BASELINE

ENVIRONMENTAL CONSULTING

31 January 2006
Y5395-02

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

Subject: 2005 Fourth Quarter Groundwater Monitoring Report, Port Of Oakland Harbor Facilities Center, 2277 and 2225 Seventh Street, Oakland, California

Dear Mr. Rubin:

Enclosed please find the 2005 Fourth Quarter Groundwater Monitoring Report for 2277 and 2225 Seventh Street. The Alameda County Health Services Local Oversight Program case number for 2277 Seventh Street is RO0000010 and for 2225 Seventh Street RO0000185. The results do not indicate significant changes from previous monitoring events. We have recommended that the Port should request a change in groundwater monitoring frequency from quarterly to semi-annual.

Sincerely,

Yane Nordhav, P.G.
Principal

REGISTERED GEOLOGIST
YANE NORDHAV
No. 4009
STATE OF CALIFORNIA

James McCarty, P.E.
Project Engineer

REGISTERED PROFESSIONAL ENGINEER
JAMES G. McCARTY
NO. C 62618
EXP 6/30/06
CIVIL
STATE OF CALIFORNIA

YN:JM:km

Enclosure

5900 Hollis Street, Suite D • Emeryville, CA 94608-2008 • (510) 420-8686 • FAX: (510) 420-1707
Emeryville Petaluma San Francisco

2005
FOURTH QUARTER
GROUNDWATER MONITORING REPORT

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

JANUARY 2006

FOR:
Port of Oakland
Oakland, California

Y5395-02

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FOURTH QUARTER GROUNDWATER MONITORING REPORT
PORT OF OAKLAND HARBOR FACILITIES CENTER
2277 and 2255 Seventh Street
Oakland, California

INTRODUCTION

This report summarizes the results of the fourth quarter groundwater monitoring for 2005 performed at Port of Oakland's ("Port") two contiguous properties, 2227 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 regulatory oversight is being provided by the Alameda County Health Services ("ACHS") Local Oversight Program ("LOP"). The ACHS LOP case number for 2277 Seventh Street is RO0000010 and for 2225 Seventh Street RO0000185.

Together, the two properties are approximately 12 acres in size. These properties are currently being redevelopment 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 four acres are currently being redeveloped for future Port uses.

The USTs that were located at 2277 and 2225 Seventh Street were used to store diesel and oil and were removed between 1990 and 1993. Soil and groundwater investigations at these properties indicated that there had been releases from the USTs, impacting the groundwater with petroleum hydrocarbons. Eight groundwater monitoring wells (MW-1 through MW-8) were installed to monitor groundwater at 2277 Seventh Street and three (MW-1 through MW-3) at 2225 Seventh Street. The groundwater impact from the two addresses is co-mingled and consists of dissolved- and free-phase hydrocarbons in the diesel range south and southwest of building C-401. In addition, one well (MW-4) on the 2277 Seventh Street property has historically contained dissolved hydrocarbons in the gasoline range. In 1996, a remediation system was installed at 2277 Street to recover the free-phase product. In 1998, MW-8 was abandoned to facilitate the expansion of the railroad tracks north of 2277 Seventh Street. A replacement well, MW-8A, was installed in 2001.

Except for building C-401, existing buildings at the Site were demolished prior to construction of the new Harbor Facilities Center. Only the eastern portion of building C-401 had been demolished at the time groundwater monitoring was performed. 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. In 2003, the remediation system was also removed.

Construction of the new Harbor Facilities Center was completed in 2004. A new product recovery system was completed in December 2004 consisting of nine product recovery wells (RW-1 through RW-9, Figure 2) equipped with product skimmer pumps. The product recovery system is currently being evaluated and adjusted to maximize performance. A summary of the system status and performance will be included in subsequent groundwater monitoring reports.

FIELD ACTIVITIES

Groundwater quality has been monitored at the Site since 1994. Groundwater monitoring is currently performed on a quarterly basis by a network of six groundwater wells; MW-1, MW-2, MW-3, MW-4, MW-5, and MW-8A (Figure 2). The depths to groundwater in the wells are measured and the wells are checked for the presence of free-phase product. If none is present, groundwater samples are collected and submitted for following analyses:

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

Groundwater monitoring for the fourth quarter of 2005 was performed at the Site on 21 December 2005. Between 9:15 AM and 9:50 AM on 21 December 2005, the depth to groundwater (and product, if present) from the top of the well casing ("TOC") was measured to the nearest one-hundredth of a foot in monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-8A using dual-phase interface probes.[1] The results are presented in Table 1. Free-phase product was detected in wells MW-1 and MW-3. The dual-phase interface probes were decontaminated after each use by washing with an Alconox™ and water solution and then rinsing with deionized water.

Monitoring wells MW-1 and MW-3 contained measurable free-phase product and therefore were not sampled. Monitoring wells MW-2 and MW-4, MW-5 and MW-8A were purged prior to sampling using a peristaltic pump and new disposable polyethylene and silicon tubing. The wells were purged until the electrical conductivity, pH, and temperature of the water had stabilized. Approximately three well casing volumes of groundwater were purged from the wells prior to sampling. The pump intake was initially placed at the bottom of the well to remove sediments. Once the groundwater being removed appeared free of sediments, the pump intake was raised 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 B.

Groundwater samples from the wells were collected using the peristaltic pump with the intake of tubing placed a few feet off the bottom of the well. The groundwater samples were collected by decanting directly into certified-clean containers[2] from discharge end of the tubing. A field duplicate (MW-4d), consisting of a duplicate groundwater sample from monitoring well MW-4, was also prepared. The sample containers were immediately labeled with sample location, date, time and stored in a cooler containing ice. The groundwater samples were submitted under

[1] 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, MW-5 and MW-8A is reserved for wells that are not suspected to contain free-phase product.

[2] 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.

chain-of-custody protocol to Curtis & Tompkins, Ltd. of Berkeley, a California-certified analytical laboratory.

Approximately 25 gallons of purge and decontamination water were generated during the fourth quarter 2005 monitoring event. The purge water was placed into a 55-gallon drum, labeled with generator and contact information and stored near the Harbor Facilities Center hazardous materials storage lockers. The Port of Oakland's Environmental Services Contractor will arrange proper purge water disposal.

OBSERVATIONS AND ANALYTICAL RESULTS

Product thickness was measured in MW-1 and MW-3 at 0.20 and 0.06 foot, respectively (Table 1). Analytical results for the groundwater samples are summarized on Figure 3 and Table 2. The laboratory reports are provided in Appendix B.

TPHg

TPHg was reported in the groundwater sample from monitoring well MW-4 at a concentration of 110 micrograms per liter ("µg/L"). TPHg was not reported above the laboratory reporting limits in any of the other monitoring wells sampled.

BTEX and MTBE

Benzene was reported in the groundwater sample from MW-4 at concentration of 76 µg/L. None of the other groundwater samples contained any BTEX constituents above the laboratory report limits. The laboratory did not report any MTBE above the reporting limit in any of the samples submitted.

TEPHd and TEPHmo

Two of the four groundwater samples contained TEPHd; MW-5 and MW-8A was reported to contain 180 µg/L and 63 µg/L, respectively. The laboratory noted that, in both samples; heavier hydrocarbons contributed to the quantitation of the results and the chromatographic patterns did not resemble the standard. TEPHmo was not reported above the laboratory reporting limits in any of the groundwater samples collected.

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.

High surrogate recoveries were observed 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.

A duplicate groundwater sample, MW-4d, was collected from monitoring well MW-4. The laboratory reported concentrations of TPHg, and benzene in both samples. The relative percent

difference ("RPD") between the original and the duplicate sample was 37 percent for TPHg and zero percent for benzene:

TPHg RPD	|110-160|/[(110+160)/2] = 37%
Benzene RPD	|76-76|/[(76+76)/2] = 0%

The U.S. Environmental Protection Agency considers an RPD of less than 25 percent acceptable without question for field duplicate water samples.[3] An RPD over 25 percent does not necessarily disqualify the validity of the data. The RPD for the TPHg samples exceeded 25 percent; however, the benzene concentrations were the same indicating the sample result were valid and repeatable.

Based on the above QA/QC evaluation, the data collected during the fourth quarter 2005 groundwater monitoring event is considered valid and representative of Site conditions.

Groundwater Flow Direction

The surveyed elevation of the top of each groundwater monitoring well casing and the measured depth to groundwater were used to determine the groundwater elevation. The groundwater elevation data are summarized in Table 1. Groundwater contours are presented on Figure 4. The groundwater flow direction and magnitude were calculated to be towards the north-northwest at magnitude of 0.0067 feet/foot.

