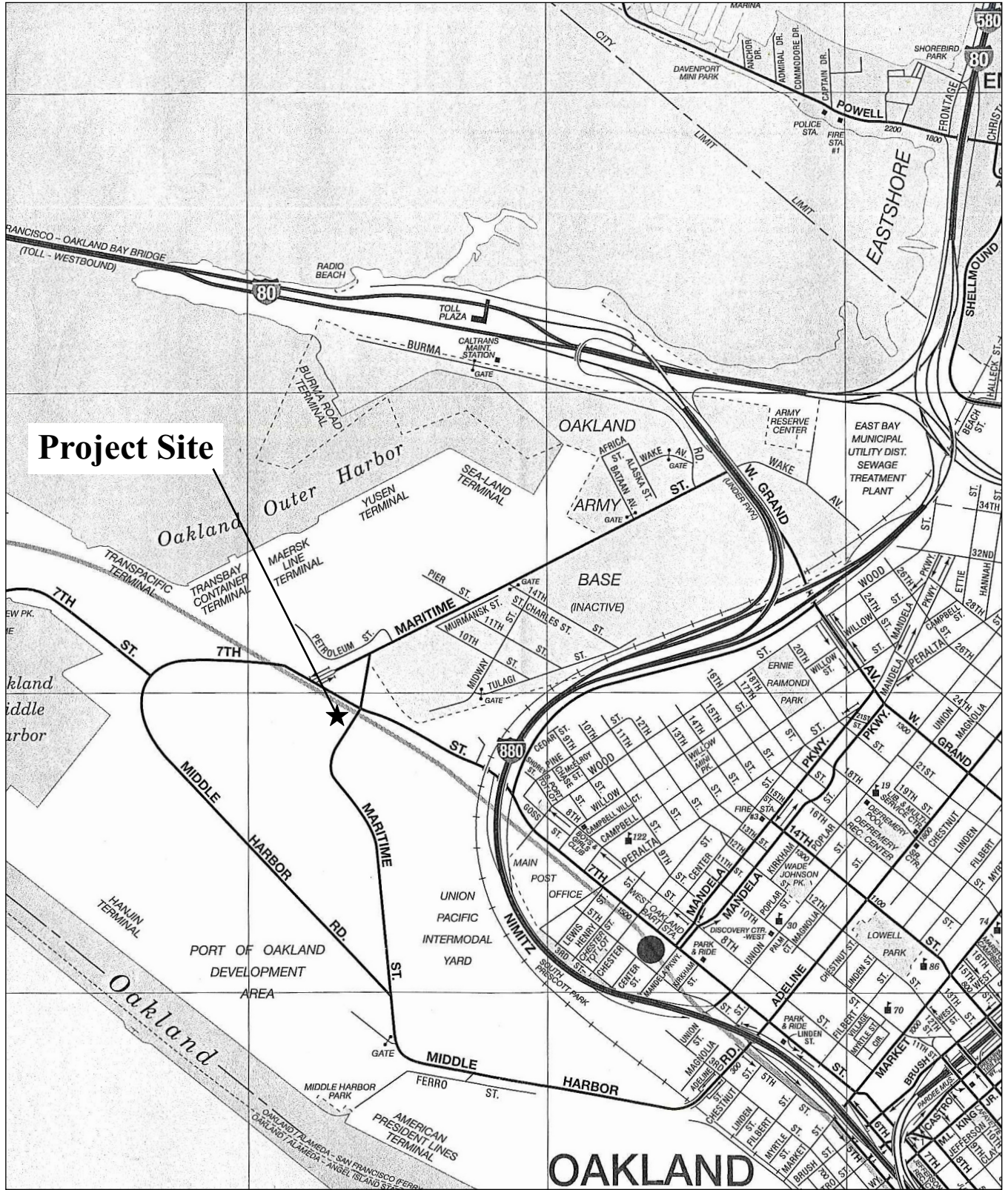
## **LIMITATIONS**

The conclusions presented in this report are professional opinions based on the indicated data described in this report. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study. Changes in the conditions of the subject property can occur with time, because of natural processes or the works of man, on the subject sites or on adjacent properties. Changes in applicable standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

## **FIGURES**

# REGIONAL LOCATION

# Figure 1

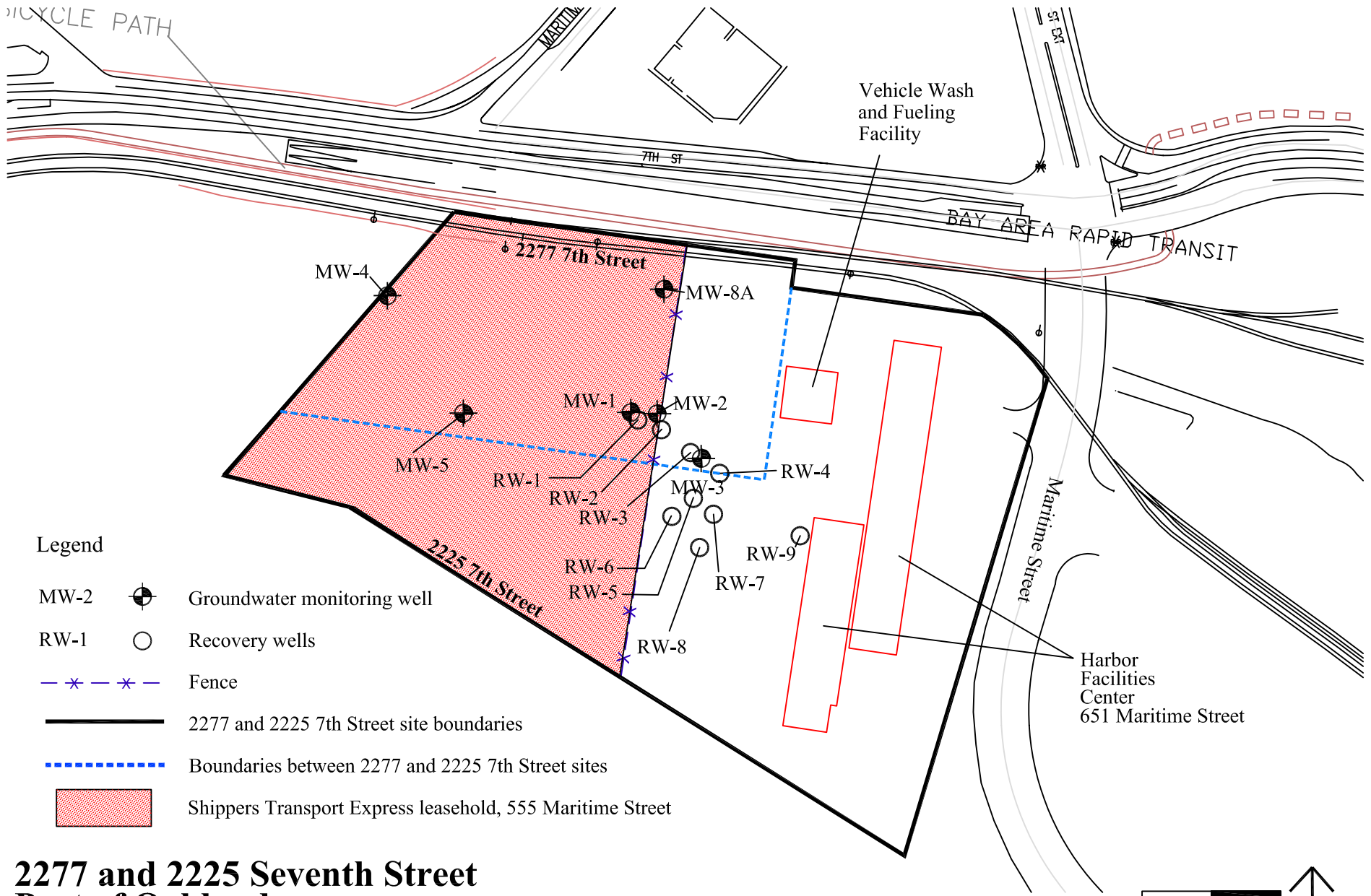


**2277 and 2225 Seventh Street  
Port of Oakland  
Oakland, California**






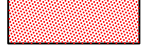


# SITE PLAN

Figure 2



## Legend

- MW-2  Groundwater monitoring well
- RW-1  Recovery wells
-  Fence
-  2277 and 2225 7th Street site boundaries
-  Boundaries between 2277 and 2225 7th Street sites
-  Shippers Transport Express leasehold, 555 Maritime Street

## 2277 and 2225 Seventh Street Port of Oakland Oakland, California

Y5395-04.00756.Fig2.dwg 7/9/07



# ANALYTICAL RESULTS JUNE 2007

## Figure 3


MW-8A	06/01/07
TPHg	<50
TPHd	<50
TPHmo	<300
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Total Xylenes	<0.5
MTBE	<0.5

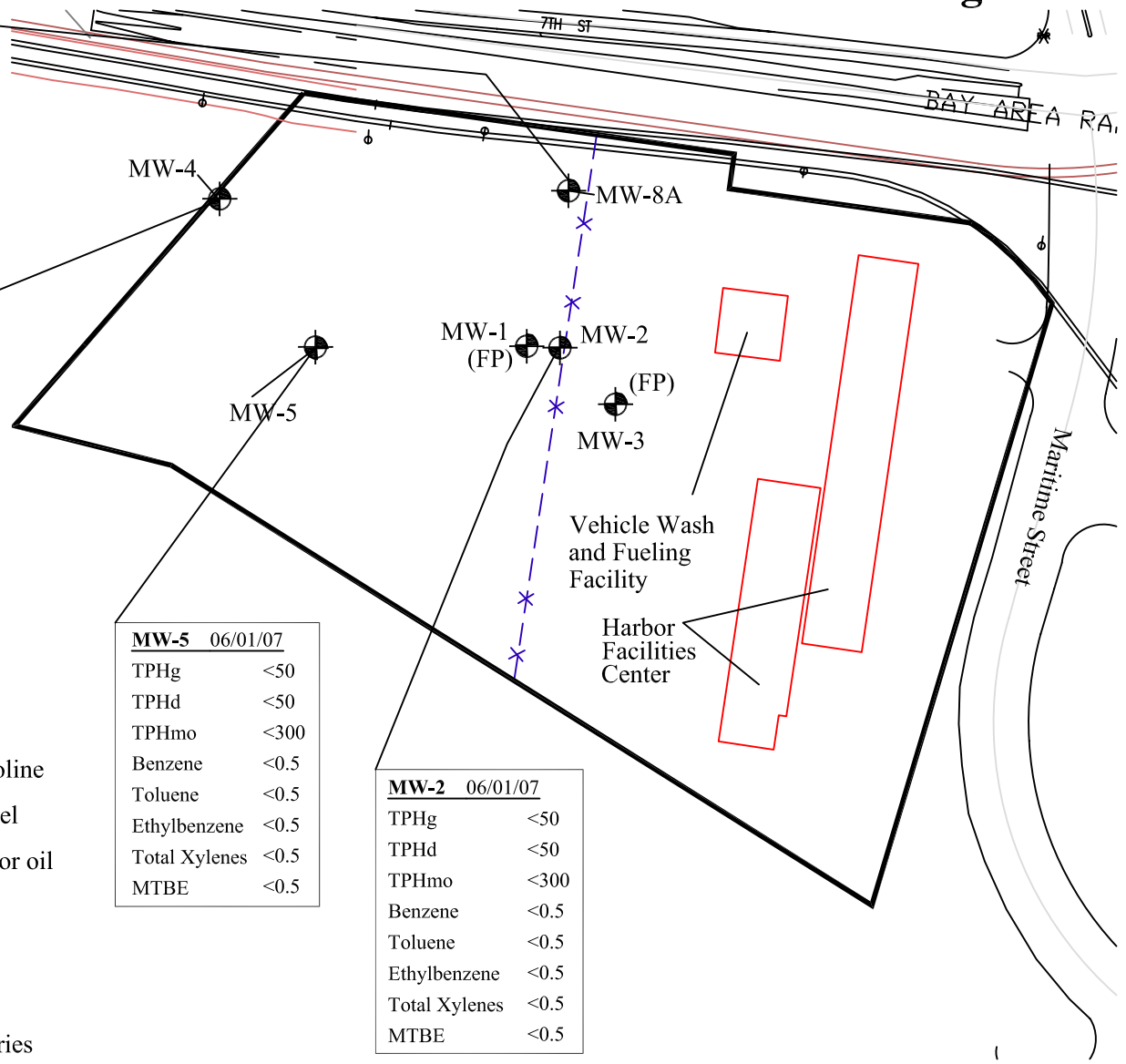
MW-4	06/01/07	Duplicate
TPHg	100	100
TPHd	<50	<50
TPHmo	<300	<300
Benzene	10	11
Toluene	<0.5	<0.5
Ethylbenzene	<0.5	<0.5
Total Xylenes	<0.5	<0.5
MTBE	<0.5	<0.5

MW-5	06/01/07
TPHg	<50
TPHd	<50
TPHmo	<300
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Total Xylenes	<0.5
MTBE	<0.5

MW-2	06/01/07
TPHg	<50
TPHd	<50
TPHmo	<300
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Total Xylenes	<0.5
MTBE	<0.5

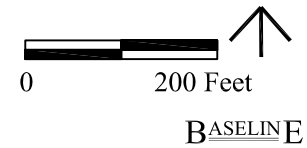
### Legend

- MW-2  Groundwater monitoring well
- TPHg Total petroleum hydrocarbons as gasoline
- TPHd Total petroleum hydrocarbons as diesel
- TPHmo Total petroleum hydrocarbons as motor oil
- MTBE Methyl tert-butyl ether
- (FP) Free phase product in well
- \* - \* - Existing fence
- 2277 and 2225 7th Street site boundaries



## 2277 and 2225 Seventh Street Port of Oakland Oakland, California

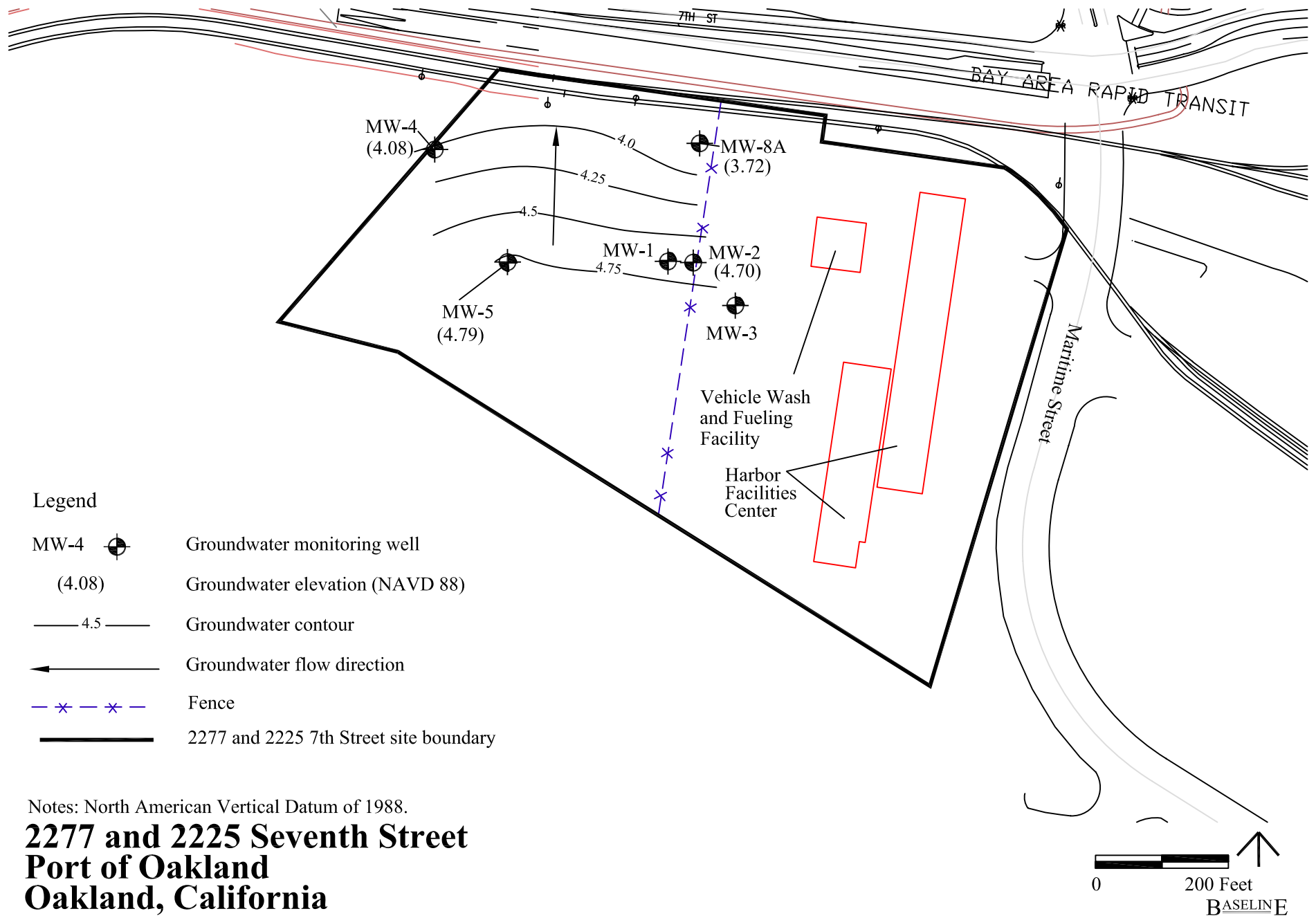
Note: Concentrations are in micrograms per liter.





