

PORT OF OAKLAND

RECEIVED

By loprojectop at 11:06 am, May 22, 2006

May 16, 2006

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

RE: RO#0000010 and RO#0000185_First Quarter 2006 Groundwater Monitoring and Remediation System Operation and Maintenance Report - Port of Oakland, Harbor Facilities Center, 2277 and 2225 Seventh Street, Oakland, CA_2006-05-16

Dear Mr. Chan:

Please find enclosed the report entitled *First Quarter 2006 Groundwater Monitoring and Remediation System Operation and Maintenance Report - Port of Oakland, Harbor Facilities Center, 2277 and 2225 Seventh Street, Oakland, CA* ("Report") dated May 2006, 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.

The Port has retained Baseline to continue the groundwater monitoring program. On behalf of the Port, Baseline requested a reduction in groundwater monitoring frequency from quarterly to semi-annual. This request was approved by the County¹ in late March 2006, but only after 1st quarter sampling had been performed. Results are contained in the enclosed Report. Future monitoring will be performed in accordance with the approved monitoring plan requirements and the next monitoring event will be performed during the June/July 2006 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,

Roberta L. Reinstein
Manager
Environment and Safety

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

Enclosure: noted

Cc (w encl.): Michele Heffes

Cc (w/o encl.): Jeff Jones
James McCarty (Baseline Environmental)
Yane Nordhav (Baseline Environmental)
Lydia Huang (Baseline Environmental)

¹ Approval specified in letter from Mr. Barney Chan (County) to Mr. Jeff Rubin (Port), regarding *Fuel Leak Cases RO0000010 and RO0000185, 2277 and 2225 7th St., Oakland, CA 94607*, dated March 23, 2006.

RECEIVED

By loppjectop at 11:06 am, May 22, 2006

FIRST QUARTER 2006
GROUNDWATER
MONITORING AND
REMEDATION
SYSTEM OPERATION
AND MAINTENANCE
REPORT

PORT OF OAKLAND
HARBOR FACILITIES CENTER
2277 and 2225 Seventh Street
Oakland, California

MAY 2006

FOR:
Port of Oakland
Oakland, California

Y5395-02

BASELINE
ENVIRONMENTAL CONSULTING

19 May 2006
Y5395-02

RECEIVED

By lopprojectop at 11:06 am, May 22, 2006

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

Subject: First Quarter 2006 Groundwater Monitoring and Remediation System Operation and Maintenance Report, Port Of Oakland Harbor Facilities Center, 2277 and 2225 Seventh Street, Oakland, California

Dear Mr. Rubin:

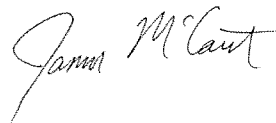
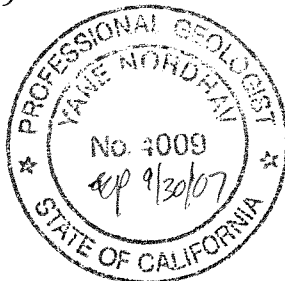
Enclosed please find the First Quarter 2006 Groundwater Monitoring and Remediation System Operation and Maintenance Report for 2277 and 2225 Seventh Street, Alameda County Local Oversight Program case numbers RO0000010 and RO0000185, respectively. This report has been prepared for submittal to the County's Health Care Services, Department of Environmental Health to comply with the requirement for quarterly groundwater monitoring and reporting at these two sites. The results of this quarter's groundwater monitoring do not indicate significant changes from previous monitoring events.

Sincerely,

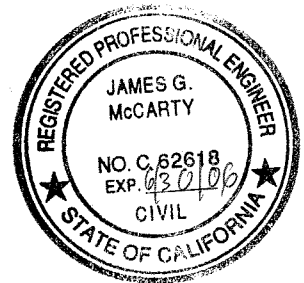


Yane Nordhav
Principal
Prof. Geologist No. 4009

YN:JM:km
Enclosure



James McCarty
Project Engineer
Prof. Engineer No. C62618



Y5395-02.00395.051806.doc-5/19/06

FIRST QUARTER 2006
GROUNDWATER MONITORING AND
REMEDIAION SYSTEM OPERATION AND
MAINTENANCE REPORT

RECEIVED

By loppjectop at 11:06 am, May 22, 2006

PORT OF OAKLAND
HARBOR FACILITIES CENTER
2277 and 2225 Seventh Street
Oakland, California

MAY 2006

FOR:
Port of Oakland
Oakland, California

Y5395-02

TABLE OF CONTENTS

INTRODUCTION	1
FIELD ACTIVITIES	2
ANALYTICAL RESULTS	3
TPHg	3
BTEX and MTBE.....	4
TEPHd and TEPHmo	4
GROUNDWATER FLOW DIRECTION	4
QUALITY ANALYSIS AND QUALITY CONTROL.....	4
PRODUCT RECOVERY SYSTEM SUMMARY	5
PRODUCT THICKNESS.....	6
CONCLUSIONS AND RECOMMENDATIONS	6
LIMITATIONS.....	6

APPENDICES

- A: Groundwater Sampling Forms
- B: Laboratory Analytical Report
- C: Historical Data

FIGURES

- 1: Regional Location
- 2: Site Plan
- 3: Analytical Results March 2006
- 4: Groundwater Contours March 2006

TABLES

- 1: Groundwater Analytical Results - March 2006
- 2: Groundwater Elevation Data - March 2006
- 3: Free Product Recovery System Settings – First Quarter 2006
- 4: Summary of Product Thickness Measurements and Operation and Maintenance Activities - First Quarter 2006

**FIRST QUARTER 2006 GROUNDWATER
MONITORING AND REMEDIATION SYSTEM OPERATION
AND MAINTENANCE REPORT
PORT OF OAKLAND HARBOR FACILITIES CENTER
2277 and 2225 Seventh Street
Oakland, California**

INTRODUCTION

This report summarizes the results of the first quarter groundwater monitoring for 2006 performed at Port of Oakland's ("Port") two contiguous properties, 2277 and 2225 Seventh Street in Oakland, California ("Site"), (Figure 1). The two properties have 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 RO0000185. This report also summarizes the remediation system operation and maintenance ("O&M") activities and progress for the first quarter of 2006.

Together, the two properties encompass approximately 13 acres in size and are currently being redeveloped by the Port. The Port has developed the eight acres on the eastern portion of the Site as the Harbor Facilities Center, with the new address 651 Maritime Street (Figure 2). The remaining five acres are currently being redeveloped for a portion of the Port's proposed new Maritime Support Center.

At 2277 Seventh Street, Uribe and Associates ("Uribe") removed four Port owned USTs in 1993. Uribe collected soil samples from beneath the tanks at the time of UST removal and submitted them for laboratory analyses. The laboratory reported the soil contained petroleum hydrocarbons in the diesel and gasoline range, as well as benzene, toluene, ethylbenzene, and xylene ("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 an ACHCS approved workplan.¹

At 2225 Seventh Street, former Port tenant Ringsby Terminals (formerly Dongary Investments) and/or its tenant owned and operated nine USTs. 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. NESCO collected soil and groundwater samples 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. During tank removal, RAMCON observed a hole in the bulk fuel tank and an unspecified petroleum product created a sheen on the groundwater in the excavation. During

¹ Uribe and Associates, 1994, Port of Oakland Building C-401, 2277 7th Street, Oakland, Report of Underground Storage Tank Removals, Appendix G – Workplan for Additional Site Characterization Activities, 23 February and letter from Alameda County Health Services to Port of Oakland, dated 18 April 1995.

separate event in 1992, RAMCON removed the remaining UST (a waste oil tank). Soil samples collected from the 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, RAMCO 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.²

The groundwater impact from the two sites 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 property has historically contained dissolved hydrocarbons in the gasoline range.

In 1996, the Port installed a remediation system at 2277 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 would be installed. In 1998, Harding Lawson Associated 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 Center, 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.

FIELD ACTIVITIES

The Port has monitored groundwater quality at the Site since 1994. 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). During this quarter’s monitoring event, BASELINE measured the depths to groundwater in the wells and checked for the presence of free-phase product. If BASELINE did not observe free phase product in a well, BASELINE collected a groundwater samples and submitted the sample for the following analyses:

- Total petroleum hydrocarbons as gasoline (“TPHg”), EPA Method 8015B;
- Total extractable petroleum hydrocarbons as diesel (“TEPHd”) and motor oil (“TEPHmo”), EPA Method 8015B with a silica gel cleanup; and
- Benzene, toluene, ethylbenzene, and xylenes (“BTEX”) and methyl tert-butyl ether (“MTBE”), EPA Method 8260B.

Between 6:25 AM and 9:40 AM on 24 March 2006, 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 monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-8A using dual-phase interface probes.³ BASELINE decontaminated the dual-phase interface probes after each use by washing with an Alconox™ and water solution and then rinsing with deionized water.

² Letter from Alameda County Health Services to Dongary Investments dated 26 July 1994.

³ The depths to groundwater in wells MW-1 and MW-3 were measured using a dual-phase interface probe dedicated for use on wells that contain, or are suspected to contain, free-phase product. The dual-phase interface probe used on monitoring wells MW-2 and MW-4, and MW-8A is reserved for wells that are not suspected to contain free-phase product.

BASELINE did not measure the groundwater level in Monitoring well MW-5 because surface water had ponded over the wellhead from recent heavy rains, and stockpiled sand and gravel restricted access to the well. BASELINE measured free-phase product in monitoring wells MW-1 and MW-3 and therefore, these wells were also not sampled.

BASELINE purged monitoring wells MW-2 and MW-4, and MW-8A prior to sampling using a peristaltic pump and new disposable polyethylene and silicon tubing. BASELINE purged the wells of at least three well casing volumes of groundwater and until the electrical conductivity, pH, 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 well to complete the purging process. The monitoring details for each well are provided on the groundwater sampling forms in Appendix A.

BASELINE collected groundwater samples from the wells using the peristaltic pump with the intake of tubing placed a several feet off the bottom of the well. BASELINE decanted the groundwater samples directly into certified-clean containers⁴ from discharge end of the tubing. BASELINE also prepared a field duplicate, consisting of a duplicate groundwater sample from monitoring well MW-4 (“MW-4Dup”). BASELINE immediately labeled the sample containers with sample location, date, time and stored in a cooler containing ice. BASELINE submitted the groundwater samples under chain-of-custody protocol to Curtis & Tompkins, Ltd. of Berkeley, a California-certified analytical laboratory.

BASELINE generated approximately 19 gallons of purge water and decontamination water during the first quarter 2006 monitoring event. BASELINE placed the purge water into a 55-gallon drum, which was labeled with the Port’s contact information and stored near the Harbor Facilities Center hazardous materials storage lockers. The Port’s Environmental Services Contractor will arrange proper purge water disposal.

ANALYTICAL RESULTS

Analytical results for the groundwater samples collected are summarized on Figure 3 and Table 1. The laboratory analytical reports are provided in Appendix B. Historical analytical results for 2277 Seventh Street, 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 420 micrograms per liter (“µg/L”). The laboratory did not report TPHg above the reporting limit in any of the samples from the other monitoring wells sampled.