CONCLUSIONS AND RECOMMENDATIONS

The results from the fourth quarter 2005 monitoring event indicate that the petroleum hydrocarbon plume is stable as the concentrations 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. The low concentrations of TEPH as diesel reported in the groundwater samples from MW-5 and MW-8A appear to be aged and weathered, as the chromatograms did not match the diesel standard.
Based on the fact that the concentrations of dissolved-phase petroleum hydrocarbons in the groundwater appear stable, it is recommended that the frequency of groundwater monitoring be reduced to semi-annual. Contingent on approval from the ACHS, the groundwater sampling would be performed on the following schedule:

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

In addition, to address the TPHg and benzene reported in the groundwater at MW-4, the Port will place a sock containing Oxygen Releasing Compound[T] ("ORC"), a product developed by Regenesis, to promote in-situ biodegradation of the TPHg. 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.

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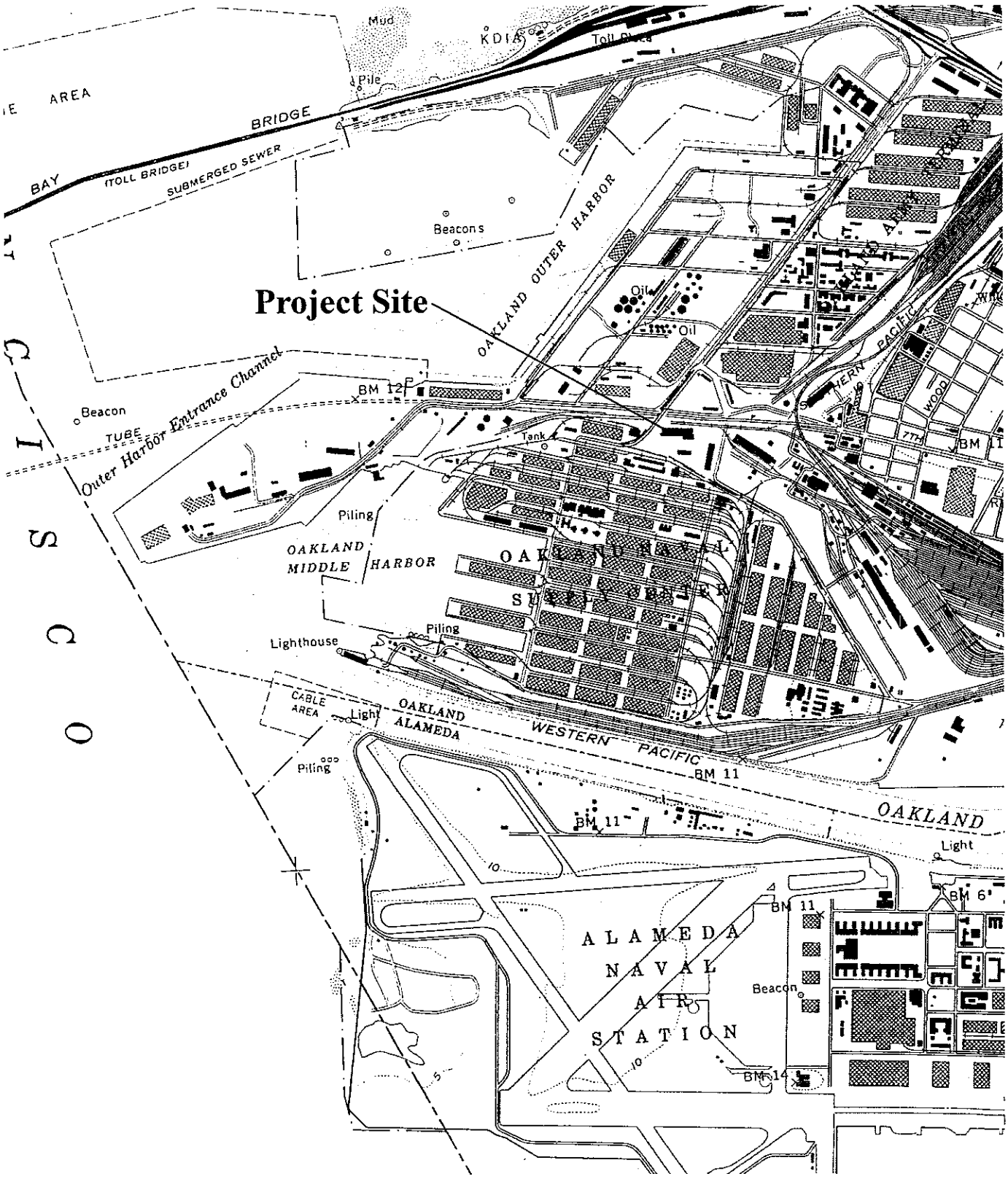
[3] 2001, US Environmental Protection Agency, *Training Course For CLP, Organic Data Validation.*

FIGURES

REGIONAL LOCATION

Figure 1



2277 and 2225 Seventh Street
Port of Oakland
Oakland , California

0 2000 Feet

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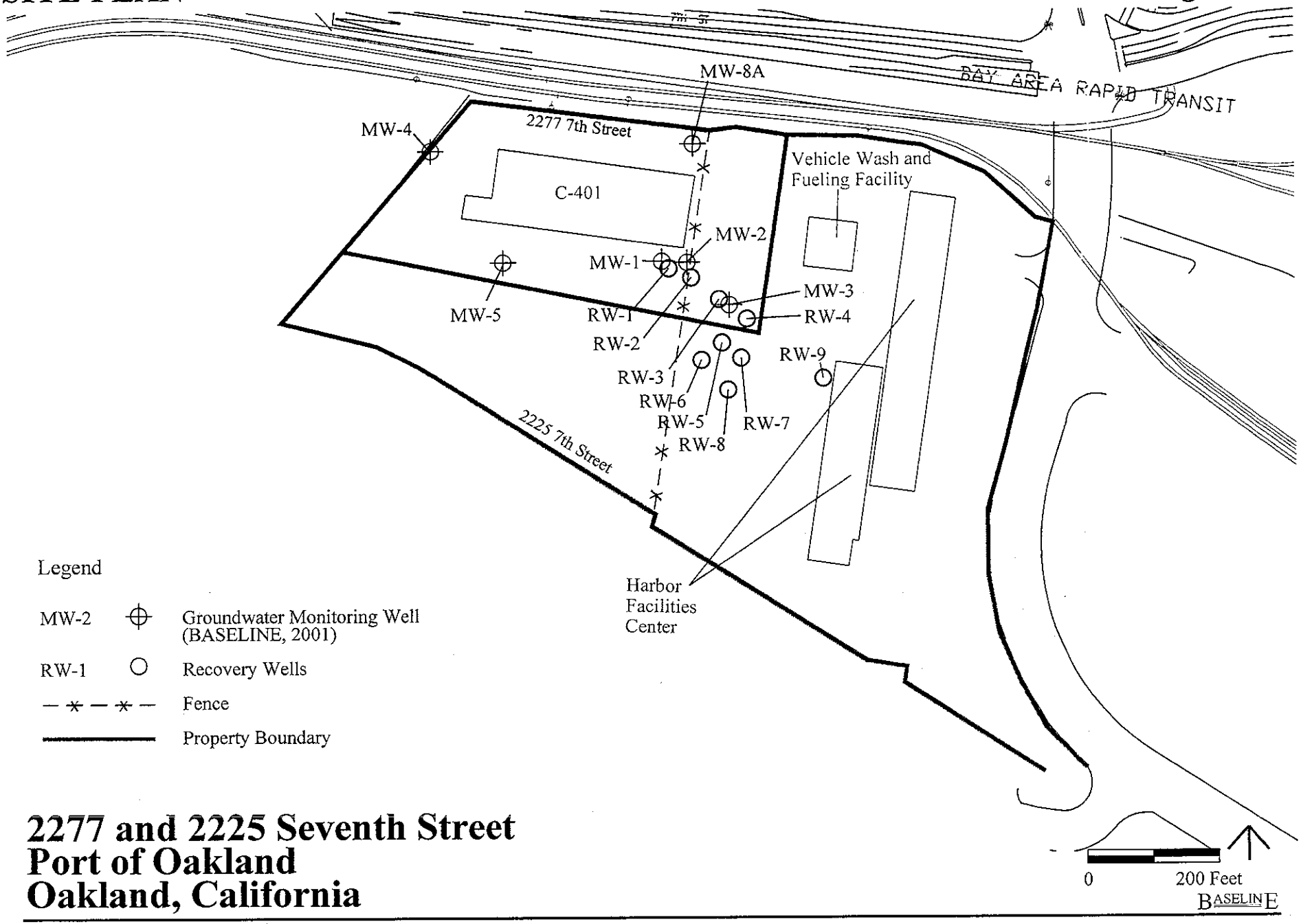
SITE PLAN

Figure 2



2277 and 2225 Seventh Street
Port of Oakland
Oakland, California

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ANALYTICAL RESULTS DECEMBER 2005