# GROUNDWATER CONTOURS, JUNE 2007

Figure 4



## **TABLES**

TABLE 1: **Groundwater Analytical Results - June 2007 (µg/L)**  
**Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**  
**2277 and 2225 7th Street, Oakland, California**

Sample ID	Date	TPHg	TEPHd	TEPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-2	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	06/01/07	<b>100</b> L Y	<50	<300	<b>10</b>	<0.5	<0.5	<0.5	<0.5
MW-4dup	06/01/07	<b>100</b> L Y	<50	<300	<b>11</b>	<0.5	<0.5	<0.5	<0.5
MW-5	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
MW-8A	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
QCEB	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
QCTB	06/01/07	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

See Figure 3 for monitoring well locations and concentrations.

µg/L = micrograms per liter.

TPHg = total petroleum hydrocarbons in gasoline range.

TEPHd = total extractable petroleum hydrocarbons in diesel range.

TEPHmo = total extractable petroleum hydrocarbons in motor oil range.

MTBE = methyl tert-butyl ether.

QCEB = equipment blank quality control sample.

QCTB = trip blank quality control sample.

<xx = not detected by the laboratory above the reporting limit, the value following the less than sign.

**Bold** indicates the analyte was reported above the laboratory reporting limit.

NA = not analyzed.

L = lighter hydrocarbons contributed to the quantitation.

Y = sample exhibits a chromatographic pattern that does not resemble the standard.

**TABLE 2: Groundwater Elevation Data - June 2007**  
**Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**  
**2277 and 2225 7th Street, Oakland, California**

<b>Monitoring Well</b>	<b>Date Measured</b>	<b>Top of Casing Elevation <sup>1</sup> (feet)</b>	<b>Depth to Product (feet btc)</b>	<b>Depth to Water (feet btc)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation <sup>1</sup> (feet)</b>
<b>MW-1</b>	6/1/2007	15.79	11.11	11.45	0.34	4.34
<b>MW-2</b>	6/1/2007	16.42	NP	11.72	--	4.70
<b>MW-3</b>	6/1/2007	15.65	10.77	11.46	0.69	4.19
<b>MW-4</b>	6/1/2007	15.90	NP	11.82	--	4.08
<b>MW-5</b>	6/1/2007	15.39	NP	10.60	--	4.79
<b>MW-8A</b>	6/1/2007	14.98	NP	11.26	--	3.72

Notes:

See Figure 4 for monitoring well locations and groundwater contour.

NP = no product detected with the interface probe.

-- = no measurable product in the well.

btc = below top of the well casing.

NAVD 88 = North American Vertical Datum of 1988.

<sup>1</sup> Elevation data relative to NAVD 88 datum.

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 1/5/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.43	10.47	0.04	Product and air in line only. Turned on pump, only product and air being pumped.
RW-4	9.56	9.57	0.01	
RW-5	--	--	--	
RW-6	8.72	8.76	0.04	Product and air only in line. Turned on pump, only product and air being pumped.
RW-7	8.12	8.13	0.01	Product and air only in line. Turned on pump, only product and air being pumped.
RW-8	9.04	9.08	0.04	Product and air only in line. Turned on pump, only product and air being pumped.
RW-9	--	--	--	
MW-3	10.41	10.98	0.57	Removed 1.25 gallons of mostly product, placed into convault.
Depth of product in convault			0.43 feet	
Approximate total volume recovered			113 gallons	

Site Visit Date: 1/12/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	8.02	--	Vault is dry.
RW-2	--	9.84	--	
RW-3	10.42	10.43	0.01	Pump turned on; product being pumped. Vault is dry.
RW-4	--	9.61	--	Vault is dry. Pump turned on; only air being pumped. Pump set to inactive.
RW-5	--	--	--	No access.
RW-6	8.79	8.80	0.01	Vault has water. Pump turned on; product being pumped.
RW-7	--	8.19	--	Vault is dry. Pump turned on; air only being pumped. Pump set to inactive.
RW-8	9.07	9.15	0.08	Air and product in line. Pump turned on; product being pumped. Vault is dry.
RW-9	--	9.96	--	Vault is dry.
MW-3	10.44	10.97	0.53	Removed ~ 1.25 gallons of mostly product from well, placed into convault.
Depth of product in convault			0.44 feet	
Approximate total volume recovered			114 gallons	

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 1/19/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.55	10.56	0.01	Vault is dry. Product observed in line. Pump turned on. Product only being pumped.
RW-4	--	9.71	--	Vault is dry. Pump set to inactive.
RW-5	--	--	--	
RW-6	--	8.82	--	Water noted inside the vault. Product observed in line. Pump turned on. Product being pumped.
RW-7	--	8.24	--	Vault is dry. Pump set to inactive.
RW-8	9.10	9.13	0.03	Vault is dry. Product observed in line. Pump turned on. Product being pumped.
RW-9	--	--	--	
MW-3	10.54	11.21	0.67	Purged ~ 2.0 gallons of product, placed into convault..
Depth of product in convault			0.44 feet	
Approximate total volume recovered			115 gallons	

Site Visit Date: 1/26/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.58	10.59	0.01	Vault is dry; observed product in product line; pump turned on, product only being pumped.
RW-4	--	9.76	--	Vault is dry. Pump set to inactive.
RW-5	--	--	--	No measurable product.
RW-6	8.84	8.85	0.01	being pumped.
RW-7	--	8.27	--	Vault is dry. Pump set to inactive.
RW-8	9.14	9.20	0.06	Vault is dry; product observed in product line; pump turned on, product being pumped.
RW-9	--	--	--	
MW-3	10.61	11.24	0.63	Purged ~ 2.5 gallons of product, placed into convault.
Depth of product in convault			0.45	
Approximate total volume recovered			118	

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 2/1/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.65	10.66	0.01	Little product in line, no water, lowered skimmer to 10, cycled pump for 5 minutes. No water pumping.
RW-4	Sheen	9.84	Sheen	Pump set to inactive.
RW-5	--	--	--	
RW-6	8.85	8.89	0.04	Little product in line, no water, lowered skimmer to 9 ft., cycled pump for 5 minutes. Water being pumped, changed out filter to new.
RW-7	None	8.28	None	Pump set to inactive.
RW-8	9.15	9.23	0.08	Little product in line, no water, cycled pump. Product being pumped only.
RW-9	--	--	--	
MW-3	10.64	11.40	0.76	Purged ~ 4 gallons of liquid, placed into convault..
Depth of product in convault			0.45 feet	
Approximate total volume recovered			118 gallons	

Site Visit Date: 2/9/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	9.86	9.87	0.01	Water observed in vault. Product observed in line. Pump turned on; water being pumped. Depth-to-pump was adjusted from 10 to 9 feet. Water still being pumped. Skimmer pump pressure washed; replaced hydrophobic filter; pump depth was set to 9; pumping air and little water.
RW-4	--	9.57	--	Water observed in vault. Pump set to inactive.
RW-5	--	--	--	
RW-6	8.80	8.81	0.01	Vault contains water; product and water in line.
RW-7	--	8.25	--	Half of vault is filled with water. Pump set to inactive.
RW-8	9.16	9.23	0.07	Vault contained water; product observed in line; pump turned on; product being pumped.
RW-9	--	--	--	
MW-3	9.94	11.15	1.21	~ 4 gallons of product were purged, placed into convault..
Depth of product in convault			0.46 feet	
Approximate total volume recovered			120 gallons	

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 2/13/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	9.78	10.96	1.18	Utility box is dry; no product in product line; pump turned on; product only being pumped. Depth-to-pump was re-adjusted 9 feet; air only being pumped. Product thickness is greater than last visit.
RW-4	Sheen	9.22	Sheen	Utility vault is dry; water level is higher by 0.35' compared to last visit. Pump set to inactive.
RW-5				
RW-6	8.65	8.77	0.12	Utility box contains water; product observed in line; depth-to-pump was adjusted to 8 feet; pump turned on; product being pumped.
RW-7		8.10		Pump set to inactive.
RW-8	9.05	9.09	0.04	Little water observed in utility box; product observed in product line; water level is 0.14 higher compared to last visit; pump turned on; only air being pumped. Product thickness is less than last visit.
RW-9				
MW-3	9.84	10.89	1.05	Depth-to-water is 0.26 foot higher; ~ 4.0 gallons of mostly product were purged, placed into convault.
Depth of product in convault			0.48 feet	
Approximate total volume recovered			126 gallons	

Site Visit Date: 2/15/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.27	10.28	0.01	Utility box is dry; product observed in product line; pump turned on; product being pumped. Water level is 0.68 foot higher compared to last visit.
RW-4	Sheen	9.42	Sheen	Utility is dry; water level is lower by 0.20 foot compared to last visit. Pump set to inactive.
RW-5	--	--	--	
RW-6	8.69	8.73	0.04	Utility box contains water; product observed in line; pump turned on; product being pumped. Water level is 0.04 foot higher compared to last visit.
RW-7	--	8.13	--	Utility box is dry; water level is lower by 0.03 foot compared to last visit. Pump set to inactive.
RW-8	9.05	9.06	0.01	Utility box is dry; no product observed in product line; water level is 0.03 foot lower compared to last visit.
RW-9	--	--	--	Pump turned on; only air being pumped.
MW-3	10.27	10.7	0.43	Water level is lower by 0.43 foot compared to last visit. ~ 2.0 gallons of product were purged, placed into convault..
Depth of product in convault			0.50 feet	
Approximate total volume recovered			131 gallons	



**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 2/23/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	7.63	--	
RW-2	--	9.38	--	
RW-3	10.04	10.05	0.01	Utility vault is dry; water and product observed in line. Water level is 0.23 foot higher compared to last visit. Skimmer pump lowered to 10 feet; pumping water; pump raised to 9 feet; pumping air; replaced skimmer pump with pump from RW-4; pumping air.
RW-4	--	9.45		Utility vault is dry; water level is 0.03' lower compared to last visit; skimmer pump removed from well.
RW-5	--	--	--	No access.
RW-6	8.72	8.90	0.18	Utility vault contains water; observed product in line; water level is 0.17 foot lower compared to last visit. Pump turned on; product being pumped.
RW-7	--	8.16	--	Utility vault contains water; water level is 0.03 foot lower compared to last visit; skimmer pump removed from well.
RW-8	9.07	9.09	0.02	Utility vault contains water; product observed in product line; pump turned on; product being pumped. Water level is 0.03 foot lower compared to last visit.
RW-9	--	9.88	--	
MW-3	10.06	10.94	0.88	Water level is 0.24' lower compared to last visit. ~ 3 gallons of liquid was purged, placed into convault..
Depth of product in convault			0.52 feet	
Approximate total volume recovered			136 gallons	

Site Visit Date: 3/2/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.13	10.14	0.01	Little water in line once pump activated. Ran pump for 10 minutes; mostly air with some product pumped.
RW-4	--	9.25	--	Vault is dry.
RW-5	--	--	--	
RW-6	8.61	8.80	0.19	Air and product in line; no water; vault half full of water.
RW-7	--	8.01	--	
RW-8	8.97	8.98	0.01	Air, little product in line. Vault is dry.
RW-9	--	--	--	
MW-3	10.1	10.65	0.55	Removed 4 gallons of mostly product, placed into convault..
Depth of product in convault			0.54 feet	
Approximate total volume recovered			141 gallons	
Note: Bled water from compressor; check compressor oil level.				

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 3/9/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	--	10.25	--	Product observed in line; pulled the skimmer pump; surge blocked the well; pump was not replaced to allow settlement of sediments. Pump set to inactive.
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	8.41	8.45	0.04	Pump turned on; product only being pumped. Product thickness decreased to 0.02 after 10 minutes.
RW-7	--	--	--	
RW-8	9.00	9.01	0.01	Pump turned on; product only being pumped.
RW-9	--	--	--	
MW-3	10.25	10.67	0.42	~ 3 gallons were purged, placed into convault..
Depth of product in convault			0.54 feet	
Approximate total volume recovered			141 gallons	Note:

Site Visit Date: 3/13/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.32	10.34	0.02	Accumulation of product after well was surge blocked on 3/9/07. Left skimmer pump out. Will check product level next event.
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	--	--	--	
RW-7	--	--	--	
RW-8	--	--	--	
RW-9	--	--	--	
MW-3	10.29	10.73	0.44	Removed ~ 2 gallons of mostly product, placed into convault..
Depth of product in convault			0.55 feet	
Approximate total volume recovered			144 gallons	

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 3/16/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.42	10.46	0.04	Installed pump #7; product thickness was skimmed for about 15 minutes after which air was observed. Air observed in product line. Water level is 0.21 foot lower compared to last visit. Pump was set to period = 7; duration = 30.
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	8.75	8.81	0.06	Product observed in line. Pump turned on. Product being pumped. Water level is 0.36 foot lower compared to last visit.
RW-7	--	--	--	
RW-8	9.03	9.04	0.01	No product observed in line. Pump turned on; product being pumped. Water level is 0.03 foot lower compared to last visit.
RW-9	--	--	--	
MW-3	10.37	10.85	0.48	~ 1.0 gallon of liquid purged, placed into convault..
Depth of product in convault			0.59 feet	
Approximate total volume recovered			154 gallons	

Site Visit Date: 3/22/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.47	Sheen		
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	8.76	8.86	0.10	Pump turned on; product being pumped.
RW-7	--	--	--	
RW-8	9.04	9.08	0.04	Pump turned on; product being pumped.
RW-9	--	--	--	
MW-3	10.43	10.98	--	~ 2.0 gallons of product were purged, placed into convault.
Depth of product in convault			0.59 feet	
Approximate total volume recovered			154 gallons	

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 3/28/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	8.06	--	
RW-2	--	9.85	--	
RW-3	10.71	10.72	0.01	Product observed in line.
RW-4	--	9.83	--	
RW-5	--	8.49	--	
RW-6	8.81	8.88	0.07	Product observed in line.
RW-7	--	8.24	--	
RW-8	9.11	9.17	0.06	Product observed in line.
RW-9	--	9.93	--	
MW-3	10.59	11.45	0.86	~ 1.5.0 gallons of product purged, placed into convault.
Depth of product in convault			0.59 feet	
Approximate total volume recovered			154 gallons	
Note: Shut-off entire system for pump controller software upgrade.				