BTEX and MTBE

The laboratory reported benzene and toluene in the groundwater sample from MW-4 at concentrations of 120 (130 in the duplicate sample) and 0.8 µg/L, respectively. The laboratory

⁴ Containers were provided by Environmental Sampling Supply, which certifies that the containers meet or exceed the required detection limits established by the US EPA in *Specifications And Guidance For Contaminant-Free Sample Containers*, Publication 9240.05A, EPA/540/R-93/051, December 1992.

did not report any BTEX constituents above the report limits in any of the samples from the other monitoring wells sampled. The laboratory did not report any MTBE above the reporting limit in any of the samples submitted.

TEPHd and TEPHmo

The laboratory reported that two of the three groundwater samples contained TEPHd; MW-4 and MW-8A was reported to contain 51 µg/L and 71 µg/L, respectively. The laboratory noted that in both samples heavier hydrocarbons contributed to the quantitation and the chromatographic patterns did not resemble the standard. The laboratory did not report TEPHmo above the reporting limits in any of the groundwater samples submitted.

GROUNDWATER FLOW DIRECTION

BASELINE used the surveyed elevation 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 are presented on Figure 4. The groundwater flow direction at the time of measurement was towards the north-northwest at magnitude of 0.0038 feet/foot. Historical groundwater and product levels for 2277 Seventh Street are included in Appendix C, Table C-1.

QUALITY ANALYSIS AND QUALITY CONTROL

BASELINE reviewed the laboratory data for completeness and accuracy. With the following exceptions, all of the laboratory quality assurance and quality control (“QA/QC”) goals were met.

The laboratory observed high surrogate recoveries for 1,2-dichloroethane-d4 from the analysis of sample MW-8A and from the matrix spike and the matrix spike duplicate batch QA/QC samples. The toluene-d8 and bromofluorobenzene surrogate recoveries for these samples were within laboratory QA/QC limits.

BASELINE collected a duplicate groundwater sample (MW-4Dup) from monitoring well MW-4. The laboratory reported concentrations of TPHg, benzene, and toluene in both samples. The relative percent difference (“RPD”) between the original and the duplicate sample was five percent, eight percent, and 13 percent for TPHg, benzene, and toluene, respectively:

TPHg RPD	$ 420-440 /[(420+440)/2] = 5\%$
Benzene RPD	$ 120-130 /[120+130/2] = 8\%$
Toluene RPD	$ 0.8-0.7 /[0.8+0.7/2] = 13\%$

The U.S. Environmental Protection Agency considers an RPD of less than 25 percent acceptable without question for field duplicate water samples.⁵

Prior to initiating field activities BASELINE prepared a trip blank (“QCTB”) by placing laboratory prepared distilled water into appropriate bottle ware. The QCTB was placed inside

⁵ US Environmental Protection Agency, 2001, *Training Course For CLP, Organic Data Validation*.

the chilled cooler and accompanied the samples throughout transit to the laboratory. The laboratory did not report any TPHg, TEPHd, TEPHmo, BTEX, or MTBE in the QCTB, indicating that the samples were not compromised from sample preservation, transportation, storage, and analysis.

BASELINE also prepared an equipment blank (“QCEB”) using the same techniques as the groundwater samples except using laboratory prepared distilled water. The laboratory did not report any TPHg, TEPHd, TEPHmo, BTEX, or MTBE in QCTB, indicating that the sampling procedure did not result in cross-contamination of the samples.

Based on the above QA/QC evaluation, BASELINE considers the data collected during the first quarter 2006 groundwater monitoring event valid and representative of Site conditions.

PRODUCT RECOVERY SYSTEM SUMMARY

The Port installed the Free Product Recovery system (“FPR”) at the Harbor Facilities Center in 2004 in accordance with the approved remedial action plan⁶. 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 airline, product discharge line, and 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 in the programmable controller (Table 3). 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 when the tank is full.

Treadwell and Rollo, Inc. performed the O&M of the system prior to BASELINE’s initial site visit. BASELINE’s first O&M visit occurred on 3 February 2006 and BASELINE performed several maintenance visits during this reporting period. BASELINE measured the product level in the recovery wells and checked the position of the pumps in the wells. BASELINE adjusted the pumps as necessary and performed miscellaneous maintenance duties. At the time of BASELINE’s initial site visit, the skimmer pumps were set to operate once every 14 days and the duration of pumping varied from 1.5 to 0.5 hours. Adjustments were made to the frequency and duration of operation for each skimmer on 2 February 2006 (Table 3). The activities performed and the results of product measurements are summarized in Table 4.

PRODUCT THICKNESS

BASELINE measured product thickness in monitoring wells MW-1 and MW-3 during groundwater monitoring on 24 March 2006 at 0.29 and 0.62 feet, respectively (Table 2). BASELINE also measured free-phase product thickness in recovery wells RW-3, RW-4, RW-6, RW-7, and RW-8 (Table 4). Based on the initial site O&M visit, the recovery well with largest amount of product was RW-3, which had 0.35 feet on 3 February 2006, followed by RW-7 and

⁶ Innovative Technical Solutions, Inc., 2002, Additional Site Characterization and Remedial Action Plan for 2225 and 2277 Seventh Street, Oakland, California, May.

RW-8, which had 0.07 and 0.08 feet, respectively. The measured product thickness was 0.02 feet in RW-2, and 0.04 feet in RW-4 on that date.

CONCLUSIONS AND RECOMMENDATIONS

The results from the first quarter 2006 monitoring event indicate that the petroleum hydrocarbon plume is stable; the concentrations of dissolved petroleum hydrocarbons and associated compounds are within the historical ranges. Free-phase product was confined to the wells that had previously contained free product. The low levels of TPHg and benzene present appear to be confined to the area of MW-4. Because the concentrations of chemicals associated with these two sites are not increasing and the impact area appears stable, the Port requested that the groundwater monitoring frequency be reduced to semi-annual (letter from BASELINE to the ACHCS dated 8 March 2006). The ACHCS approved this modification in a letter to the Port dated 23 March 2006. Therefore, the next groundwater sampling will be performed on the following schedule:

- First Semi-Annual Event June/July
- Second Semi-Annual Event November/December

In addition, the 23 March 2006 ACHCS letter approved the use of Oxygen Releasing Compound™ (“ORC”) to address the TPHg and benzene reported in the groundwater at MW-4, and performance of a pilot test to evaluate low vacuum application to increase the efficiency of the recovery wells.

Oxygen Releasing Compound™ is a product developed by Regensis to promote in-situ biodegradation of petroleum hydrocarbons by increasing the available dissolved oxygen in the groundwater. The Port will place a sock containing ORC in MW-4. The sock will be removed two weeks prior to sampling the well. Further use of ORC as a remediation methodology will be evaluated in the first semi-annual report.

BASELINE will perform a vacuum pilot test. The test will be conducted by attaching a vacuum to the existing vacuum conduit lines. Application of a vacuum of up to 30 inches of water may increase the rate at which product recharges into the recovery wells. The results of the pilot test will be reported in the first semi-annual report from the June/July monitoring event.