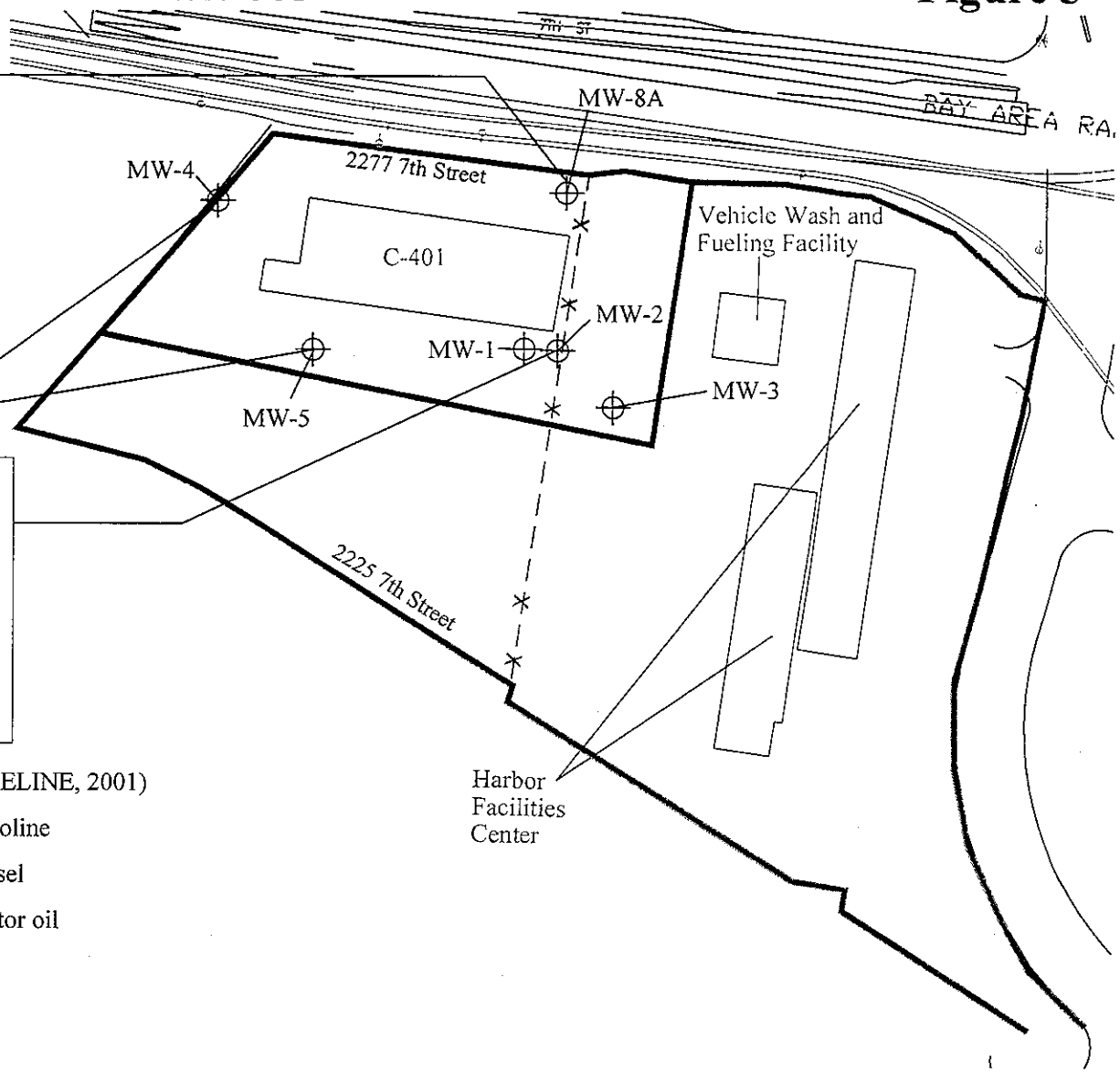
Figure 3

MW-4	12/21/05	Duplicate
TPHg	110	160
TPHd	<50	<50
TPHmo	<300	<300
Benzene	76	76
Toluene	<0.5	<0.5
Ethylbenzene	<0.5	<0.5
Total Xylenes	<0.5	<0.5
MTBE	<0.5	<0.5

MW-8A	12/21/05
TPHg	<50
TPHd	60
TPHmo	<300
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Total Xylenes	<0.5
MTBE	<0.5

MW-5	12/21/05
TPHg	<50
TPHd	180
TPHmo	<300
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Total Xylenes	<0.5
MTBE	<0.5

MW-2	12/21/05
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 (BASELINE, 2001)
TPHg		Total petroleum hydrocarbons as gasoline
TPHd		Total petroleum hydrocarbons as diesel
TPHmo		Total petroleum hydrocarbons as motor oil
MTBE		Methyl tert butyl ether
— ✳ — ✳ —		Fence
———		Property Boundary

0 200 Feet

2277 and 2225 Seventh Street
Port of Oakland
Oakland, California

Note: Concentrations are in units of micrograms per liter.

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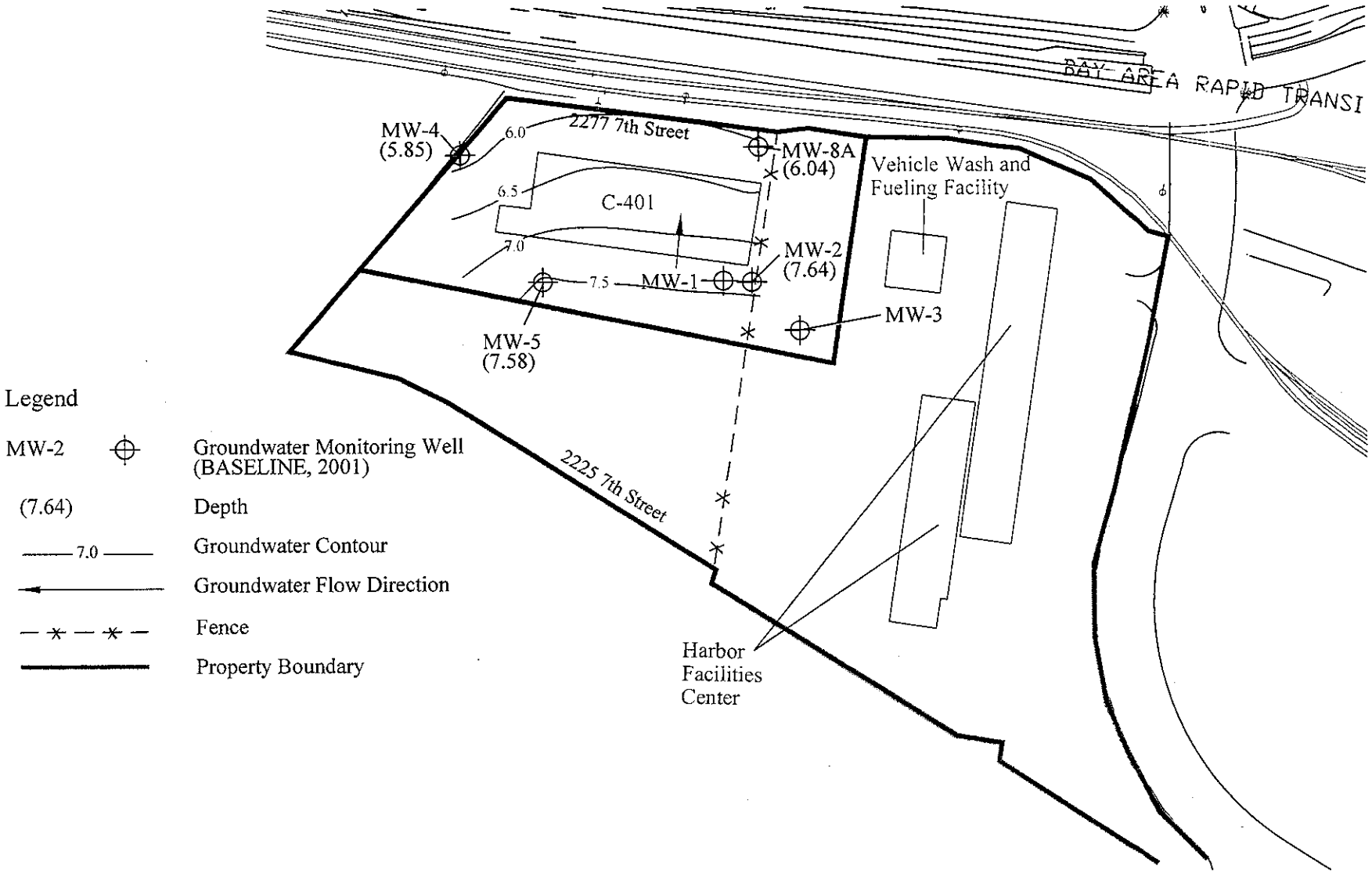
GROUNDWATER CONTOURS DECEMBER 2005

Figure 4



2277 and 2225 Seventh Street
Port of Oakland
Oakland, California

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TABLES

TABLE 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	12/21/2005	14.14	5.70	5.90	0.20	NC
MW-2	12/21/2005	16.96	NP	9.57	--	7.39
MW-3	12/21/2005	16.18	8.21	8.28	0.07	NC
MW-4	12/21/2005	13.15	NP	7.30	--	5.85
MW-5	12/21/2005	13.49	NP	5.91	--	7.58
MW-8A	12/21/2005	12.94	NP	6.90	--	6.04

Notes:

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 available

[1] Elevation data relative to Port of Oakland datum.