Site Visit Date: 4/3/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.67	10.68	0.01	
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	8.82	8.97	0.15	
RW-7	--	--	--	
RW-8	9.12	19.19	0.07	
RW-9	--	--	--	
MW-3	10.6	11.48	0.88	Purged ~ 1.5 gallons of liquid, placed into convault..
Depth of product in convault			0.60 feet	
Approximate total volume recovered			157 gallons	
Note: Reinstalled pump controller.				

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 4/13/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.20	10.35	0.15	
RW-4	--	--	--	Old brass ball valve; not tapped for vacuum valve.
RW-5	--	--	--	
RW-6	8.88	8.94	0.06	
RW-7	--	--	--	Old brass ball valve; tapped for vacuum valve
RW-8	9.17	9.27	0.10	Older brass gate valve; not tapped for vacuum valve.
RW-9	--	--	--	
MW-3	10.75	11.57	0.82	Purged ~ 2.0 gallons of product, placed into convault..
Depth of product in convault			0.61 feet	
Approximate total volume recovered			160 gallons	Note: Made inventory of existing plumbing at recovery wells.

Site Visit Date: 4/18/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	--	--	--	
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	--	--	--	
RW-7	--	--	--	
RW-8	--	--	--	
RW-9	--	--	--	
MW-3	--	--	--	Removed 2 gallons and placed into convault.
Depth of product in convault			0.61 feet	
Approximate total volume recovered			160 gallons	Note: Skimmer system was turned off for installation of low-vacuum blower.

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 4/25/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	8.1	--	
RW-2	--	--	--	
RW-3	10.72	10.82	0.10	
RW-4	9.74	9.75	0.01	
RW-5	--	8.41	--	
RW-6	8.92	9.03	0.11	
RW-7	8.65	8.65	Sheen	
RW-8	9.34	9.42	0.08	
RW-9	--	9.94	--	
MW-3	--	--	--	
Depth of product in convault			0.61 feet	
Approximate total volume recovered			160 gallons	

Site Visit Date: 5/3/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.71	10.81	0.10	
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	8.82	8.92	0.01	
RW-7	--	--	--	
RW-8	9.25	9.31	0.06	
RW-9	--	--	--	
MW-3	10.63	11.54	0.91	Removed 1.5 gallons of product and placed into convault.
Depth of product in convault			0.64 feet	
Approximate total volume recovered			166 gallons	

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 5/18/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.80	10.81	0.01	Product observed in line.
RW-4	--	--	--	
RW-5	--	--	--	
RW-6	8.86	8.91	0.05	
RW-7	--	--	--	
RW-8	9.13	9.17	0.04	
RW-9	--	--	--	
MW-3	10.7	11.55	0.85	Pumped ~ 3.0 gallons of product, placed into convault.
Depth of product in convault			0.64 feet	
Approximate total volume recovered			166 gallons	

Site Visit Date: 5/25/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1	--	--	--	
RW-2	--	--	--	
RW-3	10.80	10.81	0.01	Product in line.
RW-4	10.03	10.05	0.02	
RW-5	--	--	--	
RW-6	8.87	8.91	0.04	Product and water in line.
RW-7	8.30	8.31	0.01	
RW-8	9.15	9.20	0.05	Product observed in line.
RW-9	--	--	--	
MW-3	10.72	11.57	0.85	Purged ~ 2.0 gallons of product, placed into convault.
Depth of product in convault			0.64 feet	
Approximate total volume recovered			166 gallons	Note: Removed oxygen releasing compound socks from MW-4. Dissolved oxygen in groundwater is 8.79 mg/L.

**TABLE 3: Product Thickness Measurements and Operations and Maintenance Activities - January through June 2007  
Harbor Facilities Center and Portion of Shippers Transport Express Leasehold**

Site Visit Date: 6/8/2007				
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Comments
RW-1				
RW-2				
RW-3	10.5	10.51	0.01	
RW-4	9.77	9.80	0.03	
RW-5				
RW-6	8.65	8.82	0.17	
RW-7	8.39	8.42	0.03	
RW-8	9.10	9.25	0.15	
RW-9				
MW-3	10.71	11.17	0.46	Pumped out product on 6/6/07. ~ 2.0 gallons; again on 6/8/07 ~ 1.0 gallon. Placed product into convault.
Depth of product in convault			0.64 feet	
Approximate total volume recovered			166 gallons	

Notes:

See Figure 2 for recovery well locations.

-- = not measured.

Sheen = less than 0.01 foot thickness of product.

Product purging in MW-3 is conducted using a peristaltic pump.



**APPENDIX A**  
**GROUNDWATER SAMPLING FORMS**

**GROUNDWATER SAMPLING**

Well No.: **MW-1**

Project No.:	<u>Y5395-04</u>	Recorded by:	<u>RMR</u>	Date:	<u>6/1/07</u>
Project Name:	<u>Harbor Facilities Center</u>	Depth of well from TOC (feet):	<u>17.65</u>	Well diameter (inches):	<u>2</u>
Location:	<u>Port of Oakland</u> <u>2277 7th Street, Oakland</u>	Screened interval from TOC (feet):	<u>7.65-17.65</u>	TOC elevation, NAVD88 (feet):	<u>15.79</u>
Weather:	<u>Overcast, then afternoon sun</u>	Groundwater elevation (feet):	<u>4.34</u>	Water level from TOC (feet):	<u>11.45</u> Time: <u>8:40</u>
Precip. in past 5 days (in.):	<u>0</u>	Product level from TOC (feet):	<u>11.11</u> Time: <u>8:40</u>		
Source:	<u>Oakland Fire Services Agency "ONO"</u>				
Water level instrument:	<u>Dual-phase interface probe (Solinst)</u>				

**CALCULATION OF WELL VOLUME:**

$(17.65 \text{ ft} - 11.45 \text{ ft}) \times 0.083 \text{ ft}^2 \times \pi \times 7.48 \text{ gal/ft}^3 =$  \_\_\_\_\_ gallons in one casing volume  
 $\text{well depth} - \text{water level} \times (\text{well radius})^2 \times \pi \times \text{gal/ft}^3 =$  \_\_\_\_\_ total gallons removed

**CALIBRATION:**

	Time	Temp (°C)	pH	DO	ORP	EC (µmho/cm)	NTU
Calibration Standard:		--	4.00/7.00	100	465	1,000	0/20
Before Purging:	7:52	14.8	4.00/7.05	100.2	425	1,200	0/20
After Purging:	14:15	28.1	4.02/7.19	92.4	449	860	0/22

**FIELD MEASUREMENTS:**

Time	Temp (°C)	pH	DO (mg/L)	ORP (mV)	EC (µmho/cm)	NTU	Cumulative Gallons Removed
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Measured product level only, no groundwater sample collected due to the presence of free-phase product.

Purge method: \_\_\_\_\_ Sample Time: \_\_\_\_\_  
 Duplicate/blank number: \_\_\_\_\_ Duplicate Sample Time: \_\_\_\_\_  
 Sampling equipment: \_\_\_\_\_ VOA attachment: \_\_\_\_\_  
 Sample containers: \_\_\_\_\_  
 Sample analyses: \_\_\_\_\_ Laboratory: \_\_\_\_\_  
 Decontamination method: \_\_\_\_\_ Rinsate disposal: \_\_\_\_\_  
 Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TOC = top of casing  
bgs = below ground surface

**GROUNDWATER SAMPLING**

Well No.: **MW-2**

Project No.:	<u>Y5395-04</u>	Recorded by:	<u>RMR</u>	Date:	<u>6/1/07</u>
Project Name:	<u>Harbor Facilities Center</u>	Depth of well from TOC (feet):	<u>18.06</u>	Well diameter (inches):	<u>2</u>
Location:	<u>Port of Oakland</u> <u>2277 7th Street, Oakland</u>	Screened interval from TOC (feet):	<u>8.06-18.06</u>	TOC elevation, NAVD88 (feet):	<u>16.42</u>
Weather:	<u>Overcast, then afternoon sun</u>	Groundwater elevation (feet):	<u>4.70</u>	Water level from TOC (feet):	<u>11.72</u> Time: <u>8:38</u>
Precip. in past 5 days (in.):	<u>0</u>	Product level from TOC (feet):	<u>None</u>	Time:	<u>8:38</u>
Source:	<u>Oakland Fire Services Agency "ONO"</u>				
Water level instrument:	<u>Dual-phase interface probe (Solinst)</u>				

**CALCULATION OF WELL VOLUME:**

$$(18.06 \text{ ft} - 11.72 \text{ ft}) \times 0.083 \text{ ft}^2 \times \pi \times 7.48 \text{ gal/ft}^3 = \underline{1.0} \text{ gallons in one casing volume}$$

$$\text{well depth} - \text{water level} \times (\text{well radius})^2 \times \pi \times \text{gal/ft}^3 = \underline{3.0} \text{ total gallons removed}$$

**CALIBRATION:**

	Time	Temp (°C)	pH	DO	ORP	EC (µmho/cm)	NTU
Calibration Standard:		--	4.00/7.00	100	465	1,000	0/20
Before Purging:	7:52	14.8	4.00/7.05	100.2	425	1,200	0/20
After Purging:	14:15	28.1	4.02/7.19	92.4	449	860	0/22

**FIELD MEASUREMENTS:**

Time	Temp (°C)	pH	DO (mg/L)	ORP (mV)	EC (µmho/cm)	NTU	Cumulative Gallons Removed
13:00	19.5	7.73	0.09	-57	1,319	2.4	1
13:08	19.1	7.67	0.08	-60	1,352	2	2
13:13	Purging temporarily halted; give way for groundwater recharge						
13:46	Resumed purging						
13:50	19.6	7.67	0.56	-73	1,373	2	3

Purge method:	<u>Peristaltic pump and disposable poly tubing</u>	Sample Time:	<u>13:52</u>
Duplicate/blank number:	<u>None</u>	Duplicate Sample Time:	<u>13:17</u>
Sampling equipment:	<u>QCEB</u>	VOA attachment:	<u>None</u>
Sample containers:	<u>Three 40-ml VOAs and two 1-L AG</u>		
Sample analyses:	<u>TPHg, TPHd, BTEX, MTBE</u>	Laboratory:	<u>Curtis &amp; Tompkins</u>
Decontamination method:	<u>Alconox and water, DI water rinse</u>	Rinsate disposal:	<u>Stored on site,</u>
Comments:	<u>Sample was clear</u>	Port contractor to remove	

TOC = top of casing  
bgs = below ground surface

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**GROUNDWATER SAMPLING**

Well No.: **MW-3**

Project No.:	<u>Y5395-04</u>	Recorded by:	<u>RMR</u>	Date:	<u>6/1/07</u>
Project Name:	<u>Harbor Facilities Center</u>	Depth of well from TOC (feet):	<u>17.47</u>	Well diameter (inches):	<u>2</u>
Location:	<u>Port of Oakland</u> <u>2277 7th Street, Oakland</u>	Screened interval from TOC (feet):	<u>7.47-17.47</u>	TOC elevation, NAVD88 (feet):	<u>15.65</u>
Weather:	<u>Overcast, then afternoon sun</u>	Groundwater elevation (feet):	<u>4.19</u>	Water level from TOC (feet):	<u>11.46</u> Time: <u>8:23</u>
Precip. in past 5 days (in.):	<u>0</u>	Product level from TOC (feet):	<u>10.77</u> Time: <u>8:23</u>		
Source:	<u>Oakland Fire Services Agency "ONO"</u>				
Water level instrument:	<u>Dual-phase interface probe (Solinst)</u>				

**CALCULATION OF WELL VOLUME:**

$$(17.47 \text{ ft} - 11.46 \text{ ft}) \times 0.083 \text{ ft}^2 \times \pi \times 7.48 \text{ gal/ft}^3 = \underline{\hspace{2cm}} \text{ gallons in one casing volume}$$

$$\text{well depth} - \text{water level} \times (\text{well radius})^2 \times \pi \times \text{gal/ft}^3 = \underline{\hspace{2cm}} \text{ total gallons removed}$$

**CALIBRATION:**

	Time	Temp (°C)	pH	DO	ORP	EC (µmho/cm)	NTU
Calibration Standard:		--	4.00/7.00	100	465	1,000	0/20
Before Purging:	7:52	14.8	4.00/7.05	100.2	425	1,200	0/20
After Purging:	14:15	28.1	4.02/7.19	92.4	449	860	0/22

**FIELD MEASUREMENTS:**

Time	Temp (°C)	pH	DO (mg/L)	ORP (mV)	EC (µmho/cm)	NTU	Cumulative Gallons Removed
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Measured product level only, no groundwater sample collected due to the presence of free-phase product.

Purge method: \_\_\_\_\_ Sample Time: \_\_\_\_\_

Duplicate/blank number: \_\_\_\_\_ Duplicate Sample Time: \_\_\_\_\_

Sampling equipment: \_\_\_\_\_ VOA attachment: \_\_\_\_\_

Sample containers: \_\_\_\_\_

Sample analyses: \_\_\_\_\_ Laboratory: \_\_\_\_\_

Decontamination method: \_\_\_\_\_ Rinsate disposal: \_\_\_\_\_

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

TOC = top of casing  
bgs = below ground surface

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**GROUNDWATER SAMPLING**

Well No.: **MW-4**

Project No.:	<u>Y5395-04</u>	Recorded by:	<u>RMR</u>	Date:	<u>6/1/07</u>
Project Name:	<u>Harbor Facilities Center</u>	Depth of well from TOC (feet):	<u>22.05</u>	Well diameter (inches):	<u>2</u>
Location:	<u>Port of Oakland</u> <u>2277 7th Street, Oakland</u>	Screened interval from TOC (feet):	<u>11.25-22.05</u>	TOC elevation, NAVD88 (feet):	<u>15.9</u>
Weather:	<u>Overcast, then afternoon sun</u>	Groundwater elevation (feet):	<u>4.08</u>	Water level from TOC (feet):	<u>11.82</u> Time: <u>8:57</u>
Precip. in past 5 days (in.):	<u>0</u>	Product level from TOC (feet):	<u>None</u>	Time:	<u>8:57</u>
Source:	<u>Oakland Fire Services Agency "ONO"</u>				
Water level instrument:	<u>Dual-phase interface probe (Solinst)</u>				

**CALCULATION OF WELL VOLUME:**

$$(22.05 \text{ ft} - 11.82 \text{ ft}) \times 0.083 \text{ ft}^2 \times \pi \times 7.48 \text{ gal/ft}^3 = \frac{1.7}{7.5} \text{ gallons in one casing volume}$$

well depth - water level x (well radius)<sup>2</sup> x π x gal/ft<sup>3</sup> =

**CALIBRATION:**

	Time	Temp (°C)	pH	DO	ORP	EC (µmho/cm)	NTU
Calibration Standard:		--	4.00/7.00	100	465	1,000	0/20
Before Purging:	7:52	14.8	4.00/7.05	100.2	425	1,200	0/20
After Purging:	14:15	28.1	4.02/7.19	92.4	449	860	0/22

**FIELD MEASUREMENTS:**

Time	Temp (°C)	pH	DO (mg/L)	ORP (mV)	EC (µmho/cm)	NTU	Cumulative Gallons Removed
9:55	18.6	7.51	0.37	-132	1,100	0.8	6
10:00	18.8	7.5	0.13	-152	1,000	0.9	6.5
10:05	18.9	7.51	0.08	-162	1,100	0.55	7
10:10	18.8	7.51	0.08	-163	1,100	0.3	7.5

Purge method:	<u>Peristaltic pump and disposable poly tubing</u>	Sample Time:	<u>10:11</u>
Duplicate/blank number:	<u>None</u>	Duplicate Sample Time:	<u>13:17</u>
Sampling equipment:	<u>QCEB</u>	VOA attachment:	<u>None</u>
Sample containers:	<u>Three 40-ml VOAs and two 1-L AG</u>		
Sample analyses:	<u>TPHg, TPHd, BTEX, MTBE</u>	Laboratory:	<u>Curtis &amp; Tompkins</u>
Decontamination method:	<u>Alconox and water, DI water rinse</u>	Rinsate disposal:	<u>Stored on site,</u>
Comments:	<u>Sample was clear</u>	Port contractor to remove	