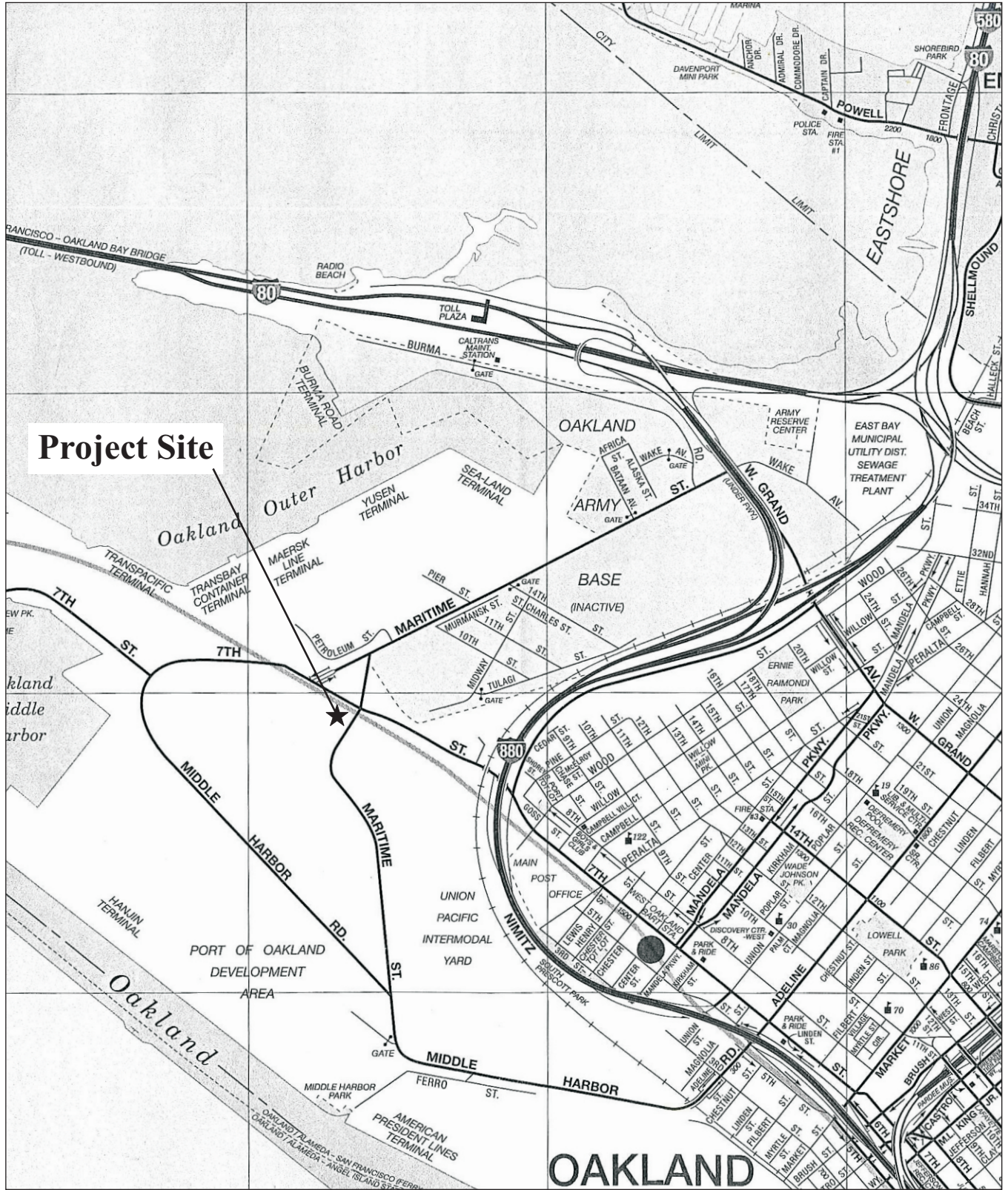
LIMITATIONS

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

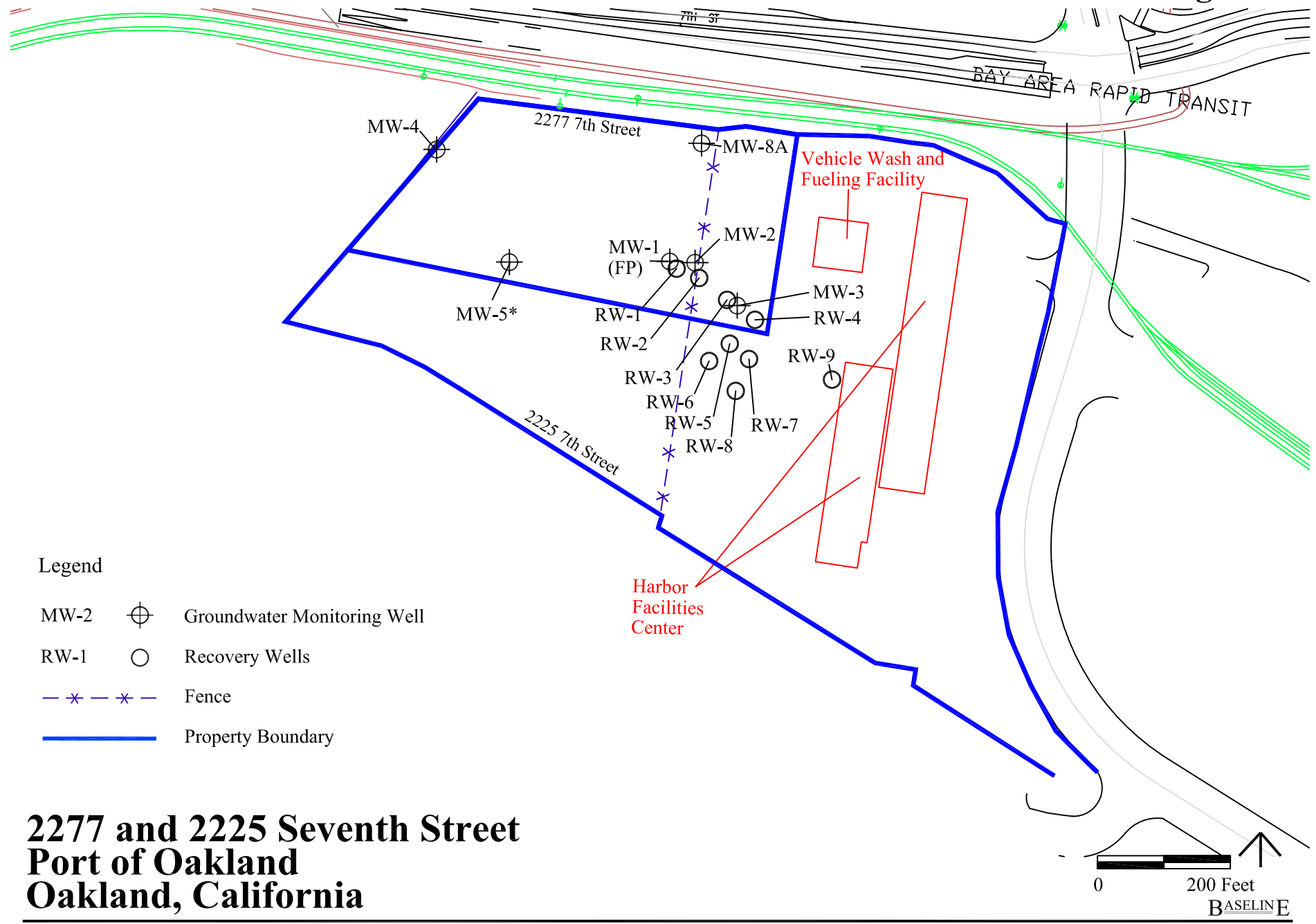


**2277 and 2225 Seventh Street
Port of Oakland
Oakland, California**



SITE PLAN

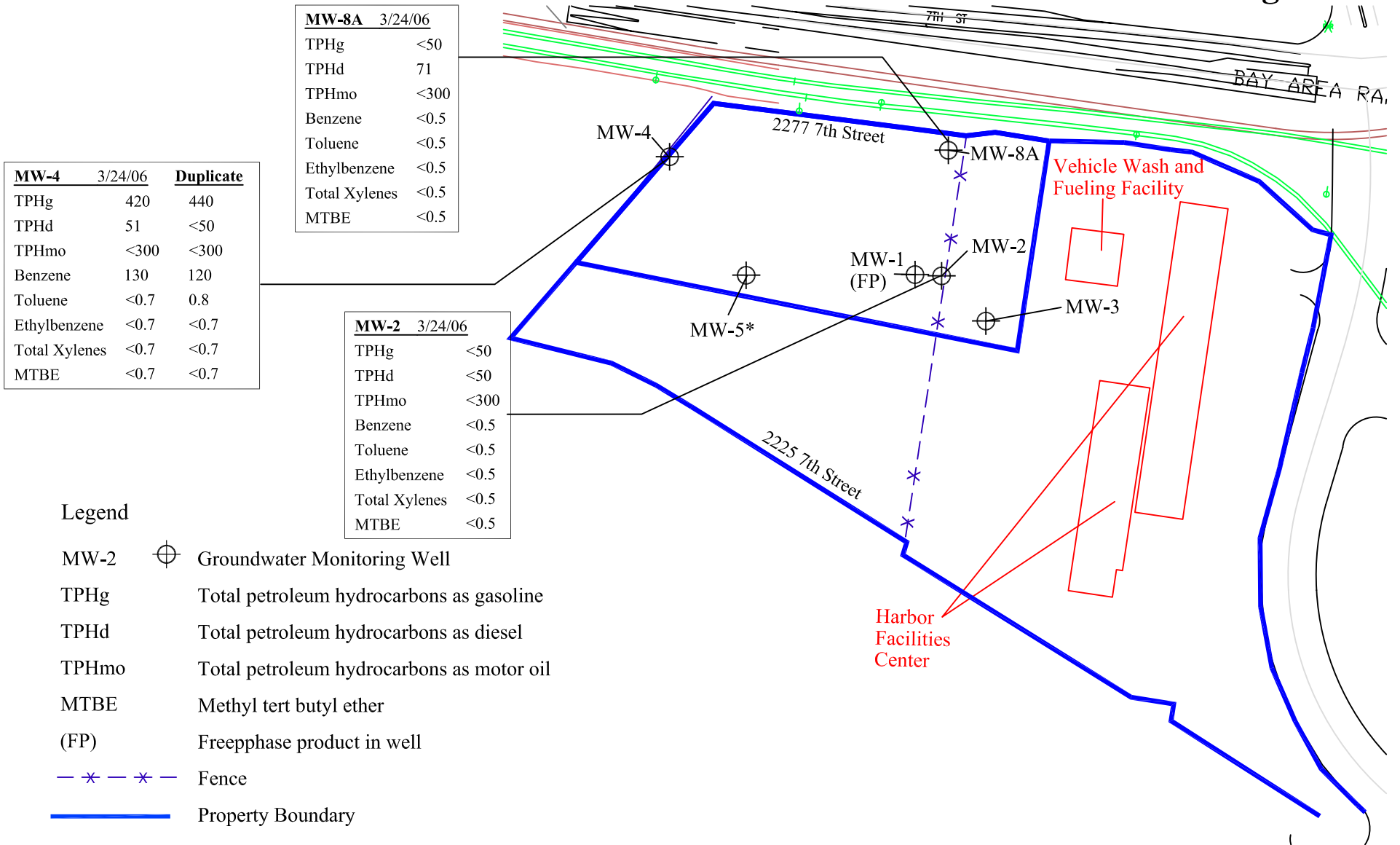
Figure 2






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

ANALYTICAL RESULTS MARCH 2006

Figure 3

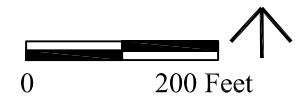


Legend

- 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) Freepphase product in well
-  Fence
-  Property Boundary

Note: Concentrations are in units of micrograms per liter.

*Monitoring well not sampled, surface water covering well head at time of sampling.

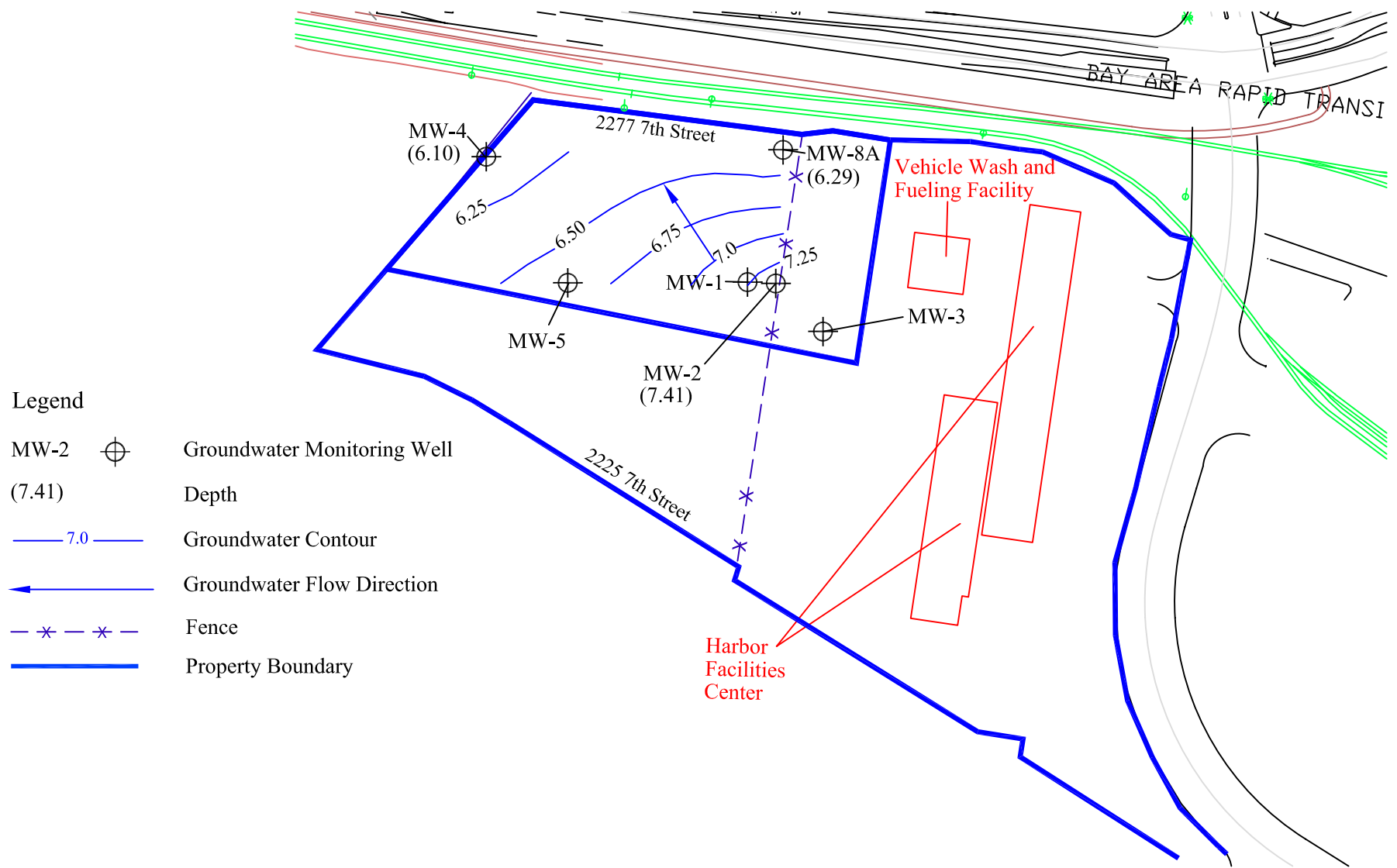


BASELINE

2277 and 2225 Seventh Street Port of Oakland Oakland, California

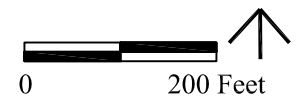
GROUNDWATER CONTOURS MARCH 2006

Figure 4



- Legend**
- MW-2 (7.41) ⊕ Groundwater Monitoring Well
 - (7.41) Depth
 - 7.0 — Groundwater Contour
 - ← Groundwater Flow Direction
 - * - * - Fence
 - — — Property Boundary

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



BASELINE

TABLES

TABLE 1: Groundwater Analytical Results - March 2006 (µg/L)
 Port of Oakland Harbor Facilities Center
 2277 and 2225 7th Street, Oakland, California

Sample ID	Date	TPHg	TEPHd	TEPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-2	03/24/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	03/24/06	420	51	<300	120	0.8	<0.7	<0.7	<0.7
MW-4dup	03/24/06	440	<50	<300	130	<0.7	<0.7	<0.7	<0.7
MW-8A	03/24/06	<50	71	<300	<0.5	<0.5	<0.5	<0.5	<0.5
QCEB	03/24/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5
QCTB	03/24/06	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

See Figure 2 for monitoring well locations.