TABLE 2: **Groundwater Analytical Results**
Port of Oakland Harbor Facilities Center, 2277 and 2225 - 7th Street, Oakland, California
(µg/L)

Monitoring Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-1	05/22/00	3,600	41,000	<3,000	100	13 [8]	2.9	2.05	3.2 [8]
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 [1,2]	<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 [2,6]	<300	<0.5	<0.5	<0.5	<0.5	6.3 [8,9]
	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 [8]	<0.5	<0.5	<0.5	<0.5 [10]
	12/19/00	200 [3,11]	<50	<300	39	1.8	<0.5	2.6	<0.5 [10,12]
	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 [14]
	03/08/02	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	06/13/02	62 [15]	<57	<570	<0.5	<0.5	<0.5	<0.5	<5.0
	09/26/02	69 [2]	<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	<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

TABLE 2: **Groundwater Analytical Results**
Port of Oakland Harbor Facilities Center, 2277 and 2225 - 7th Street, Oakland, California
(µg/L)

Monitoring Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
	12/16/04	<50	96 [6, 15]	<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
	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
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 [1,2]	<250	350	3.3	1.3	1.3	NA
	03/28/97	440 [2]	<50	<250	190	1.2	0.64	<1.0	NA
	06/13/97	1,300	92 [5]	<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 [1,2,3]	<47	<280	110 [1]	1.0 [1]	<0.5	<1.0	NA
	04/13/98	150 [2,3]	<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 [3,5]	63 [3,5]	<300	280	1.5	<1.0	<1.0	<4
	11/12/99	330 [3]	840 [2]	<300	740	<2.5	<2.5	<2.5	42 [9]
	02/11/00	200 [2]	<50	<300	58	0.73	<0.5	<0.5	4.4 [8]
	05/22/00	240	<50	<300	500	<2.5	<2.5	<2.5	17
	09/06/00	530 [2,3]	<50	<300	190	0.93	0.6	0.57	<0.5 [10]
	12/19/00	960 [3,11]	70 [5]	<300	420	<2.5	<2.5	<2.5	<0.5 [10,12]
	12/19/00	1,200 [3,11]	<50	<300	440	<2.5	<2.5	<2.5	<0.5 [10,12]
	02/21/01	450 [13]	<50	<300	120	<0.5	<0.5	<0.5	<0.5 [10]
	07/10/01	<250	110 [2,13]	<300	620	2.6	2.9	<2.5	<0.5 [8,10]
	12/05/01	180	<50	<300	61	<0.5	<0.5	<0.5	3.8 [14]
	03/08/02	490 [2]	54 [2]	<500	180	<2.5	<2.5	<2.5	<25
	06/13/02	830 [2]	<50	<500	250	<5.0	<5.0	<5.0	<50
Dup.	06/13/02	820 [2]	<56	<560	240	<5.0	<5.0	<5.0	<50
	09/26/02	390 [2]	57	<500	150	2.1	<1.0	<1.0	<10
Dup.	09/26/02	500 [2]	<50 [16]	<500 [16]	200	1.5	<1.0	<1.0	<10
	12/12/02	580	<50	<300	240	1.4	0.56	<0.5	<2.0

TABLE 2: **Groundwater Analytical Results**
Port of Oakland Harbor Facilities Center, 2277 and 2225 - 7th Street, Oakland, California
(µg/L)

Monitoring Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Dup.	12/12/02	2,400	<50	<300	680	5.0	2.3	1.4	<2.0
	03/17/03	130 [15]	<50	<300	320 [17]	<0.5	<0.5	<0.5	<0.5 [10]
Dup.	03/17/03	82 [15]	<50	<300	190	0.64 [17]	0.56	0.53	<0.5 [10]
	06/18/03	360 [11, 15]	<50	<300	150	<0.5	<0.5	<0.5	<2.0
Dup.	06/18/03	330 [11, 15]	<50	<300	140	<0.5	<0.5	<0.5	<2.0
	09/03/03	140 [11, 15]	<50	<300	240	1.3	<0.5	<0.5	<2.0
Dup.	09/03/03	83 [11, 15]	<50	<300	130	0.58 [17]	<0.5	<0.5	<2.0
	11/26/03	160 [15]	68 [15]	<300	320	0.91 [17]	<0.5	0.53	<2.0
Dup.	11/26/03	120 [15]	<50	<300	210	0.66 [17]	<0.5	<0.5	<2.0
	03/05/04	90 [11]	<50	<300	190	1.1	0.55	0.50 [17]	23 [14,17], <0.5 [10]
Dup.	03/05/04	84 [11]	<50	<300	180	0.81	<0.5	<0.5	21 [14,17], <0.5 [10]
	06/02/04	620 [13]	<50	<300	210	0.55 [17]	<0.5	<0.5	<2.0
Dup.	06/02/04	400 [13]	<50	<300	130	<0.5	<0.5	<0.5	<2.0
	09/03/04	780 [13, 15]	<50	<300	<0.5	1.0 [17]	<0.5	0.57	<2.0
Dup.	09/03/04	370 [13, 15]	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/16/04	840	<50	<300	290	1.3 [17]	0.69	0.75	<2.0
Dup.	12/16/04	670	<50	<300	230	1.3 [17]	<0.5	<0.5	<2.0
	03/29/05	440 [13]	<50	<300	140	0.57	<0.5	<0.5	<2.0
Dup.	03/29/05	540 [13]	<50	<300	170	0.72	<0.5	<0.5	<2.0
	08/10/05	500 [18]	<50	<250	180	<2.5	<2.5	<2.5	<2.5
	09/29/05	360 [18]	59 [20]	<250	160	<5.0	<5.0	<5.0	<5.0
Dup.	09/29/05	420 [18]	<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
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 [1,2]	<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

TABLE 2: **Groundwater Analytical Results**
Port of Oakland Harbor Facilities Center, 2277 and 2225 - 7th Street, Oakland, California
(µg/L)

Monitoring Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
	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 [2,6]	<300	<0.5	<0.5	<0.5	<0.5	5.5 [9]
	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
	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 [10]
	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 [14], <0.5 [10]
	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 [14], <0.5 [10]
	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 [19]	<50 [19]	<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 [15,22]	<300	<0.5	<0.5	<0.5	<0.5	<0.5
MW-8A	12/12/01	68	720 [11,15]	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	03/08/02	<50	760 [2]	<570	<0.5	<0.5	<0.5	<0.5	<5.0
Dup.	03/08/02	<50	350 [2]	<580	<0.5	<0.5	<0.5	<0.5	<5.0
	06/13/02	<50	570 [2]	<570	<0.5	<0.5	<0.5	<0.5	<5.0
	09/26/02	<50	410 [2]	<500	<0.5	<0.5	<0.5	<0.5	<5.0
	12/12/02	<50	160 [15]	<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 [10]
	06/18/03	<50	74 [15]	<300	<0.5	<0.5	<0.5	<0.5	<2.0

TABLE 2: **Groundwater Analytical Results**
Port of Oakland Harbor Facilities Center, 2277 and 2225 - 7th Street, Oakland, California
(µg/L)

Monitoring Well ID	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
	09/03/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	3.0 [14], <0.5 [10]
	11/26/03	<50	94 [15]	<300	<0.5	<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	67 [15]	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/04	<50	86 [15]	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	12/16/04	<50	160 [6, 15]	<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 [19]	150 [15, 19]	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	09/29/05	<50	66 [21]	<250	<0.5	<0.5	<0.5	<0.5	<0.5
	12/21/05	<50	63 [15,22]	<300	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

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

µg/L = micrograms per liter

NA = not analyzed

[1]Analyte found in the associated blank as well as in the sample.

[2]Hydrocarbons present do not match profile of laboratory standard.

[3]Low-boiling-point/lighter hydrocarbons are present in the sample.

[4]Chromatographic pattern matches known laboratory contaminant.

[5]Hydrocarbons are present in the requested fuel quantification range, but do not resemble pattern of available fuel standard.