TOC = top of casing  
bgs = below ground surface

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**GROUNDWATER SAMPLING**

Well No.: **MW-5**

Project No.:	<u>Y5395-04</u>	Recorded by:	<u>RMR</u>	Date:	<u>6/1/07</u>
Project Name:	<u>Harbor Facilities Center</u>	Depth of well from TOC (feet):	<u>20.8</u>	Well diameter (inches):	<u>2</u>
Location:	<u>Port of Oakland</u> <u>2277 7th Street, Oakland</u>	Screened interval from TOC (feet):	<u>10.4-20.8</u>	TOC elevation, NAVD88 (feet):	<u>15.39</u>
Weather:	<u>Overcast, then afternoon sun</u>	Groundwater elevation (feet):	<u>4.79</u>	Water level from TOC (feet):	<u>10.60</u> Time: <u>8:53</u>
Precip. in past 5 days (in.):	<u>0</u>	Product level from TOC (feet):	<u>None</u>	Time:	<u>8:53</u>
Source:	<u>Oakland Fire Services Agency "ONO"</u>				
Water level instrument:	<u>Dual-phase interface probe (Solinst)</u>				

**CALCULATION OF WELL VOLUME:**

$$(20.80 \text{ ft} - 10.60 \text{ ft}) \times 0.083 \text{ ft}^2 \times \pi \times 7.48 \text{ gal/ft}^3 = \frac{1.7}{7.0} \text{ gallons in one casing volume}$$

$$\text{well depth} - \text{water level} \times (\text{well radius})^2 \times \pi \times \text{gal/ft}^3 = \text{total gallons removed}$$

**CALIBRATION:**

	Time	Temp (°C)	pH	DO	ORP	EC (µmho/cm)	NTU
Calibration Standard:		--	4.00/7.00	100	465	1,000	0/20
Before Purging:	7:52	14.8	4.00/7.05	100.2	425	1,200	0/20
After Purging:	14:15	28.1	4.02/7.19	92.4	449	860	0/22

**FIELD MEASUREMENTS:**

Time	Temp (°C)	pH	DO (mg/L)	ORP (mV)	EC (µmho/cm)	NTU	Cumulative Gallons Removed
10:50	18.9	7.35	0.38	-62	2,200	6.2	2
11:00	19.1	7.29	0.22	-68	2,400	2.5	3
11:08	19	7.28	0.14	-73	2,400	2.4	4
11:30	18.8	7.35	0.64	-37	2,400	1.1	7

Purge method:	<u>Peristaltic pump and disposable poly tubing</u>	Sample Time:	<u>11:32</u>
Duplicate/blank number:	<u>None</u>	Duplicate Sample Time:	<u>13:17</u>
Sampling equipment:	<u>QCEB</u>	VOA attachment:	<u>None</u>
Sample containers:	<u>Three 40-ml VOAs and two 1-L AG</u>		
Sample analyses:	<u>TPHg, TPHd, BTEX, MTBE</u>	Laboratory:	<u>Curtis &amp; Tompkins</u>
Decontamination method:	<u>Alconox and water, DI water rinse</u>	Rinsate disposal:	<u>Stored on site,</u>
Comments:	<u>Sample was clear</u>	Port contractor to remove	

TOC = top of casing  
bgs = below ground surface

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**GROUNDWATER SAMPLING**

Well No.: **MW-8A**

Project No.:	<u>Y5395-04</u>	Recorded by:	<u>RMR</u>	Date:	<u>6/1/07</u>
Project Name:	<u>Harbor Facilities Center</u>	Depth of well from TOC (feet):	<u>23.14</u>	Well diameter (inches):	<u>2</u>
Location:	<u>Port of Oakland</u> <u>2277 7th Street, Oakland</u>	Screened interval from TOC (feet):	<u>7.54-22.54</u>	TOC elevation, NAVD88 (feet):	<u>14.98</u>
Weather:	<u>Overcast, then afternoon sun</u>	Groundwater elevation (feet):	<u>3.72</u>	Water level from TOC (feet):	<u>11.26</u> Time: <u>8:34</u>
Precip. in past 5 days (in.):	<u>0</u>	Product level from TOC (feet):	<u>None</u>	Time:	<u>8:34</u>
Source:	<u>Oakland Fire Services Agency "ONO"</u>				
Water level instrument:	<u>Dual-phase interface probe (Solinst)</u>				

**CALCULATION OF WELL VOLUME:**

$$(23.14 \text{ ft} - 11.26 \text{ ft}) \times 0.083 \text{ ft}^2 \times \pi \times 7.48 \text{ gal/ft}^3 = \underline{1.9} \text{ gallons in one casing volume}$$

$$\text{well depth} - \text{water level} \times (\text{well radius})^2 \times \pi \times \text{gal/ft}^3 = \underline{5.0} \text{ total gallons removed}$$

**CALIBRATION:**

	Time	Temp (°C)	pH	DO	ORP	EC (µmho/cm)	NTU
Calibration Standard:		--	4.00/7.00	100	465	1,000	0/20
Before Purging:	7:52	14.8	4.00/7.05	100.2	425	1,200	0/20
After Purging:	14:15	28.1	4.02/7.19	92.4	449	860	0/22

**FIELD MEASUREMENTS:**

Time	Temp (°C)	pH	DO (mg/L)	ORP (mV)	EC (µmho/cm)	NTU	Cumulative Gallons Removed
12:00	18.1	7.65	0.11	-159	2,200	6.4	2
12:08	18.1	7.67	0.07	-170	2,100	3.8	3
12:16	18.1	7.67	0.08	-163	2,099	2.2	4
12:24	18	7.67	0.18	-155	2,112	2.2	5

Purge method:	<u>Peristaltic pump and disposable poly tubing</u>	Sample Time:	<u>12:27</u>
Duplicate/blank number:	<u>None</u>	Duplicate Sample Time:	<u>13:17</u>
Sampling equipment:	<u>QCEB</u>	VOA attachment:	<u>None</u>
Sample containers:	<u>Three 40-ml VOAs and two 1-L AG</u>		
Sample analyses:	<u>TPHg, TPHd, BTEX, MTBE</u>	Laboratory:	<u>Curtis &amp; Tompkins</u>
Decontamination method:	<u>Alconox and water, DI water rinse</u>	Rinsate disposal:	<u>Stored on site,</u>
Comments:	<u>Sample was clear</u>	Port contractor to remove	

TOC = top of casing  
bgs = below ground surface

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**APPENDIX B**  
**LABORATORY ANALYTICAL REPORT**



**QUALITY CONTROL CHECKLIST  
FOR REVIEW OF LABORATORY REPORT**

**Job No.** Y5395-04  
**Laboratory:** Curtis and Tompkins, Ltd.  
**Report Date:** 15 June 2007

**Site:** Harbor Facilities Complex  
**Laboratory Report No.:** 195153  
**BASELINE Reviewer:** RMR

	Yes	No	NA
<b>GENERAL QUESTIONS</b> (Describe “no” responses below in “comments” section. Contact the laboratory, as required, for further explanation or action on “no” responses; document discussion in comments section.)			
1a. Does the report include a case narrative? ( <i>A case narrative MUST be prepared by the lab for all analytical work requested by BASELINE</i> )	X		
1b. Is the number of pages for the lab report as indicated on the case narrative/lab transmittal consistent with the number of pages that are included in report?	X		
1c. Does the case narrative indicate which samples were analyzed by a subcontractor and the subcontractor’s name?			X
1d. Does the case narrative summarize subsequent requests not shown on the chain-of-custody (e.g., additional analyses requested, release of “hold” samples)?			X
1e. Does the case narrative explain why requested analyses could not be performed by laboratory (e.g., insufficient sample)?			X
1f. Does the case narrative explain all problems with the QA/QC data as identified in the checklist (as applicable)?			X
2a. Is the laboratory report format consistent and legible throughout the report?	X		
2b. Are the sample and reported dates shown in the laboratory report correct?	X		
3a. Does the lab report include the original chain-of-custody form?	X		
3b. Were all samples appropriately analyzed as requested on the chain-of-custody form?	X		
4. Was the lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel? (Some lab reports have signature spaces for each page). (This requirement also applies to any analyses subcontracted out by the laboratory)	X		
5a. Are preparation methods, cleanup methods (if applicable), and laboratory methods indicated for all analyses?	X		
5b. If additional analytes were requested as part of the reporting of the data for an analytical method, were these included in the lab report?			X
6. Are the units in the lab report provided for each analysis consistent throughout the report?	X		
7. Are the detection limits (DL) appropriate based on the intended use of the data (e.g., DL below applicable MCLs for water quality issues)?	X		

**Quality Control Checklist - continued**

	Yes	No	NA
8a. Are detection limits appropriate based on the analysis performed (i.e., not elevated due to dilution effects)?	X		
8b. If no, is an explanation provided by the laboratory?			X
9a. Were the samples analyzed within the appropriate holding time (generally 2 weeks for volatiles, and up to 6 months for total metals)?	X		
9b. If no, was it flagged in the report?			X
10. If samples were composited prior to analysis, does the lab report indicate which samples were composited for each analysis?			X
11a. Do the chromatograms confirm quantitative laboratory results (petroleum hydrocarbons)?	X		
11b. Is a standard chromatogram(s) included in the laboratory report?	X		
11c. Do the chromatograms confirm laboratory notes, if present (e.g., sample exhibits lighter hydrocarbon than standard)?	X		
12. Are the results consistent with previous analytical results from the site? <i>(If no, contact the lab and request review/reanalysis of data, as appropriate.)</i>	X		
13a. REVISED LAB REPORTS ONLY. Is the revised lab report or revised pages to a lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel?			X
13b. REVISED LAB REPORTS ONLY. Does the case narrative indicate the date of revision and provide an explanation for the revision?			X
13c. REVISED LAB REPORTS ONLY. Does the revised lab report adequately address the problem(s) that triggered the need for a revision?			X
13d. REVISED LAB REPORTS ONLY. Are the data included in the revised report the same as the data reported in the original report, except where the report was revised to correct incorrectly reported data?			X
<b>QA/QC Questions</b>			
Field/Laboratory Quality Control - Groundwater Analyses			
14. Are field blanks reported as “ND” (groundwater samples)? <i>A field blank is a sample of DI water that is prepared in the field using the same collection and handling procedures as the other samples collected, and used to demonstrate that the sampling procedure has not contaminated the sample.</i>	X		
14a. Are rinsate blanks reported as “ND” (soil samples)? <i>A rinsate blank is a sample of DI water that is prepared in the field by collecting DI rinse water after it has been poured over decontaminated sampling equipment. The rinsate blank is collected to demonstrate that the decontamination procedure has removed all the contaminants from the sampling equipment and that the sampling equipment has not contaminated the sample.</i>	X		

**Quality Control Checklist - continued**

	Yes	No	NA
15. Are trip blanks reported as “ND” (groundwater samples/volatile analyses)? <i>A trip blank is a sample of contaminant free matrix placed in an appropriate container by the lab and transported with the field samples collected. Provides information regarding positive interference introduced during sample transport, storage, preservation, and analysis. The sample is NOT opened in the field.</i>	X		
16. Are duplicate sample results consistent with the original sample (groundwater samples)? <i>Field duplicates consist of two independent samples collected at the same sampling location during a single sampling event. Used to evaluate precision of the analytical data and sampling technique. (Differences between the duplicate and sample results may also be attributed to environmental variability.)</i>	X		
<b>Batch Quality Control</b> (Samples are batched together by matrix [soil, water] and analyses requested. A batch generally consists of 20 or fewer samples of the same matrix type, and is prepared using the same reagents, standards, procedures, and time frame as the samples. QC samples are run with each batch to assess performance of the entire measurement process.)			
17. Do the sample batch numbers and corresponding laboratory QA/QC batch numbers match?	X		
18a. Are method blanks (MB) for the analytical method(s) below the laboratory reporting limits? <i>Used to assess lab contamination and prevent false positive results.</i>	X		
18b. If no, is an explanation provided in the case narrative to validate the data?			X
18c. Are analytes that may be considered laboratory contaminants reported below the laboratory reporting limit? <i>Common lab contaminants include acetone, methylene chloride, diethylhexyl phthalate, and di-n-octyl phthalate.</i>			X
18d. If no, was the laboratory contacted to determine whether the reported analyte could be a potential laboratory contaminant and was an explanation included in the case narrative?			X
19. Are laboratory control samples (LCS) and LCS duplicate (LCSD) [a.k.a., Blank Spike (BS) and BS duplicates (BSD)] within laboratory reporting limits? Limits should be provided on the report. <i>LCS is a reagent blank spike with a representative selection of target analyte(s) and prepared in the same manner as the samples analyzed. The LCS should be spiked with the same analytes as the matrix spike (below). The LCS is free from interferences from the sample matrix and demonstrates the ability of the lab instruments to recover the target analytes. Accuracy (recovery information) is generally reported as % spike recovery; precision (reproducibility of results) between the LCS and LCSD is generally reported as the relative percent difference (RPD). LCS/LCSD can be run in addition to or in lieu of matrix QC data.</i>	X		
20a. Are the Matrix QC data (i.e., MS/MSD) within laboratory limits? Limits should be provided on the lab report. <i>The lab selects a sample from the batch and analyzes a spike and a spike duplicate of that sample. Matrix QC data is used to obtain precision and accuracy information and is reported in the same manner as LCS/LCSD. If the MS/MSD fails, the results may still be considered valid if the MB and either the LCS/LCSD or BS/BSD is within the lab’s limits (failure is probably due to matrix interference).</i>	X		

**Quality Control Checklist - continued**

	Yes	No	NA
20b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?			X
<b>Sample Quality Control</b>			
21a. Are the surrogate spikes reported within the lab's acceptable recovery limits? <i>A surrogate is a non-target analyte, which is similar in chemical structure to the analyte(s) being analyzed for, and which is not commonly found in environmental samples. A known concentration of the surrogate is spiked into the sample or QA "sample" prior to extraction or sample preparation. Results are usually reported as % recovery of the spike. Failure to meet lab's limits for primary and secondary surrogates results in rebatching and reanalysis of the sample; failure of only the primary or the secondary surrogate may be acceptable under certain circumstances. Failure generally is due to coelution with the sample matrix.</i>	X		
21b. If no, is an explanation given in the case narrative to validate the data?			X

**Comments:**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

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Laboratory Job Number 195153

JUN 20 2007

BASELINE

Baseline Environmental  
5900 Hollis St.  
Emeryville, CA 94608

Project : Y5395-02  
Location : HFC, 2277 7th St. Oakland, CA  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-2	195153-001
MW-4	195153-002
MW-4DUP	195153-003
MW-5	195153-004
MW-8A	195153-005
QCEB	195153-006
QCTB	195153-007

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Signature:   
Project Manager

Date: 06/15/2007

Signature:   
Operations Manager

Date: 06/18/2007

**CASE NARRATIVE**

Laboratory number: 195153  
Client: Baseline Environmental  
Project: Y5395-02  
Location: HFC, 2277 7th St. Oakland, CA  
Request Date: 06/01/07  
Samples Received: 06/01/07

This hardcopy data package contains sample and QC results for seven water samples, requested for the above referenced project on 06/01/07. The samples were received cold and intact.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B):**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B):**

No analytical problems were encountered.