µg/L = micrograms per liter.

TPHg = total petroleum hydrocarbons in gasoline range.

TEPHd = total petroleum hydrocarbons in diesel range.

TEPHmo = total petroleum hydrocarbons in motor oil range.

MTBE = methyl-tert butyl ether

QCEB = equipment blank quality control sample.

QCTB = 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.

TABLE 2: Groundwater Elevation Data - March 2006
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California

Monitoring Well	Date Measured	Top of Casing Elevation¹ (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation¹ (feet)
MW-1	3/24/2006	14.14	5.98	6.27	0.29	NC
MW-2	3/24/2006	16.96	NP	9.55	--	7.41
MW-3	3/24/2006	16.18	8.20	8.82	0.62	NC
MW-4	3/24/2006	13.15	NP	7.05	--	6.10
MW-5	3/24/2006	13.49	NP	NA ²	NA ²	NA ²
MW-8A	3/24/2006	12.94	NP	6.65	--	6.29

Notes:

See Figure 2 for monitoring well locations.

NP = no product detected with the interface probe.

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

-- = no measurable product in the well.

btc = below top of the well casing.

NA = Not accessible.

¹ Elevation data relative to Port of Oakland datum (3.202 feet below sea level datum of 1929, NGVD 29).

² Well could not be measured because large area of surface water was covering the well head.

Table 3: Free Product Recovery System Settings - First Quarter 2006
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California

Recovery Well	1/1/06 to 2/3/06 ¹		2/3/06 to 3/31/06	
	Frequency (days)	Duration (hrs.)	Frequency (days)	Duration (hrs.)
RW-1	NO	NO	NO	NO
RW-2	NO	NO	NO	NO
RW-3	14	1:30	1	0:05
RW-4	14	0:30	4	0.02
RW-5	NO	NO	NO	NO
RW-6	14	1:00	4	0.02
RW-7	14	0:30	4	0.02
RW-8	14	0:30	4	0.02

Notes:

See Figure 2 for recovery well locations.

Frequency = the frequency with which the skimmer pump operates.

Duration = the length of time the skimmer pumps operates each time it is activated.

NO = not operating, no measurable product in the recovery well.

¹ BASELINE'S initial site visit was on 3 February 2006, prior to that time the system was operated by Treadwell and Rollo, Inc.

These setting represent the operating condition observed at that time.

Table 4
Summary of Product Thickness Measurements
and Operation and Maintenance Activities - First Quarter 2006
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California

Site Visit Date:2/3/2006					
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Product Volume (gallons)	Comments
RW-1	--	--	--	--	Silt grading activities being performed on-site so did not check this vault
RW-2	None	7.66	--	--	No pump
RW-3	8.35	8.70	0.35	0.06	
RW-4	7.73	7.75	0.02	0.003	Air inlet and exhaust tubing disconnected from pump, significant water in vault (1/2 full), lots of biogrowth on outside of pump
RW-5	None	6.88	NA	NA	No cap and no pump
RW-6	7.35	7.39	0.04	0.01	Pumping but looks like only water, vault 1/2 full of water.
RW-7	7.02	7.09	0.07	0.01	Pumping but looks like only water.
RW-8	7.92	8.00	0.08	0.01	Pumping but no product in line, vault 1/2 full of water.
RW-9	None	9.21	NA	NA	No pump
Depth of product in convault			1.1 feet		
Approximate volume recovered			24 gallons		

Site Visit Date:2/8/2006					
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Product Volume (gallons)	Comments
RW-1	None	6.4	NA	NA	Pulled pump out, put cap on well.
RW-2	--	--	NA	NA	
RW-3	8.50	8.80	0.3	0.05	Kinked discharge line, put piece of 3/4-inch hose around the tubing to provide support.
RW-4	7.74	7.76	0.02	0.003	Exhaust valve stuck open, put back pressure on valve and it began working.
RW-5	--	--	NA	NA	Put cap on well
RW-6	7.26	7.33	0.07	0.01	Pumping but looks like only water, vault 1/2 full of water.
RW-7	6.94	7.01	0.07	0.01	
RW-8	7.68	7.70	0.02	0.00	Exhaust valve stuck open, put back pressure on valve and it began working.
RW-9	--	--	NA	NA	Put cap on well
Depth of product in convault			1.1 feet		
Approximate volume recovered			24 gallons		

Table 4
Summary of Product Thickness Measurements
and Operation and Maintenance Activities - First Quarter 2006
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California

Site Visit Date:3/3/2006					
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Product Volume (gallons)	Comments
RW-1	--	--	NA	NA	
RW-2	--	--	NA	NA	
RW-3	8.15	8.16	0.01	0.00	
RW-4	7.12	7.13	0.01	0.002	
RW-5	--	--	NA	NA	
RW-6	7.37	7.41	0.04	0.01	
RW-7	6.95	7.04	0.09	0.01	
RW-8	7.71	7.80	0.09	0.01	
RW-9	--	--	NA	NA	
Depth of product in convault			1.2 feet		
Approximate volume recovered			26 gallons		

Site Visit Date:3/10/2006					
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Product Volume (gallons)	Comments
RW-1	--	--	NA	NA	
RW-2	--	--	NA	NA	
RW-3	7.90	7.92	0.02	0.00	Replace tubing with more flexible tube to reduce kinking
RW-4	--	--	NA	NA	
RW-5	--	--	NA	NA	
RW-6	7.14	7.15	0.01	0.00	
RW-7	--	--	NA	NA	
RW-8	--	--	NA	NA	
RW-9	--	--	NA	NA	
Depth of product in convault			1.2 feet		
Approximate volume recovered			26 gallons		

Table 4
Summary of Product Thickness Measurements
and Operation and Maintenance Activities - First Quarter 2006
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California

Site Visit Date:3/22/2006					
Recovery Well	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Product Volume (gallons)	Comments
RW-1	--	--	NA	NA	
RW-2	--	--	NA	NA	
RW-3	8.13	8.14	0.01	0.00	
RW-4	7.09	7.10	0.01	0.002	
RW-5	--	--	NA	NA	
RW-6	7.05	7.06	0.01	0.00	Replace tubing with more flexible tube to reduce kinking.
RW-7	6.70	6.71	0.01	0.00	
RW-8	None	7.43	NA	NA	
RW-9	--	--	NA	NA	
Depth of product in convault			1.4 feet		
Approximate volume recovered			31 gallons		

Notes:

See Figure 2 for recovery well locations.

-- = not measured

NA = not applicable

APPENDIX A
GROUNDWATER SAMPLING FORMS

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-1	Date:	3/24/2006
Project name:	Harbor Facilities Center	Depth of well bgs (feet):			15.5
Location:	Port of Oakland	Well diameter (inches):			2
	2277 7th Street, Oakland	Screened interval bgs (feet):			5.5-15.5
Recorded by:	WKS	Filter pack interval bgs (feet):			4.5-15.5
Weather:	Overcast, afternoon showers	TOC elevation (feet):			14.14
Precip. in past 5 days ¹ (inches):	0.83	Water Level from TOC (feet):	6.27	Time:	6:35
	Dual-phase interface probe				
Water Level Instrument:	(Solinst)	Product level from TOC (feet):	5.98	Time:	6:35

VOLUME OF WATER TO BE REMOVE*

* Measured product level only, no groundwater was purged or sample collected due to the presence of free-phase product.

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:					
Before Purging:					
After Pugging:					

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU

Appearance of sample:	_____	Time:	_____
Duplicate/blank number:	_____	Time:	_____
Purge method:	_____		
Sampling equipment:	_____	VOA attachment:	_____
Sample containers:	_____		
Sample analyses:	_____	Laboratory:	_____
Decontamination method:	Alconox and water, DI water rinse	Rinsate disposal:	_____

¹ Source: Oakland Fire Service Station "ONO".

TOC = top of casing

bgs = below ground surface

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-2	Date:	3/24/2006
Project name:	Harbor Facilities Center	Depth of well from TOC (feet):	18.1		
Location:	Port of Oakland	Well diameter (inches):	2		
	2277 7th Street, Oakland	Screened interval bgs (feet):	8.4-18.4		
Recorded by:	WKS	Filter pack interval bgs (feet):	7.4-18.4		
Weather:	Overcast, afternoon showers	TOC elevation (feet):	16.96		
Precip. in past 5 days ¹ (inches):	0.83	Water Level from TOC (feet):	9.55	Time:	8:00
	Dual-phase interface probe				
Water Level Instrument:	(Solinst)	Product level from TOC (feet):	None	Time:	8:00

VOLUME OF WATER TO BE REMOVED

$$\left(\frac{(18.1 \text{ ft} - 9.55 \text{ ft})}{\text{well depth}} \right) \times \left(\frac{0.083 \text{ ft}}{\text{well radius}} \right)^2 \times \pi \times 7.48 \text{ gal/ft}^3 = 1.4 \text{ gallons in one casing volume}$$

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00	0/20	1,000
Before Purging:	7:10	15.4	7.00	0/20	1,000
After Pugging:	10:25	15.8	7.22	0/21	1,024

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
9:35	16.7	7.64	1284	1	None observed	1.4
9:45	17.3	7.56	1388	3	None observed	1.1
9:50	17.3	7.59	1375	4	None observed	0

Notes:

Well was purged dry; waited for groundwater in well to recharge before sampling.

DO:	0.05 mg/L		
Appearance of sample:	Clear	Time:	10:20
Duplicate/blank number:	QCTB, QCEB	Time:	7:00/8:35
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	3 VOAs, 2 liter amber		
Sample analyses:	TPH-g,-d,-mo; BTEX; & MTBE	Laboratory:	Curtis & Tompkins
Decontamination method:	Alconox and water, DI water rinse	Rinsate disposal:	Stored onsite, Port contractor to remove.

¹ Source: Oakland Fire Service Station "ONO".