[6]High-boiling-point/heavier hydrocarbons are present in sample.

[7]Sample did not pass laboratory QA/QC and may be biased low.

[8]Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor or two.

[9]Trip blank contained MTBE at a concentration of 4.2 µg/l

[10]MTBE detections confirmed by EPA Test Method 8260. 8260 results displayed.

[11]Sample exhibits unknown single peak or peaks.

[12]EPA Method 8260 confirmation analyzed past holding time.

[13]Lighter hydrocarbons contributed to the quantitation.

[14]MTBE results from EPA Test Method 8021B.

[15]Sample exhibits fuel pattern which does not resemble standard.

[16]Sample extracted out of hold time.

[17]Presence confirmed, but Relative Percent Difference (RPD) between columns exceeds 40%.

[18]Unmodified or weakly modified gasoline is significant.

[19]Liquid Sample contains greater than ~1 vol.% sediment.

[20]Gasoline compounds are significant.

[21]Diesel range compounds are significant; no recognizable pattern.

[22]Heavier hydrocarbons cntributed to the quantitation.

APPENDIX A

GROUNDWATER SAMPLING FORMS

GROUNDWATER SAMPLING

Project No.	Y5395-02	Well No.:	MW-1	Date:	12/21/2005
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):	3.58	Water Level from TOC (feet):	5.90	Time:	9:20
Water Level Instrument:	Dual-phase interface probe (Solinst)	Product level from TOC (feet):	5.70	Time:	9:20

VOLUME OF WATER TO BE REMOVED

[(ft) - (ft)] x 0.083 ft)^2 x π x 7.48 gal/ft^3 = _____ gallons in one casing volume
well depth well level well radius

CALIBRATION

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

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-2	Date:	12/21/2005
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):	3.58	Water Level from TOC (feet):	9.57	Time:	9:30
Water Level Instrument:	Dual-phase interface probe (Solinst)	Product level from TOC (feet):	None	Time:	9:30

VOLUME OF WATER TO BE REMOVED

(18.10 ft well depth − 9.57 ft water level) x (0.083 ft)^2 x π x 7.48 gal/ft^3 = 1.4 gallons in one casing volume

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00/4.01	0/100	1,000
Before Purging:	9:50	18.9	7.00/4.01	0/100	1,000
After Puging:	13:50	19.5	6.89/3.88	0/100	1,000

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
13:16	19.6	7.58	1599	1	None observed	0.85
13:22	19.7	7.53	1607	2	None observed	0.24
13:28	19.9	7.41	1635	3	None observed	0.21
13:34	20.0	7.35	1663	4	None observed	0.14

Appearance of sample:	Clear	Time:	13:45
Duplicate/blank number:	None	Time:	NA
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	4 VOAs, 1 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:	12/21/2005
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):	3.58	Water Level from TOC (feet):	8.28	Time:	9:15
Water Level Instrument:	Dual-phase interface probe (Solinst)	Product level from TOC (feet):	8.21	Time:	9:15

VOLUME OF WATER TO BE REMOVED

[(ft) - (ft)] x 0.083 ft)^2 x π x 7.48 gal/ft^3 = _____ gallons in one casing volume

well depth well level well radius

CALIBRATION

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

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:	12/21/2005
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):	3.58	Water Level from TOC (feet):	7.30	Time:	9:45
Water Level Instrument:	Dual-phase interface probe (Solinst)	Product level from TOC (feet):	None	Time:	9:45

VOLUME OF WATER TO BE REMOVED

(18.79 ft well depth − 7.30 ft water level) x (0.083 ft)^2 x π x 7.48 gal/ft^3 = 1.9 gallons in one casing volume

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00/4.01	0/100	1,000
Before Purging:	9:50	18.9	7.00/4.01	0/100	1,000
After Puging:	13:50	19.5	6.89/3.88	0/100	1,000

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
Removed silty/sand sediment from the bottom of well.						
11:10	20.8	6.67	1793	2	None observed	13
11:16	20.7	6.88	1752	3	None observed	4.0
11:22	20.7	6.65	1732	4	None observed	0.85
11:34	20.7	7.00	1701	6	None observed	0.21

Appearance of sample:	Clear	Time:	11:35
Duplicate/blank number:	MW-4d	Time:	11:40
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	4 VOAs, 1 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:	12/21/2005
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):	3.58	Water Level from TOC (feet):	5.91	Time:	9:40
Water Level Instrument:	Dual-phase interface probe (Solinst)	Product level from TOC (feet):	None	Time:	9:40

VOLUME OF WATER TO BE REMOVED

(18.35 ft well depth − 5.91 ft water level) x (0.083 ft)^2 x π x 7.48 gal/ft^3 = 2.0 gallons in one casing volume

(well radius)

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00/4.01	0/100	1,000
Before Purging:	9:50	18.9	7.00/4.01	0/100	1,000
After Puging:	13:50	19.5	6.89/3.88	0/100	1,000

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
Removed silty/sand sediment from the bottom of well, some clay below sand.						
12:00	18.5	7.20	1877	1	None observed	18
12:08	18.8	7.08	1985	2.5	None observed	9.9
12:16	18.9	7.00	2024	4	None observed	3.9
12:28	18.9	7.05	2060	6	None observed	2.4

Appearance of sample:	Clear	Time:	12:30
Duplicate/blank number:	None	Time:	
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	4 VOAs, 1 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-8A	Date:	12/21/2005
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):	3.58	Water Level from TOC (feet):	6.90	Time:	9:50
Water Level Instrument:	Dual-phase interface probe (Solinst)	Product level from TOC (feet):	None	Time:	9:50

VOLUME OF WATER TO BE REMOVED

(20.55 ft well depth − 6.90 ft water level) x (0.083 ft)^2 x π x 7.48 gal/ft^3 = 2.2 gallons in one casing volume

CALIBRATION

	Time	Temp (°C)	pH	NTU	E C (µmho/cm)
Calibration Standard:	--	--	7.00/4.01	0/100	1,000
Before Purging:	9:50	18.9	7.00/4.01	0/100	1,000
After Puging:	13:50	19.5	6.89/3.88	0/100	1,000

FIELD MEASUREMENTS

Time	Temp (°C)	pH	E C (µmho/cm)	Cumulative Gallons Removed	Odor	NTU
Sediment at bottom pumped out					None observed	
10:08	19.5	7.19	2570	1.5	None observed	10
10:15	19.6	7.20	2532	2.5	None observed	3.7
10:24	19.8	7.15	2480	3.5	None observed	4.2
10:35	20.1	7.14	2453	5	None observed	3.7
10:44	19.9	7.14	2442	6.5	None observed	2.9

Appearance of sample:	Clear	Time:	10:45
Duplicate/blank number:	None	Time:	
Purge method:	Peristaltic pump with polyethylene and silicon tubing		
Sampling equipment:	Same as purge equipment	VOA attachment:	None
Sample containers:	4 VOAs, 1 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 REPORT

Quality Control Checklist
for Review of Laboratory Report

Job No.: Y5395-02 **Site:** Harbor Facilities Center, 2277 Seventh Street, Oakland

Laboratory: Curtis and Tompkins, Ltd. **Laboratory Report No:** 183972

Report Date: 10-January 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 throughout the report?	X		
7. Are the detection limits (DL) appropriate based on the intended use of the data?	X		

	Yes	No	NA
(e.g., DL below applicable MCLs for water quality issues?)			
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? *(If no, contact the lab and request review/reanalysis of data, as appropriate)*	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) *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.*			X
15. Are trip blanks reported as "ND"? (groundwater samples/volatile analyses) *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.*			X

	Yes	No	NA
16. Are duplicate sample results consistent with the original sample? (groundwater samples) *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).*			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? *Used to assess lab contamination and prevent false positive results. MBs should be "ND."*	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? *Common lab contaminants include acetone, methylene chloride, diethylhexyl phthalate, and di-n-octyl phthalate.*	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. *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.*	X		
20a. Are the Matrix QC data (i.e., MS/MSD) within laboratory limits? Limits should be provided on the lab report. *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).*		X	
20b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?	X		

	Yes	No	NA
Sample Quality Control			
21a. Are the surrogate spikes reported within the lab's acceptable recovery limits? *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.*	X		
21b. If no, is an explanation given in the case narrative to validate the data?			X

Comments: High surrogate recoveries were reported by the laboratory for 1,2-dichloroethane-d4 in the analysis of sample MW-8A and in the MS/MSD for the batch QA/QC sample.

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

RECEIVED
JAN 13 2006
BASELINE

Prepared for:

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

Date: 10-JAN-06
Lab Job Number: 183972
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

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	183972
Client:	Baseline Environmental
Location:	Harbor Facilities Center,
Request Date:	12/21/05
Samples Received:	12/21/05

This hardcopy data package contains sample and QC results for five water samples, requested for the above referenced project on 12/21/05. 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):
High surrogate recoveries were observed for 1,2-dichloroethane-d4 in MW-8A (lab # 183972-005) and the MS/MSD for batch 109110. No other analytical problems were encountered.