## CHAIN OF CUSTODY RECORD

195153

Standard  
Curtis and Tompkins  
Bill Scott or Jim McCarty

Project Number		Project Name and Location:																			
Y5395-04		Harbor Facilities Complex																			
Samplers: (Signature)				Containers																	
<i>Reginald Ramsey</i>				Type										Preservative							
Sample ID No. Station	Date	Time	Media	No.	SS	Butyrate	L-AG	40-ml VOA	L-Poly	250 ml Poly	Glass Jar	Plastic Bag	Ice	HCL	NO <sub>3</sub>	SO <sub>4</sub>	NaOH	TPH as gasoline (EPA 8015M)	TPH as diesel and motor oil w/ silica gel clean-up (EPA 8015M)	BTEX & MTBE (EPA 8260B)	Remarks/ Composite
MW-2	6/11/07	13:52	W	3				X					X	X				X		X	
				2			X							X							X
MW-4		10:11	W	3				X					X	X				X		X	
				2			X							X							X
MW-4dup		10:16	W	3				X					X	X				X		X	
				2			X							X							X
MW-5		11:32	W	3				X					X	X				X		X	
				2			X							X							X
MW-8A		12:27	W	3				X					X	X				X		X	
				2			X							X							X
QCEB		13:17	W	3				X					X	X				X		X	
				2			X							X							X
QCTB		7:00	W	3				X					X	X				X		X	

Relinquished by: (Signature)	Custody Seal	Date/Time	Received by: (Signature)	Custody Seal Intact	Conditions of Samples Upon Arrival at Laboratory:
<i>Reginald Ramsey</i>	Yes <input checked="" type="radio"/> No	6/11/07 3:32	<i>[Signature]</i>	Yes No NA	
Relinquished by: (Signature)	Yes No			Yes No NA	
Relinquished by: (Signature)	Custody Seal	Date/Time	Received by: (Signature)	Custody Seal Intact	Remarks: Provide EDD & EDF to BASELINE. Please send invoice to Jeff Rubin at Port of Oakland. W.O. 202386/TSO #21
	Yes No			Yes No NA	
Received at laboratory with intact custody seal (Signature)				Date/Time	Comments:

RE'D intact; calalge

### Total Volatile Hydrocarbons

Lab #:	195153	Location: HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep: EPA 5030B
Project#:	Y5395-02	Analysis: EPA 8015B
Matrix:	Water	Batch#: 125949
Units:	ug/L	Sampled: 06/01/07
Diln Fac:	1.000	Received: 06/01/07

Field ID:	MW-2	Lab ID:	195153-001
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	72-136
Bromofluorobenzene (FID)	103	78-131

Field ID:	MW-4	Lab ID:	195153-002
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	100 L Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	72-136
Bromofluorobenzene (FID)	98	78-131

Field ID:	MW-4DUP	Lab ID:	195153-003
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	100 L Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	72-136
Bromofluorobenzene (FID)	101	78-131

Field ID:	MW-5	Lab ID:	195153-004
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	72-136
Bromofluorobenzene (FID)	105	78-131

L= Lighter hydrocarbons contributed to the quantitation  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit



### Total Volatile Hydrocarbons

Lab #:	195153	Location: HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep: EPA 5030B
Project#:	Y5395-02	Analysis: EPA 8015B
Matrix:	Water	Batch#: 125949
Units:	ug/L	Sampled: 06/01/07
Diln Fac:	1.000	Received: 06/01/07

Field ID:	MW-8A	Lab ID:	195153-005
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	72-136
Bromofluorobenzene (FID)	113	78-131

Field ID:	QCEB	Lab ID:	195153-006
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	72-136
Bromofluorobenzene (FID)	104	78-131

Field ID:	QCTB	Lab ID:	195153-007
Type:	SAMPLE	Analyzed:	06/06/07

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	72-136
Bromofluorobenzene (FID)	105	78-131

Type:	BLANK	Analyzed:	06/05/07
Lab ID:	QC390877		

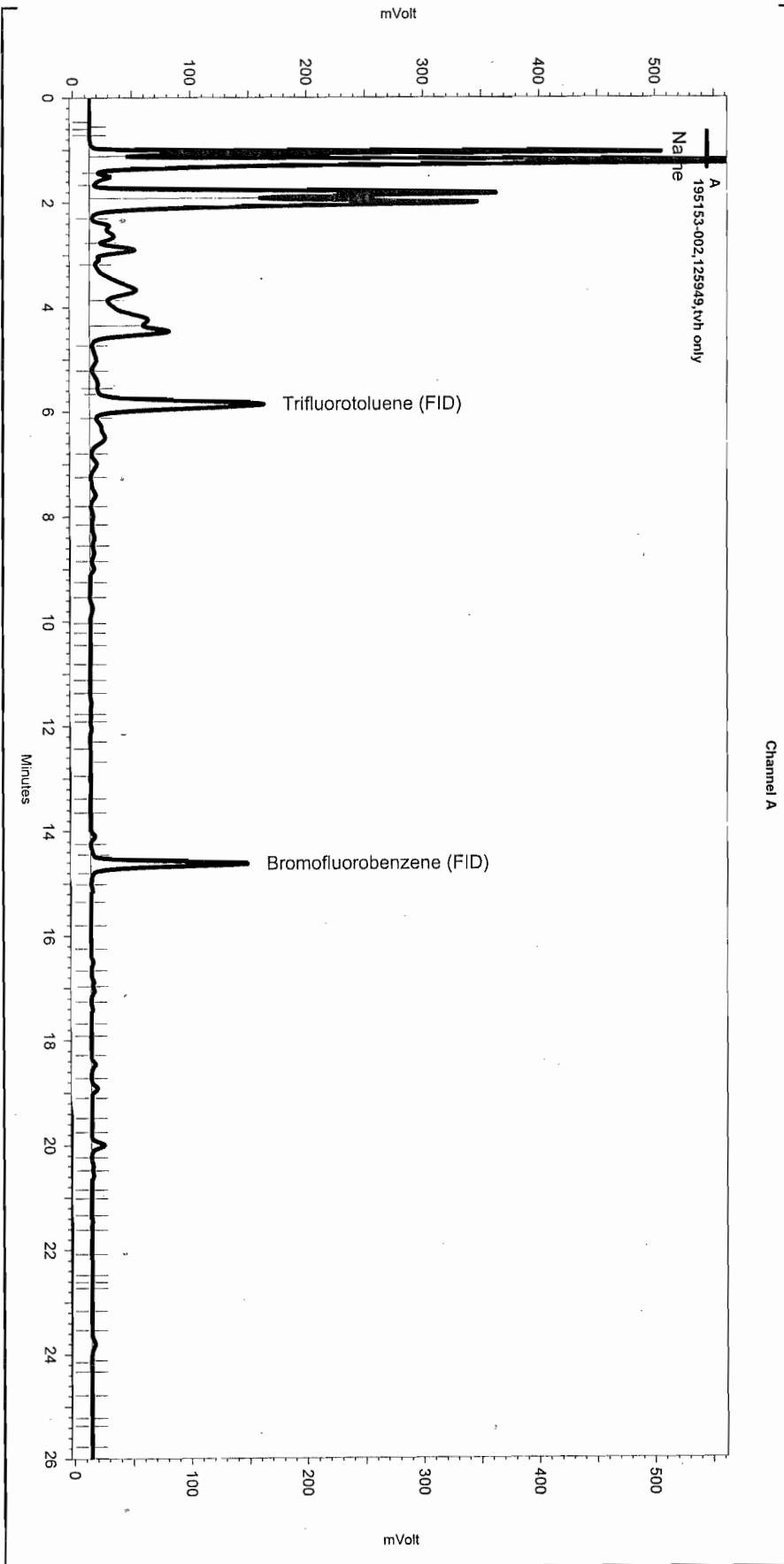
Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	72-136
Bromofluorobenzene (FID)	100	78-131

L= Lighter hydrocarbons contributed to the quantitation  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\156.seq  
 Sample Name: 195153-002,125949,tvh only  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\156\_033  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\TVH2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\TVHBTX150.met

Software Version 3.1.7  
 Run Date: 6/6/2007 11:45:47 AM  
 Analysis Date: 6/6/2007 12:40:53 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: C1.3



---< General Method Parameters >-----

No items selected for this section

---< A >-----

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0
Yes	Threshold	0	0	10

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\156\_033

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.665	0	0
Yes	Split Peak	14.455	0	0
Yes	Split Peak	14.806	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\156.seq  
 Sample Name: 195153-003,125949,tvh only  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\156\_034  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\lvhbtxe150.met

Software Version 3.1.7  
 Run Date: 6/6/2007 12:23:41 PM  
 Analysis Date: 6/6/2007 1:23:12 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: A1.3

---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

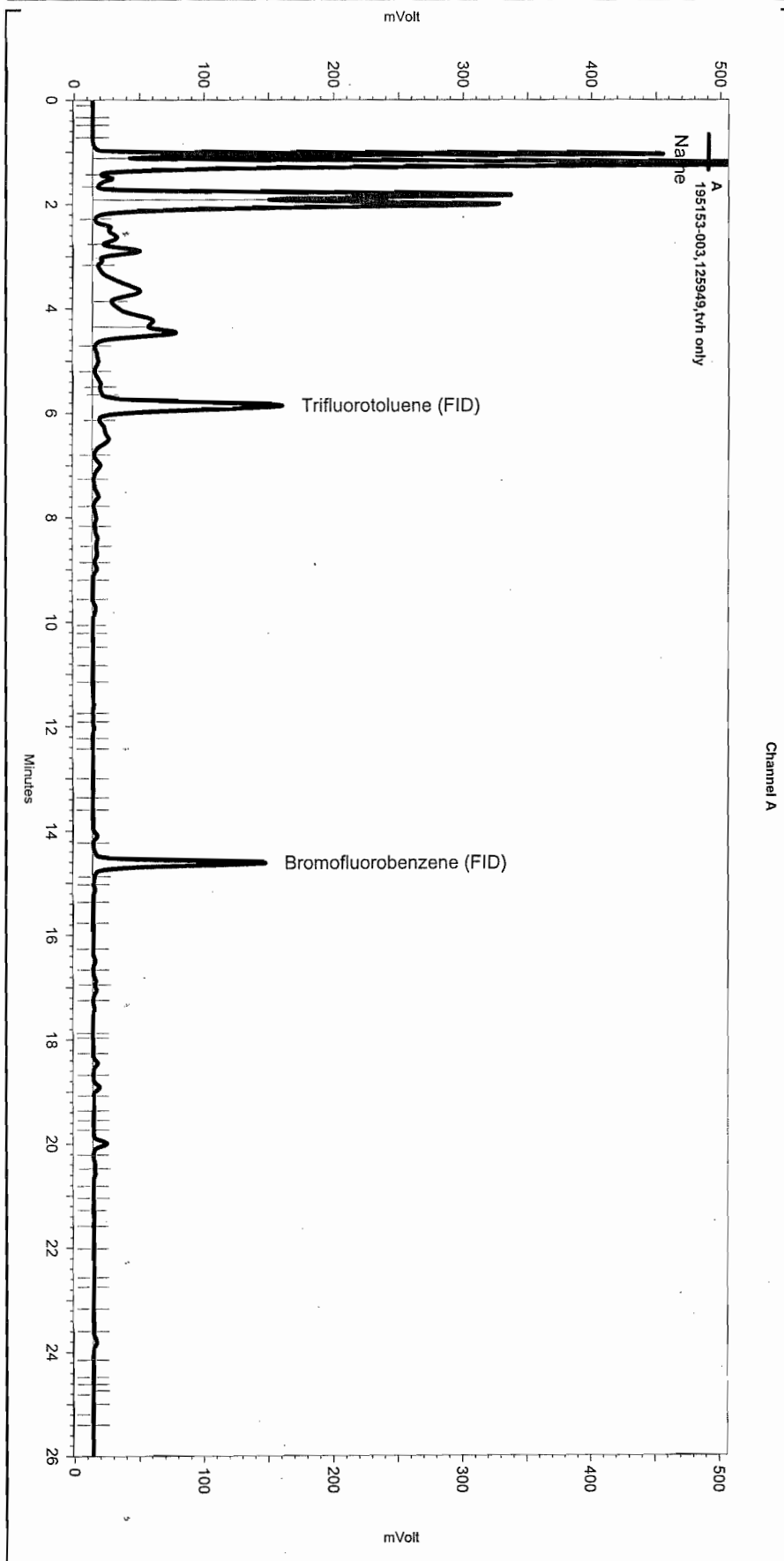
Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0
Yes	Threshold	0	0	10

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\156\_034

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.653	0	0
Yes	Split Peak	14.882	0	0

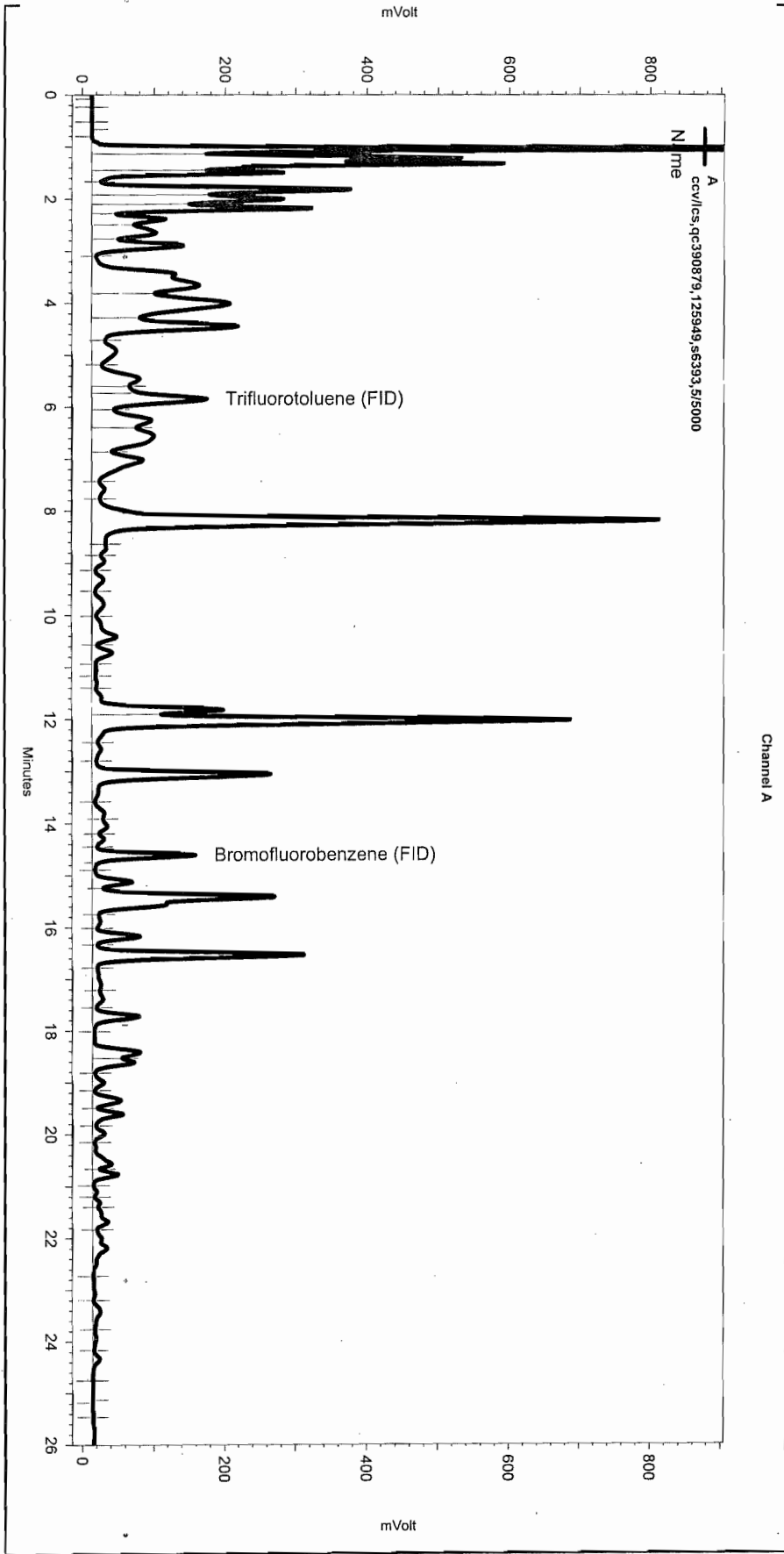


Channel A

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\156.seq  
 Sample Name: ccv\lcs,qc390879,125949,s6393,5/5000  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\156\_003  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst: (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbx150.met