TOC = top of casing

bgs = below ground surface

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-3	Date:	3/24/2006
Project name:	Harbor Facilities Center	Depth of well bgs (feet):			17.5
Location:	Port of Oakland	Well diameter (inches):			2
	2277 7th Street, Oakland	Screened interval bgs (feet):			7.5-17.5
Recorded by:	WKS	Filter pack interval bgs (feet):			6.5-17.5
Weather:	Overcast, afternoon showers	TOC elevation (feet):			16.18
Precip. in past 5 days ¹ (inches):	0.83	Water Level from TOC (feet):	8.82	Time:	9:40
	Dual-phase interface probe				
Water Level Instrument:	(Solinst)	Product level from TOC (feet):	8.20	Time:	9:40

VOLUME OF WATER TO BE REMOVE*

* Measured product level only, no groundwater was purged or sample collected due to the presence of free-phase product.

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:					
Before Purging:					
After Pugging:					

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU

Measured product level only, no groundwater sample collected due to the presence of free-phase product.

Appearance of sample:	_____	Time:	_____
Duplicate/blank number:	_____	Time:	_____
Purge method:	_____		
Sampling equipment:	_____	VOA attachment:	_____
Sample containers:	_____		
Sample analyses:	_____	Laboratory:	_____
Decontamination method:	Alconox and water, DI water rinse	Rinsate disposal:	_____

¹ Source: Oakland Fire Service Station "ONO".

TOC = top of casing

bgs = below ground surface

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-4	Date:	3/24/2006
Project name:	Harbor Facilities Center	Depth of well from TOC (feet):	18.8		
Location:	Port of Oakland	Well diameter (inches):	2		
	2277 7th Street, Oakland	Screened interval bgs (feet):	8.0-18.0		
Recorded by:	WKS	Filter pack interval bgs (feet):	7.0-18.0		
Weather:	Overcast, afternoon showers	TOC elevation (feet):	13.15		
Precip. in past 5 days ¹ (inches):	0.83	Water Level from TOC (feet):	7.05	Time:	6:25
	Dual-phase interface probe				
Water Level Instrument:	(Solinst)	Product level from TOC (feet):	None	Time:	6:25

VOLUME OF WATER TO BE REMOVED

$$\left(\frac{(18.8 \text{ ft} - 7.05 \text{ ft})}{\text{well depth}} \right) \times \left(\frac{(0.083 \text{ ft})^2}{\text{well radius}} \right) \times \pi \times 7.48 \text{ gal/ft}^3 = 1.9 \text{ gallons in one casing volume}$$

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00	0/20	1,000
Before Purging:	7:10	15.4	7.00	0/20	1,000
After Pugging:	10:25	15.8	7.22	0/21	1,024

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
8:18	17.7	7.23	1384	2	None observed	3.8
8:30	17.7	7.26	1420	4	None observed	2.8
8:40	17.7	7.26	1411	6	None observed	2.0
8:45	17.7	7.27	1423	7	None observed	2.4

DO:	0.24 mg/L		
Appearance of sample:	Clear	Time:	8:45
Duplicate/blank number:	MW-4dup, QCTB, QCEB	Time:	8:50, 7:00, 8:25
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	3 VOAs, 2 liter amber		
Sample analyses:	TPH-g,-d,-mo; BTEX; & MTBE	Laboratory:	Curtis & Tompkins
Decontamination method:	Alconox and water, DI water rinse	Rinsate disposal:	Stored onsite, Port contractor to remove.

¹ Source: Oakland Fire Service Station "ONO".

TOC = top of casing

bgs = below ground surface

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-5	Date:	3/24/2006
Project name:	Harbor Facilities Center	Depth of well from TOC (feet):	18.4		
Location:	Port of Oakland	Well diameter (inches):	2		
	2277 7th Street, Oakland	Screened interval bgs (feet):	8.0-18.0		
Recorded by:	WKS	Filter pack interval bgs (feet):	7.0-18.0		
Weather:	Overcast, afternoon showers	TOC elevation (feet):	13.49		
Precip. in past 5 days ¹ (inches):	0.83	Water Level from TOC (feet):	NA	Time:	
	Dual-phase interface probe				
Water Level Instrument:	(Solinst)	Product level from TOC (feet):	NA	Time:	

VOLUME OF WATER TO BE REMOVE*

* Well was not purged or sampled due to large area of surface water covering well head.

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:					
Before Purging:					
After Pugging:					

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU

Appearance of sample:	NA	Time:	NA
Duplicate/blank number:	NA	Time:	
Purge method:	NA		
Sampling equipment:	NA	VOA attachment:	
Sample containers:	NA		
Sample analyses:	NA	Laboratory:	NA
Decontamination method:	NA	Rinsate disposal:	NA

¹ Source: Oakland Fire Service Station "ONO".

TOC = top of casing

bgs = below ground surface

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-8A	Date:	3/24/2006
Project name:	Harbor Facilities Center	Depth of well from TOC (feet):	20.6		
Location:	Port of Oakland	Well diameter (inches):	2		
	2277 7th Street, Oakland	Screened interval bgs (feet):	5.0-20.0		
Recorded by:	WKS	Filter pack interval bgs (feet):	4.0-20.8		
Weather:	Overcast, afternoon showers	TOC elevation (feet):	12.94		
Precip. in past 5 days ¹ (inches):	0.83	Water Level from TOC (feet):	6.65	Time:	6:30
	Dual-phase interface probe				
Water Level Instrument:	(Solinst)	Product level from TOC (feet):	None	Time:	6:30

VOLUME OF WATER TO BE REMOVED

$$(20.6 \text{ ft well depth} - 6.65 \text{ ft water level}) \times (0.083 \text{ ft well radius})^2 \times \pi \times 7.48 \text{ gal/ft}^3 = 2.3 \text{ gallons in one casing volume}$$

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00	0/20	1,000
Before Purging:	7:10	15.4	7.00	0/20	1,000
After Pugging:	10:25	15.8	7.22	0/21	1,024

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
Sediment at bottom pumped out					None observed	
7:17	17.7	7.43	2,387	2	None observed	4.1
7:30	18.0	7.46	2,395	4	None observed	3.0
7:40	18.1	7.45	2,410	6	None observed	2.8
7:52	18.0	7.45	2,405	8	None observed	3.6

DO:	0.07 mg/L		
Appearance of sample:	Clear	Time:	7:55
Duplicate/blank number:	QCTB, QCEB	Time:	7:00, 8:35
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	3 VOAs, 2 liter amber		
Sample analyses:	TPH-g,-d,-mo; BTEX; & MTBE	Laboratory:	Curtis & Tompkins
Decontamination method:	Alconox and water, DI water rinse	Rinsate disposal:	Port contractor

¹ Source: Oakland Fire Service Station "ONO".

TOC = top of casing

bgs = below ground surface

APPENDIX B
LABORATORY ANALYTICAL REPORT

**Quality Control Checklist
for Review of Laboratory Report**

Job No.: Y5395-02

Site: Harbors Facility Center

Laboratory: Curtis and Tompkins, Ltd.

Laboratory Report No: 185770

Report Date: 11 April 2006

BASELINE Review By: JGM

	Yes	No	NA
GENERAL QUESTIONS (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? (A case narrative MUST be prepared by the lab for all analytical work requested by BASELINE)	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	X		

	Yes	No	NA
throughout the report?			
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		
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) which triggered the need for a revision?			X
13d. REVISED LAB REPORTS ONLY. Are the data included in the revised report the same as data reported in the original report, except where the report was revised to correct incorrectly reported data?			X
QA/QC Questions			
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 which 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
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</i>			X

	Yes	No	NA
<i>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>			
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
Batch Quality Control (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. MBs should be "ND."</i>	X		
18b. If no, is an explanation provided in the case narrative to validate the data?			X
18c. Are analytes which 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 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</i>	X		

	Yes	No	NA
<i>due to matrix interference).</i>			
20b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?			X
Sample Quality Control			
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 spike 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:

BASELINE E

5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

185710
CHAIN OF CUSTODY RECORD

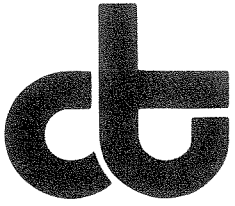
Turn-around Time
Lab
BASELINE Contact Person

Standard
Curtis & Tompkins
Bill Scott/James McCarty

Project Number Y5395-02		Project Name and Location: Harbor Facilities Center, 2277 Seventh St., Oakland CA												TPH as gasoline (8015B) TEPH diesel & m.o. (8015B) w/silica gel cleanup BTEX & MTBE 8260B		Remarks/ Composite					
Samplers: (Signature) <i>William K Scott</i>				Containers																	
Sample ID No. Station	Date:	Time:	Media	No.	SS	Encore	L-AG	40-ml VOA	L-Poly	250 ml Poly	500 ml Poly	None	HCl					NO ₃	SO ₄	NaOH	
MW-2	3/24/06	10:20	W	3				X					X					X	X		
MW-2	3/24/06	10:20	W	2			X						X						X		
MW-4	3/24/06	8:45	W	3				X					X					X	X		
MW-4	3/24/06	8:45	W	2			X						X					X			
MW-4dup	3/24/06	8:50	W	3				X					X					X	X		
MW-4dup	3/24/06	8:50	W	2			X						X					X			
MW-5	--	--	W	3				X					X					X	X	WB	
MW-5	--	--	W	2				X					X					X	X	WB	
MW-8A	3/24/06	7:55	W	3				X					X					X	X		
MW-8A	3/24/06	7:55	W	2			X						X					X			
QCTB	3/24/06	7:00	W	3				X					X					X	X		
QCTB	3/24/06	7:00	W	2			X						X					X			
QCEB	3/24/06	8:35	W	3				X					X					X	X		
QCEB	3/24/06	8:35	W	2			X						X					X			
Relinquished by: (Signature) <i>William K Scott</i>		Custody Seal Yes No		Date/Time 3/24/06/11:00		Received by: (Signature) <i>Lavonne</i>		Custody Seal intact Yes No NA		Date/Time 3/24/06 11:00		Conditions of Samples Upon Arrival at Laboratory:									
Relinquished by: (Signature)		Custody Seal Yes No		Date/Time		Received by: (Signature)		Custody Seal intact Yes No NA		Date/Time		Remarks: Please provide EDD & EDF to BASELINE Please invoice Jeff Ruben at Port of Oakland, W.O. 202386 TSO #21 Please e-mail copy of the analytical results to jrubin@portoakland.com									
Relinquished by: (Signature)		Custody Seal Yes No		Date/Time		Received by: (Signature)		Custody Seal intact Yes No NA		Date/Time											
Received at laboratory with intact custody seal: (Signature)						Date/Time		Comments:													

Received On ice
 Cold Ambient Intact

Bill's Chain of Custody Master C-o-C-seal 5-02



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

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

RECEIVED

APR 14 2006

BASELINE

Baseline Environmental
5900 Hollis St.
Suite D
Emeryville, CA 94608

Date: 11-APR-06

Lab Job Number: 185770

Project ID: STANDARD

Location: Harbor Facilities Center

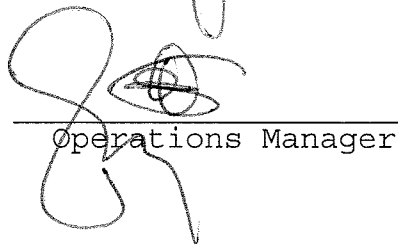
This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to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

Reviewed by:



Project Manager

Reviewed by:



Operations Manager

This package may be reproduced only in its entirety.

CASE NARRATIVE

Laboratory number: 185770
Client: Baseline Environmental
Location: Harbor Facilities Center
Request Date: 03/24/06
Samples Received: 03/24/06

This hardcopy data package contains sample and QC results for six water samples, requested for the above referenced project on 03/24/06. 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.