18572

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

CHAIN OF CUSTODY RECORD

Turn-around Time: Standard
Lab: Curtis & Tompkins
BASELINE Contact Person: Bill Scott/James McCarty

Project Number	Project Name and Location:
Y5395-02	Harbor Facilities Center, 2277 Seventh St., Oakland CA

Samplers: (Signature)

Sample ID No. Station	Date:	Time:	Media	Containers: No.	Type: SS	Encore	L-AG	40-ml VOA	L-Poly	250 ml Poly	500 ml Poly	Preservative (Ice and): None	HCl	NO_3	SO_4	NaOH	TPH as gasoline (8015B)	TEPH diesel & m.o. (8015B) w/silica gel cleanup	BTEX & MTBE 8260B	Remarks/ Composite
MW-2	12/21/05	13:45	W	4				X					X				X		X	
MW-2		13:45	W	1			X					X						X		
MW-4		11:35	W	4				X					X				X		X	
MW-4		11:35	W	1			X					X						X		
MW-4d		11:40	W	4				X					X				X		X	
MW-4d		11:40	W	1			X					X						X		
MW-5		12:30	W	4				X					X				X		X	
MW-5		12:30	W	1			X					X						X		
MW-8A		10:45	W	4				X					X				X		X	
MW-8A		10:45	W	1			X					X						X		

1-1
2-2
3-3
4-4
5-5

Relinquished by: (Signature)	Custody Seal	Date/Time	Received by: (Signature)	Custody Seal intact	Date/Time	Conditions of Samples Upon Arrival at Laboratory:
	Yes (No)	12/21/05 14:36	Tavanna Curtis	Yes No NA	12/21/05 2:36	
Relinquished by: (Signature)	Custody Seal Yes No	Date/Time	Received by: (Signature)	Custody Seal intact Yes No NA	Date/Time	Remarks: Please invoice Jeff Rubin 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/C:/chain of Custody/MasterC-o-C-seal 5-02

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	109005
Units:	ug/L	Sampled:	12/21/05
Diln Fac:	1.000	Received:	12/21/05

Field ID: MW-2 Lab ID: 183972-001
Type: SAMPLE Analyzed: 12/28/05

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	62-141
Bromofluorobenzene (FID)	98	78-134

Field ID: MW-4 Lab ID: 183972-002
Type: SAMPLE Analyzed: 12/28/05

Analyte	Result	RL
Gasoline C7-C12	110	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	62-141
Bromofluorobenzene (FID)	116	78-134

Field ID: MW-4D Lab ID: 183972-003
Type: SAMPLE Analyzed: 12/28/05

Analyte	Result	RL
Gasoline C7-C12	160	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	62-141
Bromofluorobenzene (FID)	121	78-134

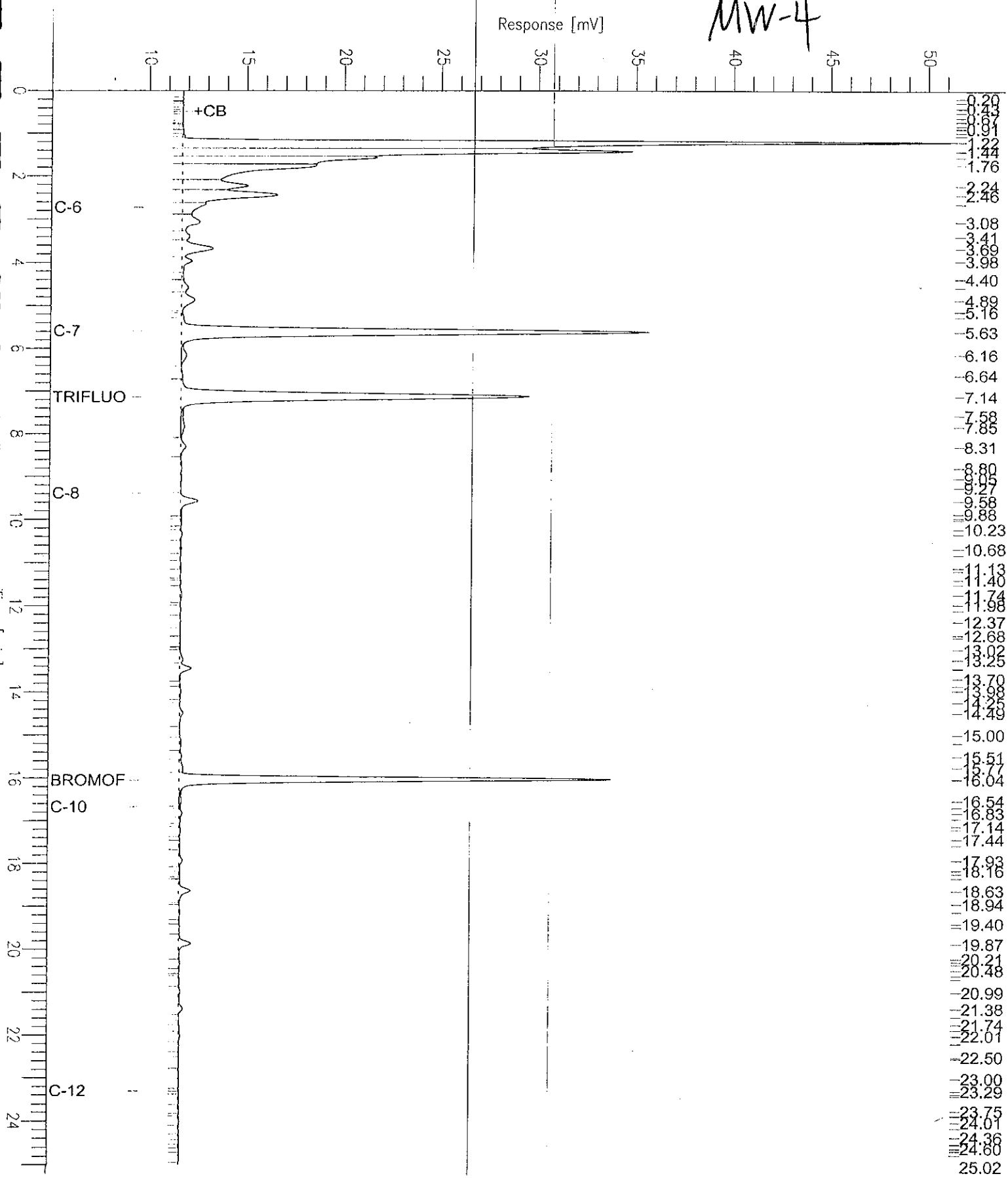
ND= Not Detected
RL= Reporting Limit

GC19 TVH 'X' Data File (FID)

Sample Name : 183972-002,109005,tvh only
FileName : G:\GC19\DATA\361X031.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 10 mV

Sample #: a1.3 Page 1 of 1
Date : 12/28/05 01:24 AM
Time of Injection: 12/28/05 12:57 AM
Low Point : 9.69 mV High Point : 51.41 mV
Plot Scale: 41.7 mV