*Gasoline*

Software Version 3.1.7  
 Run Date: 6/5/2007 2:53:07 PM  
 Analysis Date: 6/6/2007 9:16:08 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: {Data Description}



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0
Yes	Threshold	0	0	10

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\156\_003

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.725	0	0
Yes	Split Peak	14.753	0	0

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC390879	Batch#:	125949
Matrix:	Water	Analyzed:	06/05/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,795	90	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	72-136
Bromofluorobenzene (FID)	108	78-131

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	125949
MSS Lab ID:	195076-001	Sampled:	05/29/07
Matrix:	Water	Received:	05/29/07
Units:	ug/L	Analyzed:	06/06/07
Diln Fac:	1.000		

Type: MS Lab ID: QC390905

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	18.43	2,000	1,753	87	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	72-136
Bromofluorobenzene (FID)	115	78-131

Type: MSD Lab ID: QC390906

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,735	86	79-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	72-136
Bromofluorobenzene (FID)	112	78-131

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**Total Extractable Hydrocarbons**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y5395-02	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/01/07
Units:	ug/L	Received:	06/01/07
Diln Fac:	1.000	Prepared:	06/04/07
Batch#:	125919	Analyzed:	06/06/07

Field ID: MW-2                      Lab ID: 195153-001  
 Type: SAMPLE                      Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	106	61-134

Field ID: MW-4                      Lab ID: 195153-002  
 Type: SAMPLE                      Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	122	61-134

Field ID: MW-4DUP                      Lab ID: 195153-003  
 Type: SAMPLE                      Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	104	61-134

Field ID: MW-5                      Lab ID: 195153-004  
 Type: SAMPLE                      Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	105	61-134





## Batch QC Report

**Total Extractable Hydrocarbons**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y5395-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC390733	Batch#:	125919
Matrix:	Water	Prepared:	06/04/07
Units:	ug/L	Analyzed:	06/06/07

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,482	99	58-130

Surrogate	%REC	Limits
Hexacosane	108	61-134

## Batch QC Report

## Total Extractable Hydrocarbons

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y5395-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	125919
MSS Lab ID:	195079-004	Sampled:	05/29/07
Matrix:	Water	Received:	05/30/07
Units:	ug/L	Prepared:	06/04/07
Diln Fac:	1.000	Analyzed:	06/06/07

Type: MS Lab ID: QC390734

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	64.83	2,500	2,619	102	57-134

Surrogate	%REC	Limits
Hexacosane	107	61-134

Type: MSD Lab ID: QC390735

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,599	101	57-134	1	32

Surrogate	%REC	Limits
Hexacosane	104	61-134

**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	125876
Lab ID:	195153-001	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	119	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected  
 RL= Reporting Limit

**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	125876
Lab ID:	195153-002	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.429		

Analyte	Result	RL
MTBE	ND	0.7
Benzene	10	0.7
Toluene	ND	0.7
Chlorobenzene	ND	0.7
Ethylbenzene	ND	0.7
m,p-Xylenes	ND	0.7
o-Xylene	ND	0.7
1,3-Dichlorobenzene	ND	0.7
1,4-Dichlorobenzene	ND	0.7
1,2-Dichlorobenzene	ND	0.7

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	79-134
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected  
 RL= Reporting Limit

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## Purgeable Aromatics by GC/MS

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	MW-4DUP	Batch#:	125876
Lab ID:	195153-003	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.429		

Analyte	Result	RL
MTBE	ND	0.7
Benzene	11	0.7
Toluene	ND	0.7
Chlorobenzene	ND	0.7
Ethylbenzene	ND	0.7
m,p-Xylenes	ND	0.7
o-Xylene	ND	0.7
1,3-Dichlorobenzene	ND	0.7
1,4-Dichlorobenzene	ND	0.7
1,2-Dichlorobenzene	ND	0.7

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	115	79-134
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected  
RL= Reporting Limit

**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	125876
Lab ID:	195153-004	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	118	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected  
 RL= Reporting Limit

**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	MW-8A	Batch#:	125876
Lab ID:	195153-005	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	122	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	105	80-122

ND= Not Detected  
RL= Reporting Limit

**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	QCEB	Batch#:	125877
Lab ID:	195153-006	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected  
RL= Reporting Limit



**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	QCTB	Batch#:	125877
Lab ID:	195153-007	Sampled:	06/01/07
Matrix:	Water	Received:	06/01/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected  
RL= Reporting Limit

## Batch QC Report

## Purgeable Aromatics by GC/MS

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC390559	Batch#:	125876
Matrix:	Water	Analyzed:	06/04/07
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	124	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

## Purgeable Aromatics by GC/MS

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC390562	Batch#:	125877
Matrix:	Water	Analyzed:	06/04/07
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Purgeable Aromatics by GC/MS**

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	125876
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Type: BS Lab ID: QC390560

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	23.91	96	71-120
Benzene	25.00	27.36	109	80-120
Toluene	25.00	27.63	111	80-120
Chlorobenzene	25.00	27.60	110	80-120
Ethylbenzene	25.00	29.30	117	80-124
m,p-Xylenes	50.00	59.04	118	80-127
o-Xylene	25.00	28.52	114	80-124

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	119	79-134
Toluene-d8	103	80-120
Bromofluorobenzene	101	80-122

Type: BSD Lab ID: QC390561

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.20	97	71-120	1	20
Benzene	25.00	27.47	110	80-120	0	20
Toluene	25.00	27.81	111	80-120	1	20
Chlorobenzene	25.00	27.30	109	80-120	1	20
Ethylbenzene	25.00	29.25	117	80-124	0	20
m,p-Xylenes	50.00	58.62	117	80-127	1	20
o-Xylene	25.00	28.56	114	80-124	0	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	118	79-134
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-122

RPD= Relative Percent Difference



## Batch QC Report

## Purgeable Aromatics by GC/MS

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC390563	Batch#:	125877
Matrix:	Water	Analyzed:	06/04/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	25.96	104	71-120
Benzene	25.00	27.16	109	80-120
Toluene	25.00	28.28	113	80-120
Chlorobenzene	25.00	27.68	111	80-120
Ethylbenzene	25.00	29.07	116	80-124
m,p-Xylenes	50.00	60.23	120	80-127
o-Xylene	25.00	28.58	114	80-124

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

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## Batch QC Report

## Purgeable Aromatics by GC/MS

Lab #:	195153	Location:	HFC, 2277 7th St. Oakland, CA
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y5395-02	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	125877
MSS Lab ID:	195106-002	Sampled:	05/30/07
Matrix:	Water	Received:	05/31/07
Units:	ug/L	Analyzed:	06/04/07
Diln Fac:	1.000		

Type: MS Lab ID: QC390695

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.04716	25.00	24.54	98	73-120
Benzene	<0.2500	25.00	26.90	108	80-123
Toluene	<0.1338	25.00	27.56	110	80-122
Chlorobenzene	<0.1569	25.00	26.96	108	80-120
Ethylbenzene	<0.1383	25.00	28.60	114	80-126
m,p-Xylenes	<0.2963	50.00	58.89	118	80-125
o-Xylene	<0.1621	25.00	27.87	111	80-124

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

Type: MSD Lab ID: QC390696

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.79	99	73-120	1	20
Benzene	25.00	27.03	108	80-123	0	20
Toluene	25.00	27.74	111	80-122	1	20
Chlorobenzene	25.00	27.41	110	80-120	2	20
Ethylbenzene	25.00	29.28	117	80-126	2	20
m,p-Xylenes	50.00	60.29	121	80-125	2	20
o-Xylene	25.00	29.02	116	80-124	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

RPD= Relative Percent Difference

**APPENDIX C**

**HISTORICAL ANALYTICAL AND GROUNDWATER LEVEL DATA**

**TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation <sup>1</sup> Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation <sup>1</sup> (feet)
<b>MW-1</b>						
	04/18/00	14.14	NM	8.21	0.0	5.93
	05/22/00	14.14	NM	8.51	0.0	5.97
	07/10/01	14.14	8.8	10.00	1.2	4.14
	12/12/01	14.14	NA	NA	NA	NC
	03/08/02	14.14	NM	NA	NA	NC
	06/13/02	14.14	8.70	10.00	1.30	NC
	09/26/02	14.14	8.60	9.50	0.90	NC
	03/17/03	14.14	7.61	8.88	1.27	NC
	06/18/03	14.14	8.20	9.44	1.24	NC
	09/03/03	14.14	8.50	9.40	0.90	NC
	11/26/03	14.14	8.85	9.25	0.40	NC
	03/05/04	14.14	6.76	7.07	0.31	NC
	06/02/04	14.14	8.26	8.71	0.45	NC
	09/03/04	14.14	8.70	9.11	0.41	NC
	12/16/04	14.14	7.75	7.92	0.17	NC
	03/29/05	14.14	6.21	6.38	0.17	NC
	06/14/05	14.14	7.41	7.61	0.20	NC
	08/10/05	14.14	8.05	8.55	0.50	NC
	09/29/05	14.14	8.28	8.95	0.67	NC
	12/21/05	14.14	5.70	5.90	0.20	NC
	03/24/06	14.14	5.98	6.27	0.29	NC
	07/28/06	14.14	7.88	8.35	0.47	NC
	11/29/06	NA	10.58	10.81	0.23	NA
	06/01/07	16.29	11.11	11.45	0.34	NC
<b>MW-2</b>						
	12/31/97	14.36	NP	8.73	0.00	5.63
	04/13/98	14.36	NP	7.72	0.00	6.64
	11/06/98	14.36	NP	9.43	0.00	4.93
	03/19/99	14.36	NP	8.21	0.00	6.15
	06/24/99	14.36	NP	8.91	0.00	5.45
	09/28/99	14.36	NP	9.42	0.00	4.94
	11/12/99	14.36	NP	9.63	0.00	4.73
	02/11/00	14.36	NP	8.54	0.00	5.82
	05/22/00	14.36	NP	8.10	0.00	6.26
	09/06/00	14.36	NP	8.79	0.00	5.57
	12/19/00	14.36	NP	9.19	0.00	5.17
	02/21/01	14.36	NP	7.99	0.00	6.37
	04/03/01	14.36	NP	8.23	0.00	6.13
	07/10/01	14.36	NP	8.70	0.00	5.66
	12/12/01	14.36	NP	8.16	0.00	6.20
	01/22/02	14.36	NP	7.64	0.00	6.72
	03/08/02	14.36	NP	8.31	0.00	6.05
	06/13/02	14.36	NP	8.64	0.00	5.72



TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California

Monitoring Well	Date Measured	Elevation <sup>1</sup> Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation <sup>1</sup> (feet)
	09/26/02	14.36	NP	8.95	0.00	5.41
	12/12/02	14.36	NP	9.17	0.00	5.19
	03/17/03	14.36	NP	7.77	0.00	6.59
	06/18/03	14.36	NP	8.44	0.00	5.92
	09/03/03	14.36	NP	8.98	0.00	5.38
	11/26/03	17.21	NP	12.01	0.00	5.20
	03/05/04	17.21	NP	9.75	0.00	7.46
	06/02/04	17.21	NP	11.22	0.00	5.99
	09/03/04	17.21	NP	11.62	0.00	5.59
	12/16/04	17.21	NP	10.80	0.00	6.41
	03/29/05	17.21	NP	9.67	0.00	7.54
	06/14/05	17.21	NP	10.68	0.00	6.53
	08/10/05	17.21	NP	11.05	0.00	6.16
	09/29/05	17.21	NP	11.32	0.00	5.89
	12/21/05	16.96	NP	9.57	0.00	7.39
	03/24/06	16.96	NP	9.55	0.00	7.41
	07/28/06	16.96	NP	10.85	0.00	6.11
	11/29/06	NA	NP	11.69	0.00	NA
	06/01/07	16.92	NP	11.72	0.00	5.20
<b>MW-3</b>						
	11/06/98	14.22	8.84	9.94	1.10	NC
	03/19/99	14.22	7.52	8.05	0.53	NC
	06/24/99	14.22	8.38	8.56	0.18	NC
	11/12/99	14.22	9.14	9.23	0.09	NC
	02/11/00	14.22	7.97	8.37	0.40	NC
	03/01/00	14.22	6.59	7.24	0.65	NC
	03/21/00	14.22	6.50	6.56	0.06	NC
	05/22/00	14.22	7.51	8.05	0.54	NC
	06/26/00	14.22	7.82	8.20	0.38	NC
	07/25/00	14.22	7.90	8.92	1.02	NC
	08/31/00	14.22	8.15	9.50	1.35	NC
	09/06/00	14.22	8.21	9.42	1.21	NC
	09/21/00	14.22	8.30	8.88	0.58	NC
	12/19/00	14.22	8.60	9.65	1.05	NC
	02/22/01	14.22	6.36	8.15	1.79	NC
	04/03/01	14.22	7.48	8.88	1.40	NC
	04/23/01	14.22	7.85	9.10	1.25	NC
	05/30/01	14.22	7.75	9.10	1.35	NC
	07/10/01	14.22	8.10	9.60	1.50	NC
	03/08/02	14.22	7.80	8.00	0.20	NC
	04/03/02	14.22	7.60	7.70	0.10	NC
	04/23/02	14.22	7.90	8.40	0.50	NC
	04/25/02	14.22	7.90	8.80	0.90	NC
	05/10/02	14.22	8.10	8.20	0.10	NC

TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California

Monitoring Well	Date Measured	Elevation <sup>1</sup> Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation <sup>1</sup> (feet)
	05/24/02	14.22	8.05	8.10	0.05	NC
	06/13/02	14.22	8.10	8.70	0.60	NC
	07/05/02	14.22	8.10	8.95	0.85	NC
	07/19/02	14.22	8.10	8.90	0.80	NC
	07/30/02	14.22	8.10	8.90	0.80	NC
	08/14/02	14.22	8.10	8.90	0.80	NC
	09/13/02	14.22	8.30	9.30	1.00	NC
	09/26/02	14.22	8.30	9.00	0.70	NC
	10/14/02	14.22	8.60	9.50	0.90	NC
	11/04/02	14.22	8.75	9.99	1.24	NC
	11/21/02	14.22	8.59	11.29	2.70	NC
	12/06/02	14.22	8.56	9.30	0.74	NC
	12/18/02	14.22	7.35	8.43	1.08	NC
	12/30/02	14.22	6.50	7.15	0.65	NC
	01/02/03	14.22	6.20	6.20	0.00	8.02
	01/03/03	14.22	6.21	6.21	0.00	8.01
	01/14/03	14.22	6.20	6.21	0.01	8.01
	01/30/03	14.22	6.81	6.85	0.04	7.37
	02/18/02	14.22	7.09	7.15	0.06	NC
	02/26/03	14.22	7.04	7.11	0.07	NC
	03/13/03	14.22	7.22	8.11	0.89	NC
	03/17/03	14.22	7.15	7.50	0.35	NC
	04/16/03	14.22	7.27	8.25	0.98	NC
	06/18/03	14.22	7.78	9.00	1.22	NC
	09/03/03	14.22	8.31	9.96	1.65	NC
	11/26/03	16.18	10.79	12.85	2.06	NC
	03/05/04	16.18	8.39	9.85	1.46	NC
	06/02/04	16.18	10.03	11.35	1.32	NC
	09/03/04	16.18	10.46	12.06	1.60	NC
	12/16/04	16.18	9.41	10.38	0.97	NC
	03/29/05	16.18	8.17	9.01	0.84	NC
	06/14/05	16.18	9.59	10.55	0.96	NC
	08/10/05	16.18	9.91	11.15	1.24	NC
	09/29/05	16.18	10.21	11.61	1.40	NC
	12/21/05	16.18	8.21	8.28	0.07	NC
	03/24/06	16.18	8.20	8.82	0.62	NC
	07/28/06	16.18	9.81	9.83	0.02	NC
	11/29/06	NA	10.72	11.70	0.98	NA
	06/01/07	16.15	10.77	11.46	0.69	NC
<b>MW-4</b>						
	12/31/97	13.15	NP	7.09	0.0	6.06
	04/13/98	13.15	NP	7.71	0.0	5.44
	11/06/98	13.15	NP	8.69	0.0	4.46
	03/19/99	13.15	NP	8.00	0.0	5.15

TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California

Monitoring Well	Date Measured	Elevation <sup>1</sup> Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation <sup>1</sup> (feet)
	06/24/99	13.15	NP	8.45	0.0	4.70
	09/28/99	13.15	NP	8.73	0.0	4.42
	11/12/99	13.15	NP	8.83	0.0	4.32
	02/11/00	13.15	NP	7.71	0.0	5.44
	05/22/00	13.15	NP	8.09	0.0	5.06
	09/06/00	13.15	NP	8.32	0.0	4.83
	12/19/00	13.15	NP	8.47	0.0	4.68
	02/21/01	13.15	NP	7.51	0.0	5.64
	04/03/01	13.15	NP	8.13	0.0	5.02
	07/10/01	13.15	NP	8.12	0.0	5.03
	12/12/01	13.15	NP	7.65	0.0	5.50
	01/22/02	13.15	NP	7.60	0.0	5.55
	03/08/02	13.15	NP	7.96	0.0	5.19
	06/13/02	13.15	NP	8.20	0.0	4.95
	09/26/02	13.15	NP	8.21	0.0	4.94
	12/12/02	13.15	NP	8.38	0.0	4.77
	03/17/03	13.15	NP	7.72	0.0	5.43
	06/18/03	13.15	NP	8.02	0.0	5.13
	09/03/03	13.15	NP	8.29	0.0	4.86
	11/26/03	13.15	NP	8.69	0.0	4.46
	03/05/04	13.15	NP	7.45	0.0	5.70
	06/02/04	13.15	NP	8.25	0.0	4.90
	09/03/04	13.15	NP	8.31	0.0	4.84
	12/16/04	13.15	NP	7.96	0.0	5.19
	03/29/05	13.15	NP	7.11	0.0	6.04
	06/14/05	13.15	NP	7.90	0.0	5.25
	08/10/05	13.15	NP	7.86	0.0	5.29
	09/29/05	13.15	NP	8.00	0.0	5.15
	12/21/05	13.15	NP	7.30	0.0	5.85
	03/24/06	13.15	NP	7.05	0.0	6.10
	07/28/06	13.15	NP	7.92	0.0	5.23
	11/29/06	NA	NP	11.63	0.0	NA
	06/01/07	16.40	NP	11.82	0.0	4.58
<b>MW-5</b>						
	12/31/97	13.49	NP	6.38	0.0	7.11
	04/13/98	13.49	NP	5.56	0.0	7.93
	11/06/98	13.49	NP	6.59	0.0	6.90
	03/19/99	13.49	NP	6.20	0.0	7.29
	06/24/99	13.49	NP	6.73	0.0	6.76
	09/28/99	13.49	NP	6.91	0.0	6.58
	11/12/99	13.49	NP	7.06	0.0	6.43
	02/11/00	13.49	NP	7.00	0.0	6.49
	05/22/00	13.49	NP	6.21	0.0	7.28
	09/06/00	13.49	NP	6.56	0.0	6.93

TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California

Monitoring Well	Date Measured	Elevation <sup>1</sup> Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation <sup>1</sup> (feet)
	12/19/00	13.49	NP	6.68	0.0	6.81
	02/21/01	13.49	NP	6.08	0.0	7.41
	04/03/01	13.49	NP	6.38	0.0	7.11
	07/10/01	13.49	NP	6.58	0.0	6.91
	12/12/01	13.49	NP	6.40	0.0	7.09
	01/22/02	13.49	NP	6.10	0.0	7.39
	03/08/02	13.49	NP	6.10	0.0	7.39
	06/13/02	13.49	NP	6.31	0.0	7.18
	09/26/02	13.49	NP	6.60	0.0	6.89
	12/12/02	13.49	NP	6.75	0.0	6.74
	03/17/03	13.49	NP	5.73	0.0	7.76
	06/18/03	13.49	NP	6.10	0.0	7.39
	09/03/03	13.49	NP	6.50	0.0	6.99
	11/26/03	13.49	NP	6.70	0.0	6.79
	03/05/04	13.49	NP	5.70	0.0	7.79
	06/02/04	13.49	NP	6.27	0.0	7.22
	09/03/04	13.49	NP	6.61	0.0	6.88
	12/16/04	13.49	NP	6.02	0.0	7.47
	03/29/05	13.49	NP	5.25	0.0	8.24
	06/14/05	13.49	NP	5.82	0.0	7.67
	08/10/05	13.49	NP	6.00	0.0	7.49
	09/29/05	13.49	NP	6.26	0.0	7.23
	12/21/05	13.49	NP	5.91	0.0	7.58
	03/24/06	13.49	NP	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>
	07/28/06	13.49	NP	6.08	0.00	7.41
	11/29/06	NA	NP	9.39	0.00	NA
	06/01/07	15.89	NP	10.60	0.00	5.29
<b>MW-6</b>						
	06/24/99	14.00	NP	8.61	0.0	5.39
	09/28/99	14.00	NP	9.26	0.0	4.74
	11/12/99	14.00	NP	8.01	0.0	5.99
	02/11/00	14.00	NP	7.20	0.0	6.80
	05/22/00	14.00	NP	7.13	0.0	6.87
	09/06/00	14.00	NP	7.12	0.0	6.88
	12/19/00	14.00	NP	7.57	0.0	6.43
	02/21/01	14.00	NP	7.50	0.0	6.50
	04/03/01	14.00	NP	6.88	0.0	7.12
	07/10/01	14.00	NP	7.15	0.0	6.85
	12/12/01	14.00	NP	9.50	0.0	4.50
	01/22/02	14.00	NP	6.69	0.0	7.31
	03/08/02	14.00	NP	6.98	0.0	7.02
	06/13/02	14.00	NP	7.45	0.0	6.55
	09/26/02	14.00	NP	7.95	0.0	6.05

TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California

Monitoring Well	Date Measured	Elevation <sup>1</sup> Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation <sup>1</sup> (feet)
	12/12/02	14.00	NP	7.71	0.0	6.29
	12/18/02	Monitoring well was destroyed				
<b>MW-7</b>						
	12/31/97	14.35	NP	8.88	0.0	5.47
	04/13/98	14.35	NP	7.86	0.0	6.49
	11/06/98	14.35	NP	9.55	0.0	4.8
	03/19/99	14.35	NP	8.41	0.0	5.94
	06/24/99	14.35	NP	9.08	0.0	5.27
	09/28/99	14.35	NP	9.60	0.0	4.75
	11/12/99	14.35	NP	9.77	0.0	4.58
	02/11/00	14.35	NP	8.67	0.0	5.68
	05/22/00	14.35	NP	8.43	0.0	5.92
	09/06/00	14.35	NP	8.88	0.0	5.47
	12/19/00	14.35	NP	9.21	0.0	5.14
	02/21/01	14.35	NP	8.13	0.0	6.22
	04/03/01	14.35	NP	8.45	0.0	5.9
	07/10/01	14.35	NP	8.87	0.0	5.48
	12/12/01	14.35	NP	8.39	0.0	5.96
	01/22/02	14.35	NP	7.99	0.0	6.36
	03/08/02	14.35	NP	8.51	0.0	5.84
	06/13/02	14.35	NP	8.90	0.0	5.45
	09/26/02	14.35	NP	9.00	0.0	5.35
	12/12/02	14.35	NP	9.28	0.0	5.07
	12/18/02	Monitoring well was destroyed				
<b>MW-8 <sup>3</sup></b>						
	12/31/97	12.94	8.49	8.82	0.33	NC
	11/06/98	12.94	9.25	10.3	1.05	NC
	11/21/98	Monitoring well was destroyed				
<b>MW-8A</b>						
	12/12/01	12.94	NP	7.20	0.0	NA
	01/22/02	12.94	NP	7.20	0.0	5.74
	03/08/02	12.94	NP	7.70	0.0	5.24
	06/13/02	12.94	NP	7.72	0.0	5.22
	09/26/02	12.94	NP	7.91	0.0	5.03
	12/12/02	12.94	NP	8.15	0.0	4.79
	03/17/03	12.94	NP	7.28	0.0	5.66
	06/18/03	12.94	NP	7.72	0.0	5.22
	09/03/03	12.94	NP	8.18	0.0	4.76
	11/26/03	12.94	NP	8.55	0.0	4.39
	03/05/04	12.94	NP	6.92	0.0	6.02
	06/02/04	12.94	NP	7.92	0.0	5.02
	09/03/04	12.94	NP	8.16	0.0	4.78
	12/16/04	12.94	NP	7.62	0.0	5.32
	03/29/05	12.94	NP	6.63	0.0	6.31
	06/14/05	12.94	NP	7.60	0.0	5.34
	08/10/05	12.94	NP	7.50	0.0	5.44
	09/29/05	12.94	NP	7.76	0.0	5.18

**TABLE C-1 : Groundwater Elevation Data  
Port of Oakland Harbor Facilities Center  
2277 7th Street, Oakland, California**

<b>Monitoring Well</b>	<b>Date Measured</b>	<b>Elevation <sup>1</sup> Top of Casing (feet)</b>	<b>Depth to Product (feet btc)</b>	<b>Depth to Water (feet btc)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation <sup>1</sup> (feet)</b>
	12/21/05	12.94	NP	6.90	0.0	6.04
	03/24/06	12.94	NP	6.65	0.0	6.29
	07/28/06	12.94	NP	7.34	0.0	6.65
	11/29/06	NA	NP	11.41	0.0	NA
	06/01/07	15.48	NP	11.26	0.0	4.22

Notes:

Source of data prior to December 2005: Innovative Technical Solutions, Inc. *Third Quarter of 2005 Groundwater Monitoring and Product Monitoring Report*, 8 November 2005.

NP = no product detected with the interface probe

NC = not calculated due to the presence of free-phase product in the well

btc = below top of the well casing

NA = not available

NM = not measured

<sup>1</sup> Elevation data relative to Port of Oakland datum.

<sup>2</sup> Well could not be measured due to abundant surface water covering well head.

<sup>3</sup> Viscous product not related to the lighter product identified in other wells.

TABLE C-2: Groundwater Analytical Results (µg/L)

Port of Oakland Harbor Facilities Center

2277 7th Street, Oakland, California

Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1	05/22/00	3,600	41,000	<3,000	100	13 <sup>8</sup>	2.9	2.05	3.2 <sup>8</sup>
MW-2	05/27/94	87	470	NA	<0.5	<0.5	<0.5	<0.5	NA
	03/29/95	<50	110	1,400	<0.4	<0.3	<0.3	<0.4	NA
	09/06/95	<50	NA	NA	<0.4	<0.3	<0.3	<0.4	NA
	01/08/96	<50	<50	1200	<0.4	<0.3	<0.3	<0.4	NA
	04/04/96	<50	160	320	<0.5	<0.5	<0.5	<1.0	NA
	07/10/96	<50	120	1400	<0.4	<0.3	<0.3	<0.4	NA
	12/03/96	<50	230 <sup>1,2</sup>	<250	<0.5	<0.5	<0.5	<1.0	NA
	03/28/97	<50	714	<250	<0.5	<0.5	<0.5	<1.0	NA
	06/13/97	51	<50	<250	<0.5	<0.5	<0.5	<1.0	NA
	09/18/97	82	<50	<250	0.56	<0.5	<0.5	<1.0	NA
	12/31/97	<50	<47	<280	1.4	<0.5	<0.5	<1.0	NA
	04/13/98	<50	<50	<300	<0.5	<0.5	<0.5	<1.0	NA
	11/06/98	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/19/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/24/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/28/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	11/12/99	<50	120 <sup>2,6</sup>	<300	<0.5	<0.5	<0.5	<0.5	6.3 <sup>8,9</sup>
	02/11/00	<50	<50	<300	5.4	<0.5	<0.5	<0.5	<2
	05/22/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	09/06/00	<50	<50	<300	0.76 <sup>8</sup>	<0.5	<0.5	<0.5	<0.5 <sup>10</sup>
	12/19/00	200 <sup>3,11</sup>	<50	<300	39	1.8	<0.5	2.6	<0.5 <sup>10,12</sup>
	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	07/10/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/05/01	<50	<50	<300	4.4	<0.5	<0.5	<0.5	5.0 <sup>14</sup>
	03/08/02	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	06/13/02	62 <sup>15</sup>	<57	<570	<0.5	<0.5	<0.5	<0.5	<5.0
	09/26/02	69 <sup>2</sup>	<50	<500	1.8	<0.5	<0.5	<0.5	<5.0
	12/12/02	<50	<50	<300	0.98	<0.5	<0.5	<0.5	<2.0
	03/17/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/18/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/03	<50	<50	<300	3.2	<0.5	<0.5	<0.5	<2.0
	11/26/03	<50	<50	<300	3	<0.5	<0.5	<0.5	<2.0
	03/05/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/02/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/16/04	<50	96 <sup>6,15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/29/05	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	08/10/05	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE C-2: Groundwater Analytical Results (µg/L)

Port of Oakland Harbor Facilities Center

2277 7th Street, Oakland, California

Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
	09/29/05	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	12/21/05	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	03/24/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	07/28/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	11/29/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	09/11/95	150	<200	500	23	<0.3	<0.3	<0.4	NA
	01/08/96	790	90	400	170	1.2	0.6	0.6	NA
	04/04/96	1,100	180	300	320	1.6	1.1	1.2	NA
	07/10/96	1,200	120	300	470	1.5	0.8	0.8	NA
	12/03/96	990	220 <sup>1,2</sup>	<250	350	3.3	1.3	1.3	NA
	03/28/97	440 <sup>2</sup>	<50	<250	190	1.2	0.64	<1.0	NA
	06/13/97	1,300	92 <sup>5</sup>	<250	500	5.5	3.4	2.8	NA
	09/18/97	1,300	150	<250	550	4.9	2.1	2.00	NA
	12/31/97	73 <sup>1,2,3</sup>	<47	<280	110 <sup>1</sup>	1.0 <sup>1</sup>	<0.5	<1.0	NA
	04/13/98	150 <sup>2,3</sup>	<50	<300	520	2.9	<2.5	<5.0	NA
	11/06/98	<50	<50	<300	250	1.7	<1.0	<1.0	<4
	03/19/99	81	<50	<300	250	<1	1.2	<1.0	<4
Dup.	06/24/99	190	<50	<300	360	1.4	2.2	1.0	24
	09/28/99	750 <sup>3,5</sup>	63 <sup>3,5</sup>	<300	280	1.5	<1.0	<1.0	<4
	11/12/99	330 <sup>3</sup>	840 <sup>2</sup>	<300	740	<2.5	<2.5	<2.5	42 <sup>9</sup>
	02/11/00	200 <sup>2</sup>	<50	<300	58	0.73	<0.5	<0.5	4.4 <sup>8</sup>
	05/22/00	240	<50	<300	500	<2.5	<2.5	<2.5	17
	09/06/00	530 <sup>2,3</sup>	<50	<300	190	0.93	0.6	0.57	<0.5 <sup>10</sup>
	12/19/00	960 <sup>3,11</sup>	70 <sup>5</sup>	<300	420	<2.5	<2.5	<2.5	<0.5 <sup>10,12</sup>
	12/19/00	1,200 <sup>3,11</sup>	<50	<300	440	<2.5	<2.5	<2.5	<0.5 <sup>10,12</sup>
	02/21/01	450 <sup>13</sup>	<50	<300	120	<0.5	<0.5	<0.5	<0.5 <sup>10</sup>
	07/10/01	<250	110 <sup>2,13</sup>	<300	620	2.6	2.9	<2.5	<0.5 <sup>8,10</sup>
	12/05/01	180	<50	<300	61	<0.5	<0.5	<0.5	3.8 <sup>14</sup>
	03/08/02	490 <sup>2</sup>	54 <sup>2</sup>	<500	180	<2.5	<2.5	<2.5	<25
	06/13/02	830 <sup>2</sup>	<50	<500	250	<5.0	<5.0	<5.0	<50
Dup.	06/13/02	820 <sup>2</sup>	<56	<560	240	<5.0	<5.0	<5.0	<50
	09/26/02	390 <sup>2</sup>	57	<500	150	2.1	<1.0	<1.0	<10
Dup.	09/26/02	500 <sup>2</sup>	<50 <sup>16</sup>	<500 <sup>16</sup>	200	1.5	<1.0	<1.0	<10
	12/12/02	580	<50	<300	240	1.4	0.56	<0.5	<2.0
Dup.	12/12/02	2,400	<50	<300	680	5.0	2.3	1.4	<2.0
	03/17/03	130 <sup>15</sup>	<50	<300	320 <sup>17</sup>	<0.5	<0.5	<0.5	<0.5 <sup>10</sup>
Dup.	03/17/03	82 <sup>15</sup>	<50	<300	190	0.64 <sup>17</sup>	0.56	0.53	<0.5 <sup>10</sup>
	06/18/03	360 <sup>11,15</sup>	<50	<300	150	<0.5	<0.5	<0.5	<2.0
Dup.	06/18/03	330 <sup>11,15</sup>	<50	<300	140	<0.5	<0.5	<0.5	<2.0
	09/03/03	140 <sup>11,15</sup>	<50	<300	240	1.3	<0.5	<0.5	<2.0