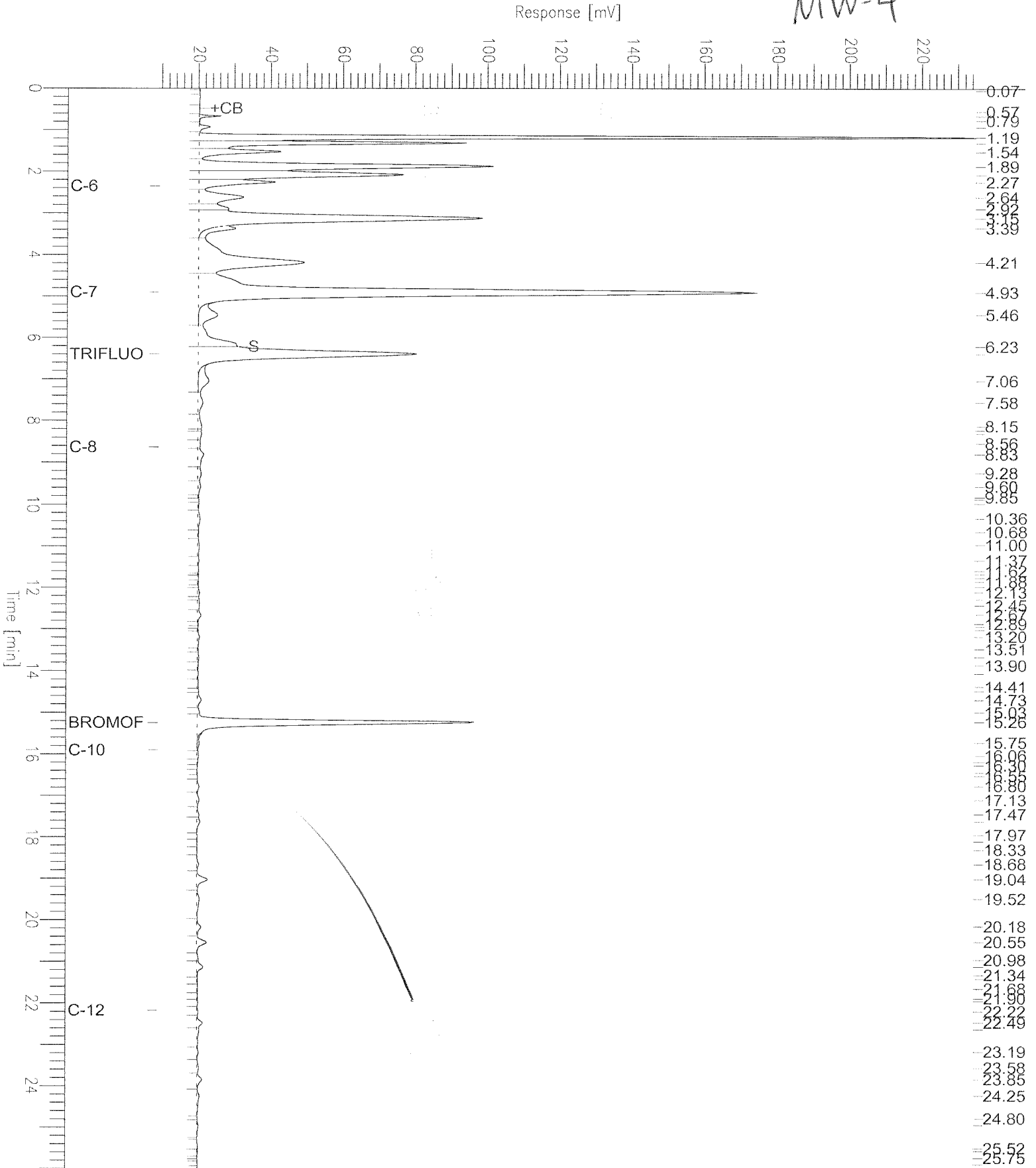
GC07 TVH 'A' Data File RTX 502

Sample Name : 185770-002,111643,tvh
 FileName : G:\GC07\DATA\083A008.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: 1.0

End Time : 26.00 min
 Plot Offset: 9 mV

Sample #: a1.3
 Date : 3/24/06 05:26 PM
 Time of Injection: 3/24/06 04:13 PM
 Low Point : 9.39 mV
 High Point : 234.83 mV
 Plot Scale: 225.4 mV

MW-4



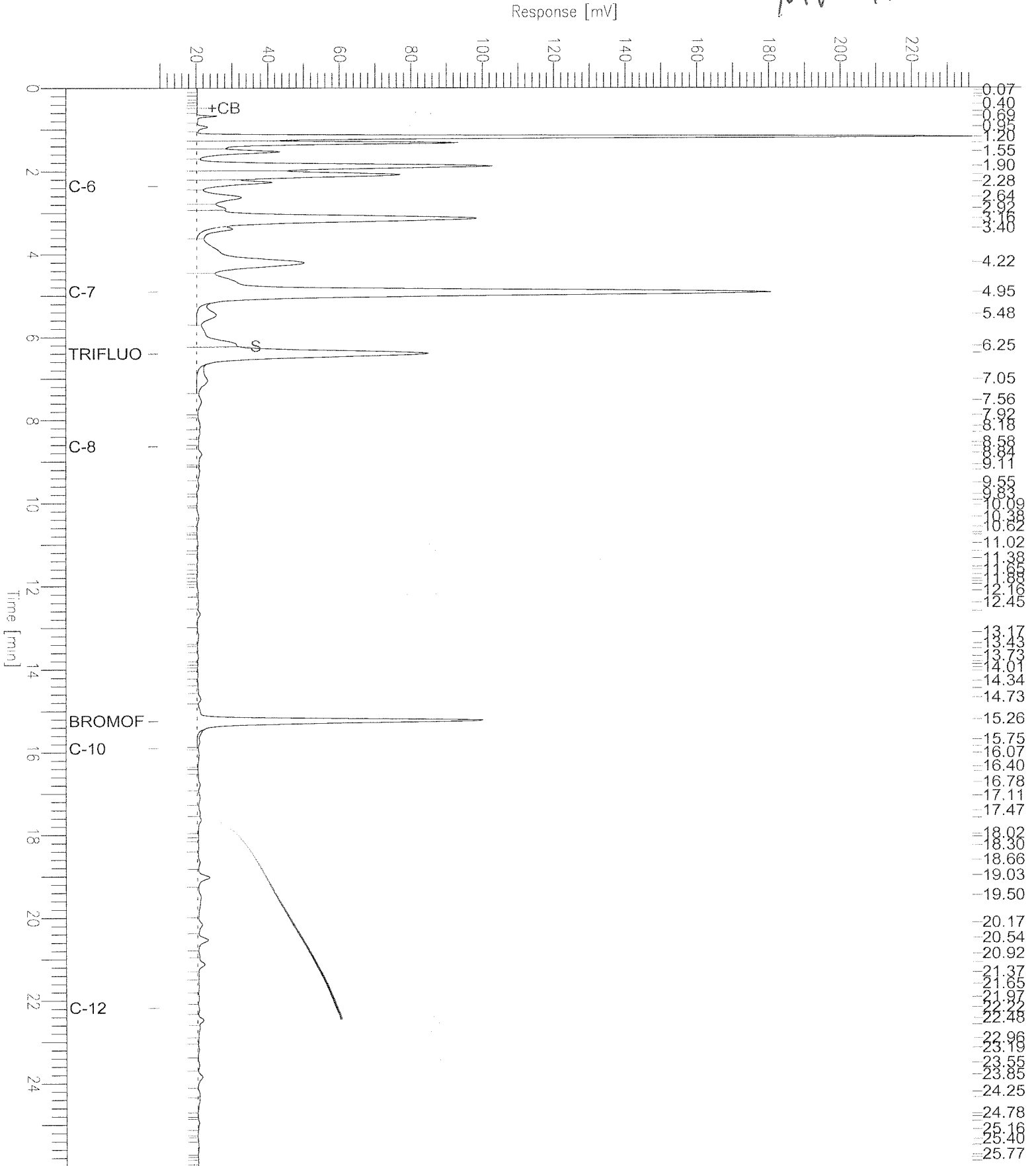
GC07 TVH 'A' Data File RTX 502

Sample Name : 185770-003,111643,tvh
 FileName : G:\GC07\DATA\083A009.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: 1.0

End Time : 26.00 min
 Plot Offset: 9 mV

Sample #: a1.3
 Date : 3/24/06 05:26 PM
 Time of Injection: 3/24/06 04:50 PM
 Low Point : 9.33 mV
 Plot Scale: 227.6 mV

MW-4DUP

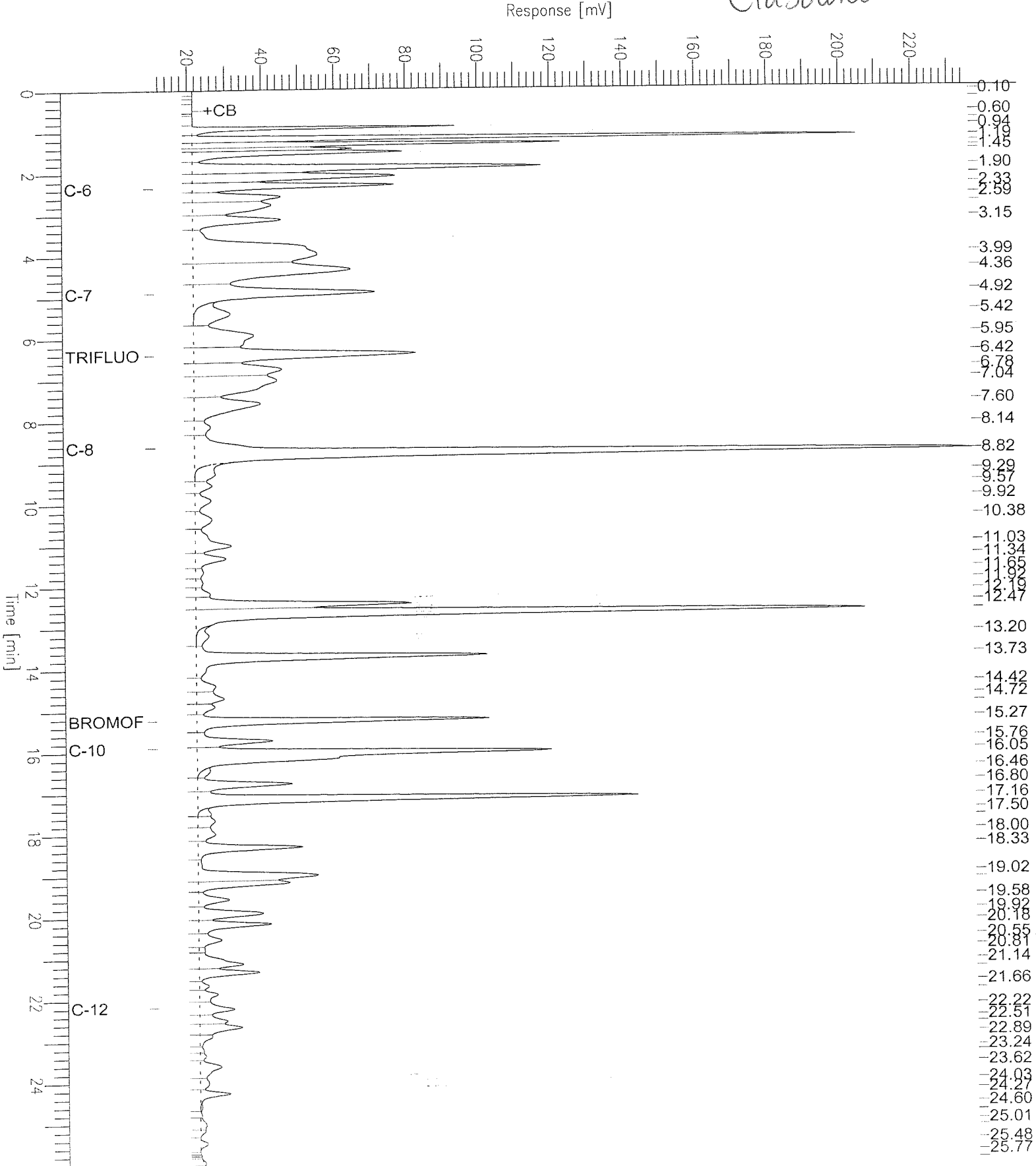


GC07 TVH 'A' Data File RTX 502

Sample Name : ccv/lcs,qc332897,111643,s2869,5/5000
 FileName : G:\GC07\DATA\083A003.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: 1.0