MW-4

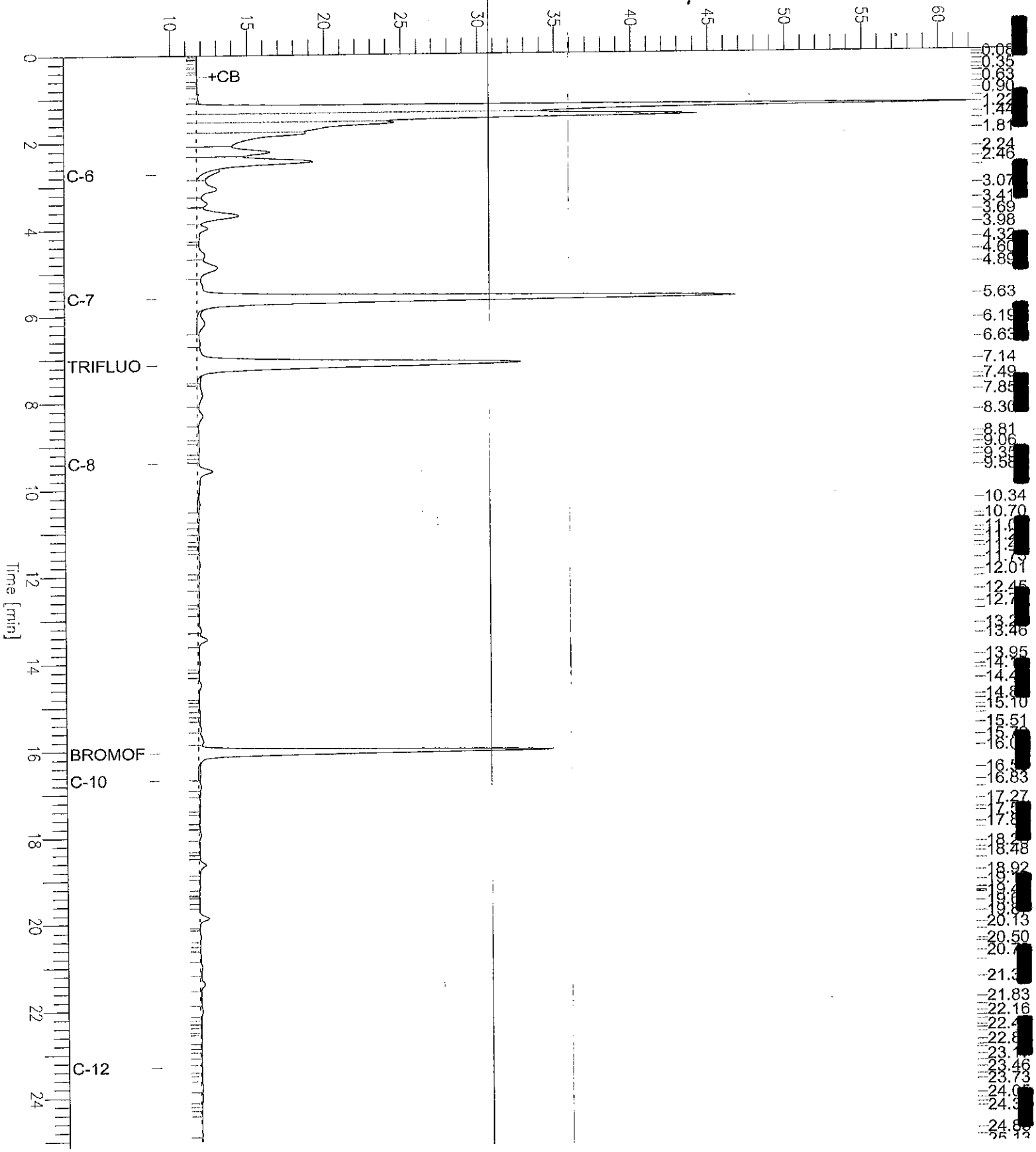


GC19 TVH 'X' Data File (FID)

Sample Name : 183972-003,109005,tvh only
FileName : G:\GC19\DATA\361X032.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 9 mV

Sample #: a1.3 Page 1 of 1
Date : 12/28/05 01:58 AM
Time of Injection: 12/28/05 01:32 AM
Low Point : 9.10 mV High Point : 62.20 mV
Plot Scale: 53.1 mV

MW-4D

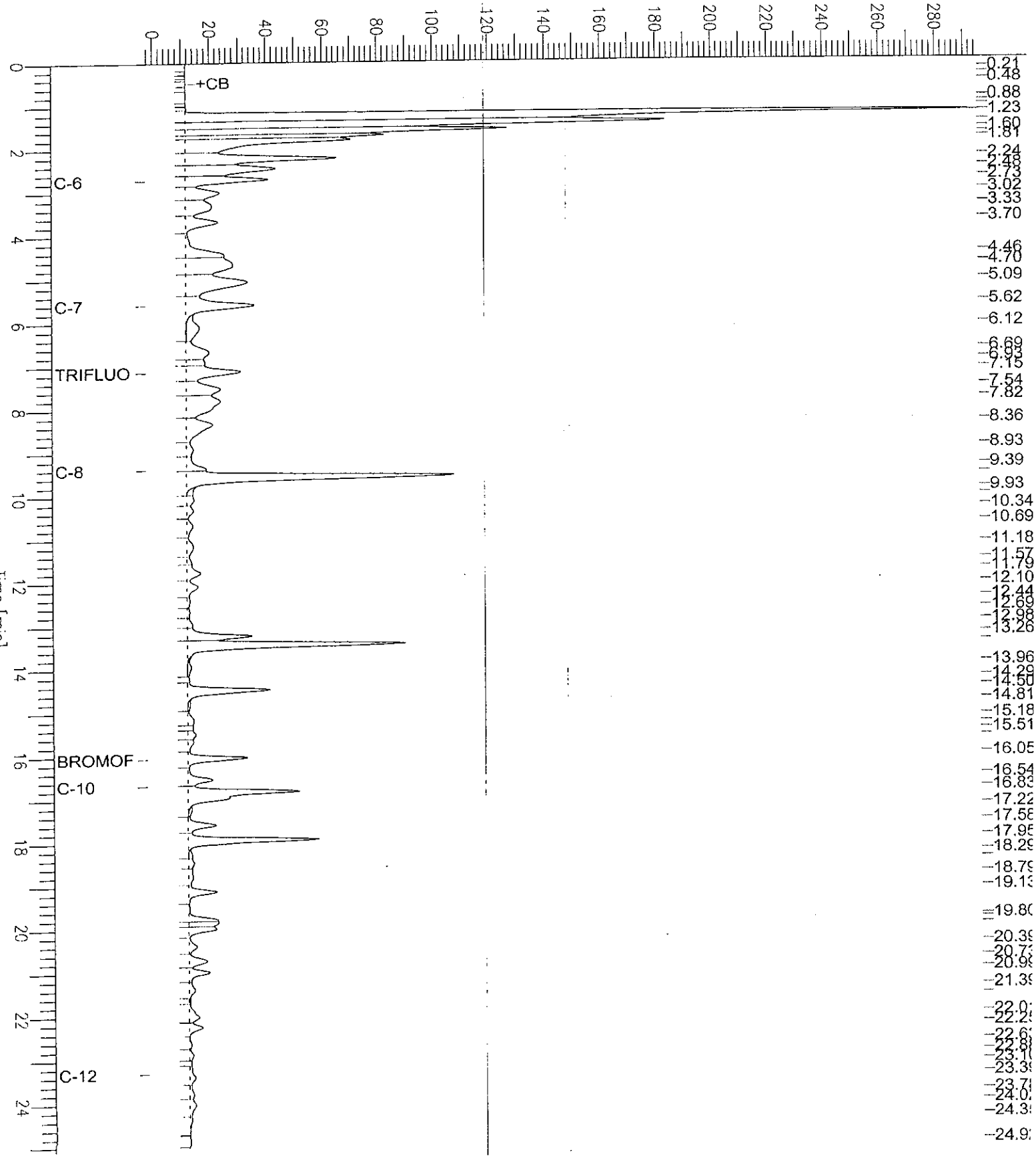


GC19 TVH 'X' Data File (FID)

Sample Name : ccv/lcs,qc322276,109005,S2241,5/5000
FileName : G:\GC19\DATA\361X003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -2 mV

Sample #:
Date : 12/27/05 09:15 AM
Time of Injection: 12/27/05 08:48 AM
Low Point : -2.49 mV High Point : 294.97 mV
Plot Scale: 297.5 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	109005
Units:	ug/L	Sampled:	12/21/05
Diln Fac:	1.000	Received:	12/21/05

Field ID: MW-5 Lab ID: 183972-004
Type: SAMPLE Analyzed: 12/28/05

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	62-141
Bromofluorobenzene (FID)	117	78-134

Field ID: MW-8A Lab ID: 183972-005
Type: SAMPLE Analyzed: 12/28/05

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	62-141
Bromofluorobenzene (FID)	124	78-134

Type: BLANK Analyzed: 12/27/05
Lab ID: QC322274

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	90	62-141
Bromofluorobenzene (FID)	109	78-134

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC322276	Batch#:	109005
Matrix:	Water	Analyzed:	12/27/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,879	94	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	62-141
Bromofluorobenzene (FID)	116	78-134

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	109005
MSS Lab ID:	184029-001	Sampled:	12/23/05
Matrix:	Water	Received:	12/27/05
Units:	ug/L	Analyzed:	12/28/05
Diln Fac:	1.000		

Type: MS Lab ID: QC322353

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	42.07	2,000	2,107	103	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	124	62-141
Bromofluorobenzene (FID)	130	78-134

Type: MSD Lab ID: QC322354

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,177	107	80-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	62-141
Bromofluorobenzene (FID)	132	78-134

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/21/05
Units:	ug/L	Received:	12/21/05
Diln Fac:	1.000	Prepared:	12/22/05
Batch#:	108975		

Field ID: MW-2 Analyzed: 12/29/05
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 183972-001

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

Surrogate	%REC	Limits
Hexacosane	92	60-135

Field ID: MW-4 Analyzed: 12/29/05
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 183972-002

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

Surrogate	%REC	Limits
Hexacosane	122	60-135

Field ID: MW-4D Analyzed: 12/29/05
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 183972-003