TABLE C-2: Groundwater Analytical Results (µg/L)

Port of Oakland Harbor Facilities Center

2277 7th Street, Oakland, California

Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
Dup.	09/03/03	83 <sup>11, 15</sup>	<50	<300	130	0.58 <sup>17</sup>	<0.5	<0.5	<2.0
	11/26/03	160 <sup>15</sup>	68 <sup>15</sup>	<300	320	0.91 <sup>17</sup>	<0.5	0.53	<2.0
Dup.	11/26/03	120 <sup>15</sup>	<50	<300	210	0.66 <sup>17</sup>	<0.5	<0.5	<2.0
	03/05/04	90 <sup>11</sup>	<50	<300	190	1.1	0.55	0.50 <sup>17</sup>	23 <sup>14,17</sup> , <0.5 <sup>10</sup>
Dup.	03/05/04	84 <sup>11</sup>	<50	<300	180	0.81	<0.5	<0.5	21 <sup>14,17</sup> , <0.5 <sup>10</sup>
	06/02/04	620 <sup>13</sup>	<50	<300	210	0.55 <sup>17</sup>	<0.5	<0.5	<2.0
Dup.	06/02/04	400 <sup>13</sup>	<50	<300	130	<0.5	<0.5	<0.5	<2.0
	09/03/04	780 <sup>13, 15</sup>	<50	<300	<0.5	1.0 <sup>17</sup>	<0.5	0.57	<2.0
Dup.	09/03/04	370 <sup>13, 15</sup>	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/16/04	840	<50	<300	290	1.3 <sup>17</sup>	0.69	0.75	<2.0
Dup.	12/16/04	670	<50	<300	230	1.3 <sup>17</sup>	<0.5	<0.5	<2.0
	03/29/05	440 <sup>13</sup>	<50	<300	140	0.57	<0.5	<0.5	<2.0
Dup.	03/29/05	540 <sup>13</sup>	<50	<300	170	0.72	<0.5	<0.5	<2.0
	08/10/05	500 <sup>18</sup>	<50	<250	180	<2.5	<2.5	<2.5	<2.5
	09/29/05	360 <sup>18</sup>	59 <sup>20</sup>	<250	160	<5.0	<5.0	<5.0	<5.0
Dup.	09/29/05	420 <sup>18</sup>	<50	<250	150	<5.0	<5.0	<5.0	<5.0
	12/21/05	110	<50	<300	76	<0.5	<0.5	<0.5	<0.5
Dup.	12/21/05	160	<50	<300	76	<0.5	<0.5	<0.5	<0.5
	03/24/06	420	51	<300	120	0.8	<0.7	<0.7	<0.7
Dup.	03/24/06	440	<50	<300	130	<0.7	<0.7	<0.7	<0.7
	08/04/06	560	92 <sup>2</sup>	<300	160	<1.3	4.3	<1.3	<1.3
Dup.	08/04/06	590	100 <sup>2</sup>	<300	150	<1.3	4.5	<1.3	<1.3
	11/29/06	300	<50	<300	42	<0.7	1.0	<0.7	<0.7
Dup.	11/29/06	300	<50	<300	60	<0.7	<0.7	<0.7	<0.7
	06/01/07	100 <sup>13, 15</sup>	<50	<300	10	<0.5	<0.5	<0.5	<0.5
Dup.	06/01/07	100 <sup>13, 15</sup>	<50	<300	11	<0.5	<0.5	<0.5	<0.5
MW-5	09/11/95	90	<300	2,500	3.3	<0.3	<0.3	<0.4	NA
	04/04/96	<50	180	520	<0.5	<0.5	<0.5	<1.0	NA
	07/10/96	<50	120	1,500	<0.4	<0.3	<0.3	<0.4	NA
	12/03/96	<50	200 <sup>1,2</sup>	<250	<0.5	<0.5	<0.5	<1.0	NA
	03/28/97	<50	<50	<250	<0.5	<0.5	<0.5	<1.0	NA
	06/13/97	<50	<50	<250	<0.5	<0.5	<0.5	<1.0	NA
	09/18/97	<50	<50	<250	<0.5	<0.5	<0.5	<1.0	NA
	12/31/97	<50	<47	<280	<0.5	<0.5	<0.5	<1.0	NA
	04/13/98	<50	<47	<280	<0.5	<0.5	<0.5	<1.0	NA
	11/06/98	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/19/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/24/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	3.1
	09/28/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	11/12/99	<50	110 <sup>2,6</sup>	<300	<0.5	<0.5	<0.5	<0.5	5.5 <sup>9</sup>
	02/11/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	05/22/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0

TABLE C-2: Groundwater Analytical Results (µg/L)

Port of Oakland Harbor Facilities Center

2277 7th Street, Oakland, California

Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
	09/06/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/19/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	07/10/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/05/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/08/02	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	06/13/02	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	09/26/02	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	12/12/02	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/17/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5 <sup>10</sup>
	06/18/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	11/26/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	4.1 <sup>14</sup> , <0.5 <sup>10</sup>
	03/05/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/02/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/16/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	2.2 <sup>14</sup> , <0.5 <sup>10</sup>
	03/29/05	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	08/10/05	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5
Dup.	08/10/05	<50 <sup>19</sup>	<50 <sup>19</sup>	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	09/29/05	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	12/21/05	<50	180 <sup>15,22</sup>	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	07/28/06	<50	180	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	11/29/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
MW-6	11/06/98	120	12,000	1,200	19	0.65	1.8	<0.5	<2
	03/19/99	170	3,800	580	21	0.86	1.5	2.9	<2
	06/24/99	120	1,700 <sup>7</sup>	<300 <sup>7</sup>	18	<0.5	1.0	<0.5	54
	09/28/99	130 <sup>3,5</sup>	820	<300	20	0.51	2.2	<0.5	<2
	11/12/99	150	11,000 <sup>2,6</sup>	3,000 <sup>3,6</sup>	27	<0.5	2.2	<0.5	13 <sup>9</sup>
	02/11/00	270 <sup>2</sup>	2,300	<300	23	0.51	2.7	<0.5	5.8
	05/22/00	350	3,000	<300	18	0.51	<0.5	<0.5	7.7
	09/06/00	190	610	<300	26	<0.5	1.7	<0.5	<0.5 <sup>10</sup>
	12/19/00	130 <sup>3,11</sup>	620	<300	24	<0.5	1.6	<0.5	<2
	02/21/01	120 <sup>13</sup>	440	<300	21	<0.5	0.96	<0.5	<2
	07/10/01	120	560	<300	29	<0.5	0.99	<0.5	<2
	12/12/01	53	550	<300	27	<0.5	1.3	<0.5	<2.0
	03/08/02	160 <sup>2</sup>	640 <sup>2</sup>	<500	30	<0.5	<0.5	<0.5	5.0 <sup>14</sup>
	06/13/02	160 <sup>2</sup>	670 <sup>2</sup>	<500	34	<0.5	<0.5	<0.5	<5.0
	09/26/02	230 <sup>2</sup>	1400 <sup>2</sup>	<500	40	0.64	0.8	<0.5	<5.0
	12/12/02	53	110	<300	43	<0.5	<0.5	<0.5	<2.0

TABLE C-2: Groundwater Analytical Results (µg/L)

Port of Oakland Harbor Facilities Center

2277 7th Street, Oakland, California

Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
	12/18/02	Monitoring well was destroyed							
MW-7	09/06/95	<50	<300	800	<0.4	<0.3	<0.3	<0.4	NA
	01/08/96	<50	410	110	<0.4	<0.3	<0.3	<0.4	NA
	04/04/96	<50	530	340	<0.5	<0.5	<0.5	<1.0	NA
	07/10/96	80	840	1,700	<0.4	<0.3	<0.3	<0.4	NA
	12/03/96	<50	280 <sup>1,2</sup>	<250	<0.5	<0.5	<0.5	<1.0	NA
	03/28/97	65 <sup>6</sup>	94 <sup>2</sup>	<250	<0.5	<0.5	<0.5	<1.0	NA
	06/13/97	<50	100	<250	<0.5	<0.5	<0.5	<1.0	NA
	09/18/97	<50	240	<250	<0.5	<0.5	<0.5	<1.0	NA
	12/31/97	<50	53 <sup>2,3</sup>	<280	<0.5	<0.5	<0.5	<1.0	NA
	04/13/98	<50	<48	<290	<0.5	<0.5	<0.5	<1.0	NA
	11/06/98	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	03/19/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	5.3
	06/24/99	73	<50	<300	<0.5	<0.5	<0.5	<0.5	12
	09/28/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	14
	11/12/99	<50	600 <sup>2,6</sup>	420 <sup>3</sup>	<0.5	<0.5	<0.5	<0.5	15 <sup>9</sup>
	02/11/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	51
	05/22/00	110	53 <sup>2</sup>	<300	<0.5	<0.5	<0.5	<0.5	75
	09/06/00	50 <sup>6</sup>	<50	<300	<0.5	<0.5	<0.5	<0.5	40 <sup>10</sup>
	12/19/00	54 <sup>11</sup>	51 <sup>5</sup>	<300	<0.5	<0.5	<0.5	<0.5	47 <sup>10,12</sup>
	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	66 <sup>10</sup>
Dup.	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	60 <sup>10</sup>
	07/10/01	<50	51 <sup>2</sup>	<300	<0.5	<0.5	<0.5	<0.5	76 <sup>10</sup>
Dup.	07/10/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	75 <sup>10</sup>
	12/12/01	51	<50	<300	<0.5	<0.5	<0.5	<0.5	98 <sup>14</sup>
Dup.	12/12/01	64	52 <sup>13,15</sup>	<300	<0.5	<0.5	<0.5	<0.5	96 <sup>14</sup>
	03/08/02	52 <sup>2</sup>	<50	<500	<0.5	<0.5	<0.5	<0.5	24 <sup>14</sup>
	06/13/02	87 <sup>2</sup>	54 <sup>2</sup>	<500	<0.5	<0.5	<0.5	<0.5	51
	09/26/02	83 <sup>2</sup>	84 <sup>2</sup>	<500	<0.5	<0.5	<0.5	<0.5	75 <sup>10</sup>
	12/12/02	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	58 <sup>14</sup>
MW-8A	12/12/01	68	720 <sup>11,15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/08/02	<50	760 <sup>2</sup>	<570	<0.5	<0.5	<0.5	<0.5	<5.0
Dup.	03/08/02	<50	350 <sup>2</sup>	<580	<0.5	<0.5	<0.5	<0.5	<5.0
	06/13/02	<50	570 <sup>2</sup>	<570	<0.5	<0.5	<0.5	<0.5	<5.0
	09/26/02	<50	410 <sup>2</sup>	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	12/12/02	<50	160 <sup>15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/17/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5 <sup>10</sup>
	06/18/03	<50	74 <sup>15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	3.0 <sup>14</sup> / $<0.5$ <sup>10</sup>
	11/26/03	<50	94 <sup>15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0

TABLE C-2: Groundwater Analytical Results (µg/L)

Port of Oakland Harbor Facilities Center

2277 7th Street, Oakland, California

Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
	03/05/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/02/04	<50	67 <sup>15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/04	<50	86 <sup>15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/16/04	<50	160 <sup>6, 15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/29/05	<50	53	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	08/10/05	<50 <sup>19</sup>	150 <sup>15, 19</sup>	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	09/29/05	<50	66 <sup>21</sup>	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	12/21/05	<50	63 <sup>15, 22</sup>	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	03/24/06	<50	71	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	07/28/06	<50	70 <sup>15</sup>	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	11/29/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
	06/01/07	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5

**TABLE C-2: Groundwater Analytical Results ( $\mu\text{g/L}$ )  
Port of Oakland Harbor Facilities Center  
2277 and 2225 7th Street, Oakland, California**

Notes:

Data prior to December 2005 from *3rd Quarterly Groundwater Monitoring, and Product Recovery Report* dated 8 November 2005, by Innovative Technical Solutions, Inc.

$\mu\text{g/L}$  = micrograms per liter

Dup. = duplicate sample

NA = not analyzed

TPHg = total petroleum hydrocarbons in gasoline range.

TPHd = total petroleum hydrocarbons in diesel range.

TPHmo = total petroleum hydrocarbons in motor oil range.

MTBE = methyl tert-butyl ether

<sup>1</sup> Analyte found in the associated blank as well as in the sample.

<sup>2</sup> Hydrocarbons present do not match profile of laboratory standard.

<sup>3</sup> Low boiling point/lighter hydrocarbons are present in the sample.

<sup>4</sup> Chromatographic pattern matches known laboratory contaminant.

<sup>5</sup> Hydrocarbons are present in the requested fuel quantification range, but do not resemble pattern of available fuel standard.

<sup>6</sup> High boiling point/heavier hydrocarbons are present in sample.

<sup>7</sup> Sample did not pass laboratory QA/QC and may be biased low.

<sup>8</sup> Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two.

<sup>9</sup> Trip blank contained MTBE at a concentration of 4.2  $\mu\text{g/L}$ .

<sup>10</sup> MTBE detections confirmed by EPA Test Method 8260; 8260 results displayed.

<sup>11</sup> Sample exhibits unknown single peak or peaks.

<sup>12</sup> EPA Method 8260 confirmation analyzed past holding time.

<sup>13</sup> Lighter hydrocarbons contributed to the quantitation.

<sup>14</sup> MTBE results from EPA Test Method 8021B.

<sup>15</sup> Sample exhibits fuel pattern that does not resemble standard.

<sup>16</sup> Sample extracted out of hold time.

<sup>17</sup> Presence confirmed, but Relative Percent Difference (RPD) between columns exceeds 40%.

<sup>18</sup> Unmodified or weakly modified gasoline is significant.

<sup>19</sup> Liquid sample contains greater than ~1 vol. % sediment.

<sup>20</sup> Gasoline compounds are significant.

<sup>21</sup> Diesel range compounds are significant; no recognizable pattern.

<sup>22</sup> Heavier hydrocarbons contributed to the quantitation.