Sample #: Page 1 of 1
 Date : 3/24/06 11:07 AM
 Time of Injection: 3/24/06 10:41 AM
 Low Point : 10.75 mV
 Plot Scale: 225.2 mV
 High Point : 235.96 mV

Gasoline



Batch QC Report

Total Volatile Hydrocarbons

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC332897	Batch#:	111643
Matrix:	Water	Analyzed:	03/24/06
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,187	109	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	69-137
Bromofluorobenzene (FID)	103	80-133

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	MW-2	Batch#:	111643
MSS Lab ID:	185770-001	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/24/06
Diln Fac:	1.000		

Type: MS Lab ID: QC332974

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	37.59	2,000	2,099	103	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	69-137
Bromofluorobenzene (FID)	111	80-133

Type: MSD Lab ID: QC332975

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,050	101	80-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	69-137
Bromofluorobenzene (FID)	104	80-133

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	111643
MSS Lab ID:	185776-002	Sampled:	03/23/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/24/06
Diln Fac:	1.000		

Type: MS Lab ID: QC333000

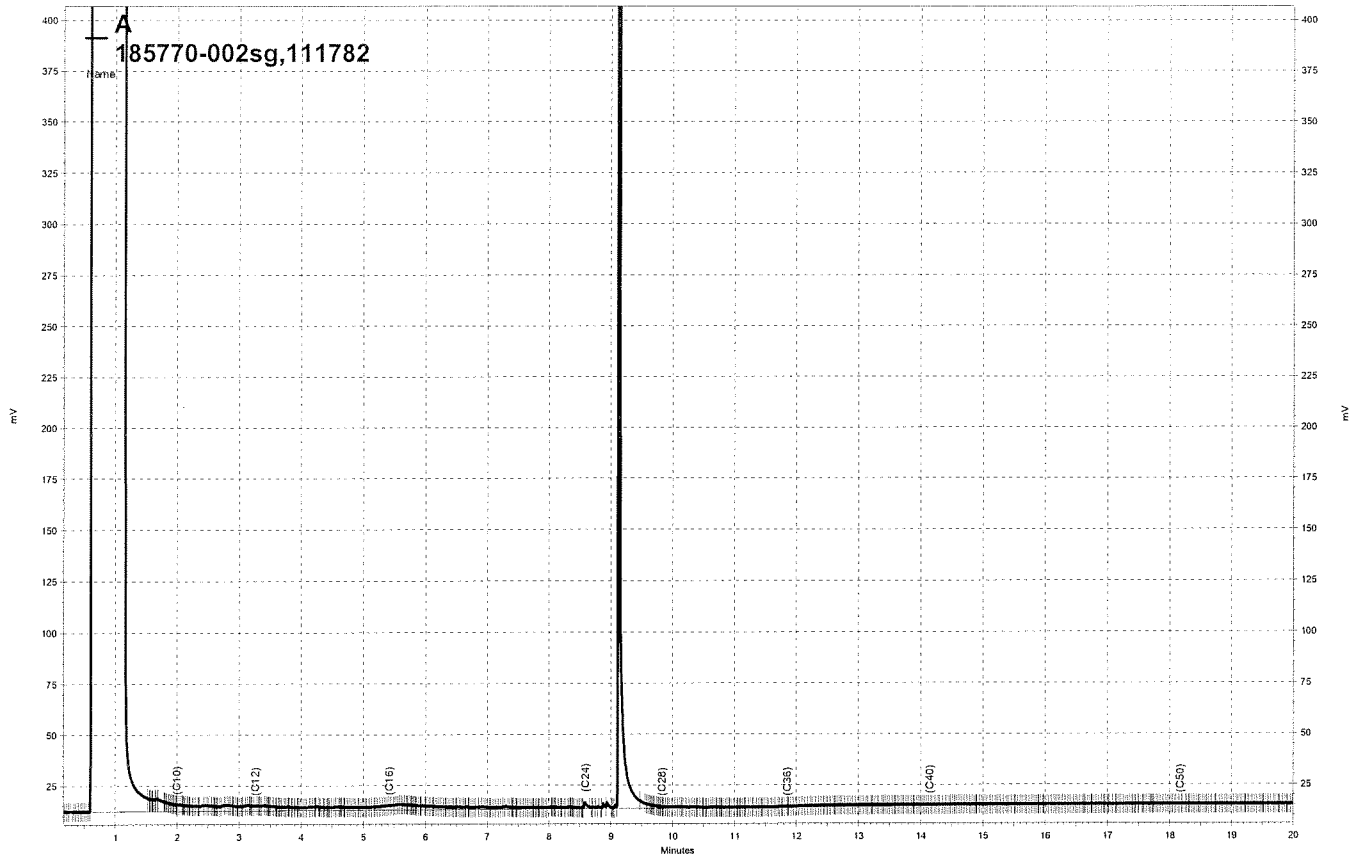
Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	31.44	2,000	2,006	99	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	69-137
Bromofluorobenzene (FID)	100	80-133

Type: MSD Lab ID: QC333001

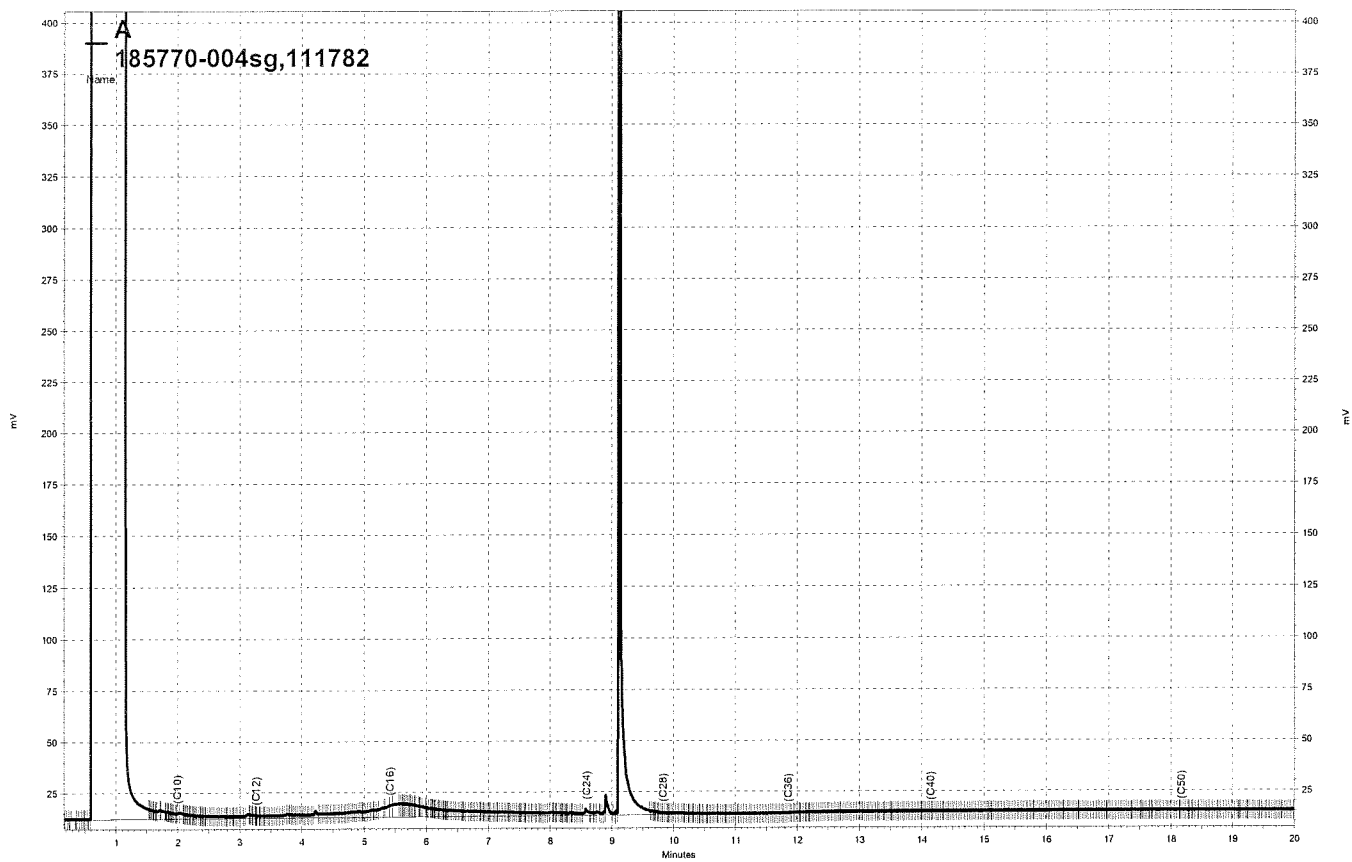
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,139	105	80-120	6	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	69-137
Bromofluorobenzene (FID)	100	80-133



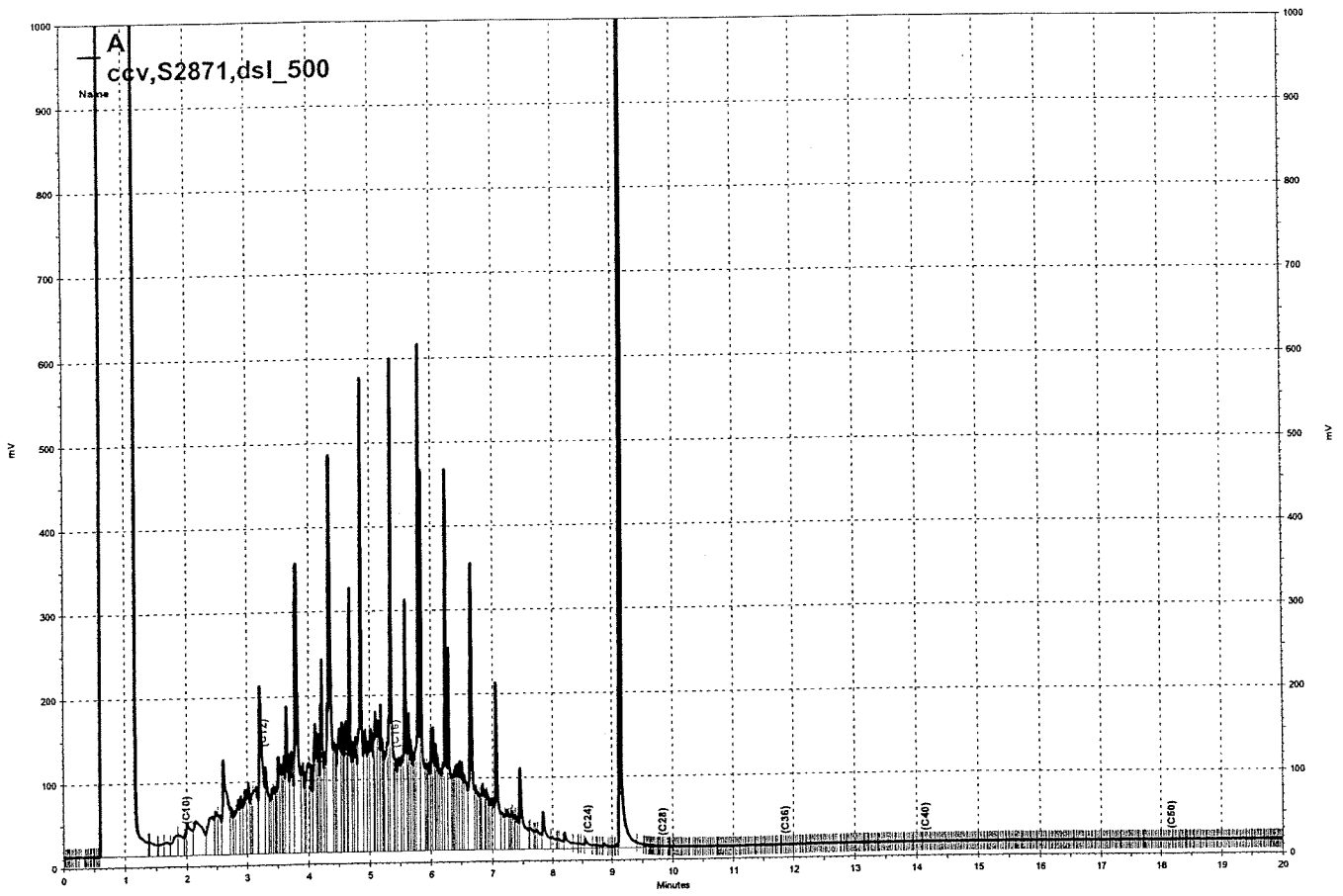
— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\088a023, A

MW-4



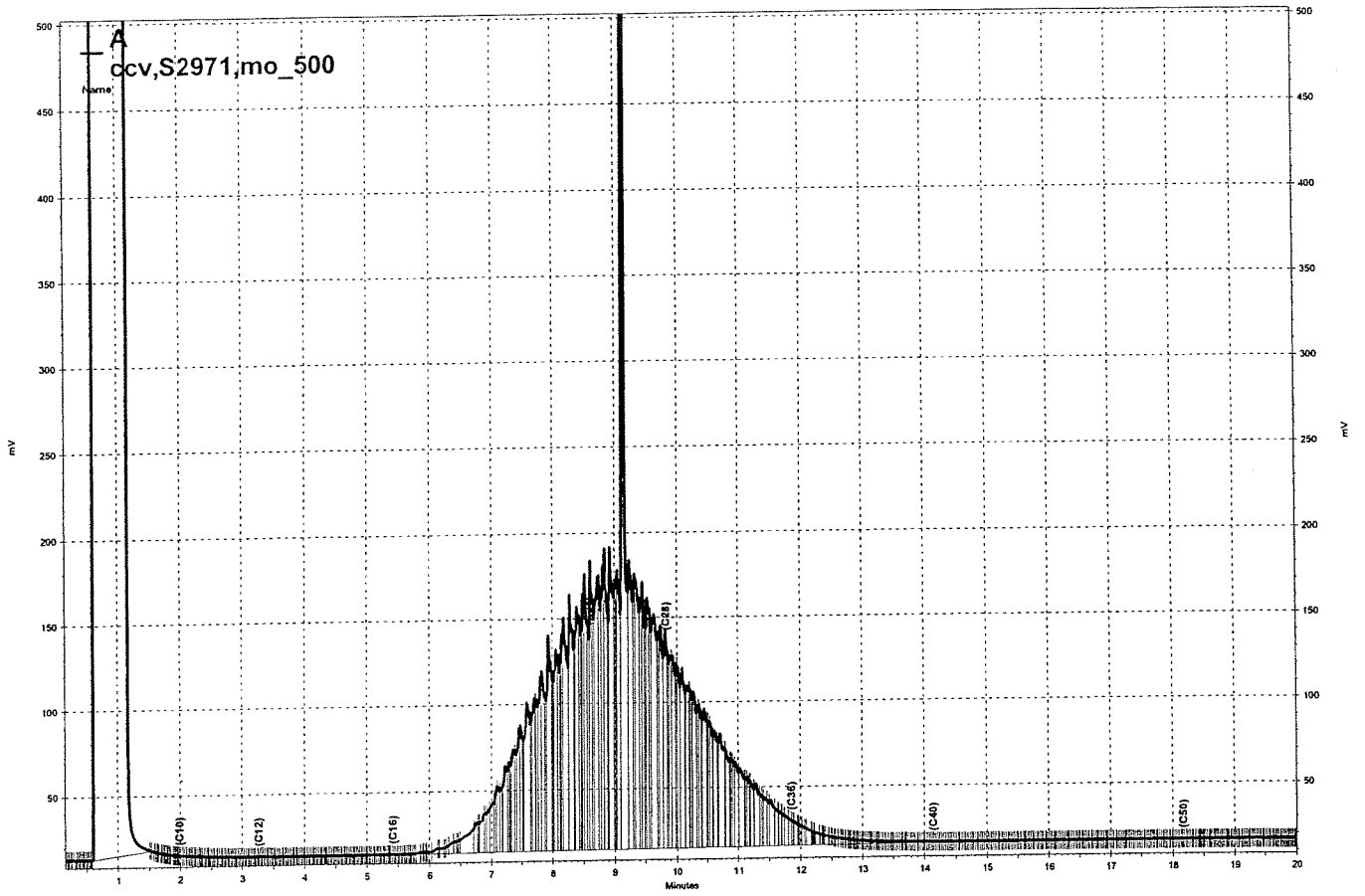
— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\088a025, A

MW-8A



— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\088a004, A

Diesel



— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\088a003, A

MOTOR OIL

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	111763
Lab ID:	185770-001	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/28/06
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	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-122

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	111816
Lab ID:	185770-002	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/30/06
Diln Fac:	1.429		

Analyte	Result	RL
MTBE	ND	0.7
Benzene	120	0.7
Toluene	0.8	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	98	80-130
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-122

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-4DUP	Batch#:	111816
Lab ID:	185770-003	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/30/06
Diln Fac:	1.429		

Analyte	Result	RL
MTBE	ND	0.7
Benzene	130	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	98	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-122

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-8A	Batch#:	111763
Lab ID:	185770-004	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/28/06
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	96	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-122

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	QCTB	Batch#:	111763
Lab ID:	185770-005	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/28/06
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	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-122

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	QCEB	Batch#:	111763
Lab ID:	185770-006	Sampled:	03/24/06
Matrix:	Water	Received:	03/24/06
Units:	ug/L	Analyzed:	03/28/06
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	80-130
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC333350	Batch#:	111763
Matrix:	Water	Analyzed:	03/28/06
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	100	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC333351	Batch#:	111763
Matrix:	Water	Analyzed:	03/28/06
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	98	80-130
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC333561	Batch#:	111816
Matrix:	Water	Analyzed:	03/29/06
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	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	111763
Units:	ug/L	Analyzed:	03/28/06
Diln Fac:	1.000		

Type: BS Lab ID: QC333348

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	21.47	86	72-120
Benzene	25.00	23.01	92	80-120
Toluene	25.00	23.75	95	80-120
Chlorobenzene	25.00	23.83	95	80-120
Ethylbenzene	25.00	24.06	96	80-120
m,p-Xylenes	50.00	48.84	98	80-121
o-Xylene	25.00	24.78	99	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-122

Type: BSD Lab ID: QC333349

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	22.28	89	72-120	4	20
Benzene	25.00	23.96	96	80-120	4	20
Toluene	25.00	24.85	99	80-120	5	20
Chlorobenzene	25.00	24.72	99	80-120	4	20
Ethylbenzene	25.00	25.40	102	80-120	5	20
m,p-Xylenes	50.00	52.49	105	80-121	7	20
o-Xylene	25.00	26.23	105	80-120	6	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	80-130
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-122

RPD= Relative Percent Difference

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	185770	Location:	Harbor Facilities Center
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	111816
Units:	ug/L	Analyzed:	03/29/06
Diln Fac:	1.000		

Type: BS Lab ID: QC333558

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	23.47	94	72-120
Benzene	25.00	23.38	94	80-120
Toluene	25.00	23.88	96	80-120
Chlorobenzene	25.00	24.21	97	80-120
Ethylbenzene	25.00	24.96	100	80-120
m,p-Xylenes	50.00	50.30	101	80-121
o-Xylene	25.00	24.75	99	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-122

Type: BSD Lab ID: QC333559

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	22.56	90	72-120	4	20
Benzene	25.00	22.52	90	80-120	4	20
Toluene	25.00	23.50	94	80-120	2	20
Chlorobenzene	25.00	23.99	96	80-120	1	20
Ethylbenzene	25.00	24.14	97	80-120	3	20
m,p-Xylenes	50.00	49.27	99	80-121	2	20
o-Xylene	25.00	24.70	99	80-120	0	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-122

RPD= Relative Percent Difference

APPENDIX C
HISTORICAL DATA

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
MW-1						
	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
MW-2						
	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

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	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
	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
MW-3						
	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

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	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
	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

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	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
MW-4						
	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
	06/24/99	13.15	NP	8.45	0.0	4.70

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	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
MW-5						
	12/31/97	13.49	NP	6.38	0.0	7.11

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	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
	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

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	12/21/05	13.49	NP	5.91	0.0	7.58
	03/24/06	13.49	NP	NA ²	NA ²	NA ²
MW-6						
	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
	12/12/02	14.00	NP	7.71	0.0	6.29
	12/18/02	Monitoring well was destroyed				
MW-7						
	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

**TABLE C-1 : Groundwater Elevation Data
Port of Oakland Harbor Facilities Center
2277 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	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				
MW-8 ³						
	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				
MW-8A						
	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 and 2225 7th Street, Oakland, California**

Monitoring Well	Date Measured	Elevation ¹ Top of Casing (feet)	Depth to Product (feet btc)	Depth to Water (feet btc)	Product Thickness (feet)	Groundwater Elevation ¹ (feet)
	12/21/05	12.94	NP	6.90	0.0	6.04
	03/24/06	12.94	NP	6.65	0.0	6.29

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

¹ Elevation data relative to Port of Oakland datum.

² Well could not be measured due to abundant surface water covering well head.

³ Viscous product not related to lighter product in other wells.