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

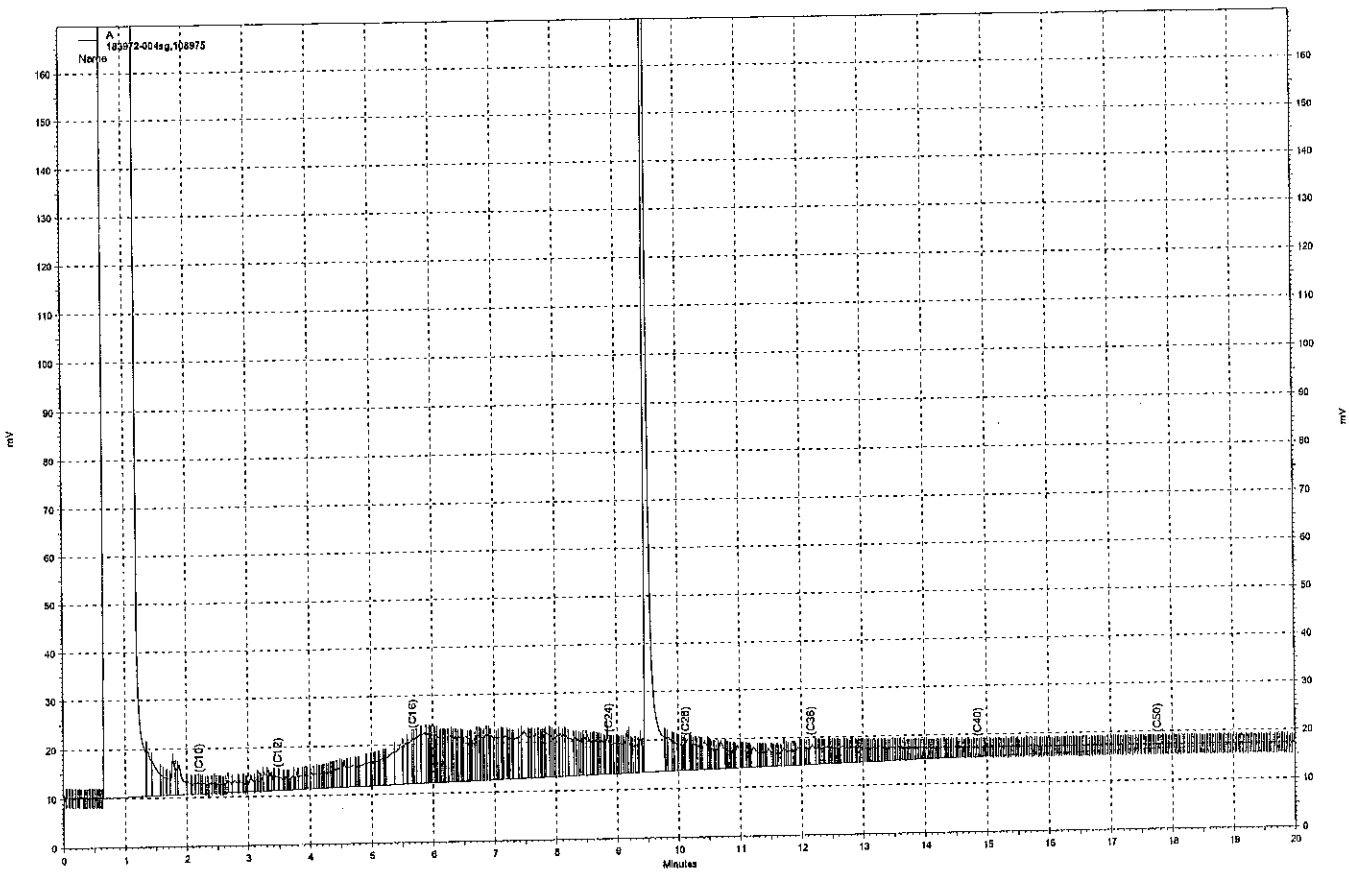
Surrogate	%REC	Limits
Hexacosane	114	60-135

Field ID: MW-5 Analyzed: 12/29/05
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 183972-004

Analyte	Result	RL
Diesel C10-C24	180 H Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	104	60-135

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



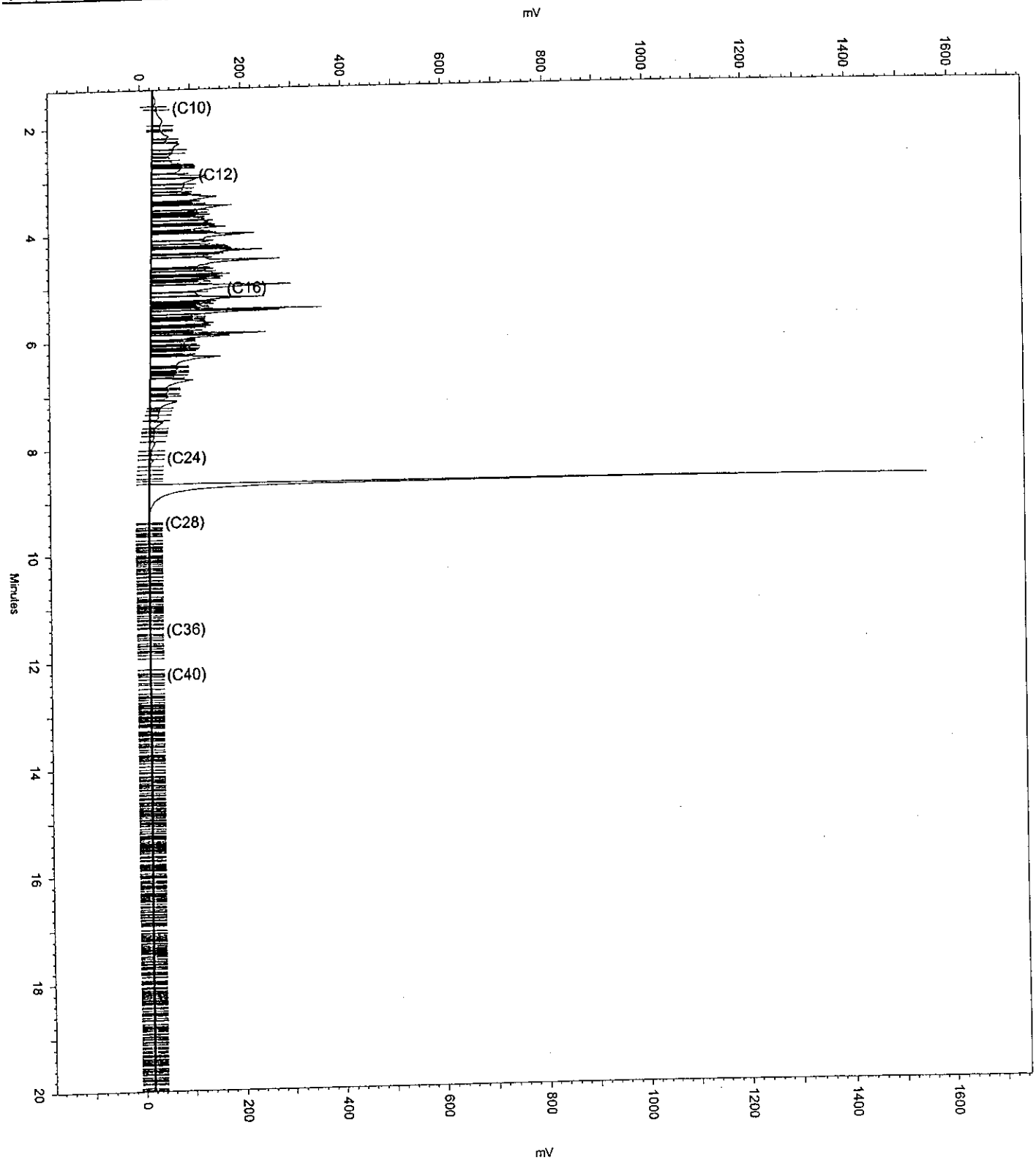
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\363a022, A

183972-004 sg, 108975

MW-5

Sample Name: ccv,S2269,dsl_500
Data File: \\Lims\gdrive\ezchrom\Projects\GC15B\Data\362b003
Sequence File: \\Lims\gdrive\ezchrom\Projects\GC15B\Sequence\362.seq
Software Version 3.1.7
Method Name: \\Lims\gdrive\ezchrom\Projects\GC15B\Method\bteh349.met
Run Date: 12/28/2005 12:03:55 PM
Analysis Date: 12/28/2005 1:09:47 PM
Instrument: GC15B Vial: 3 Operator: Teh 3. Analyst (lims2k3\teh3)
Sample Amount: 1

Diesel



Sample Name: ccv,S2287,mo_500
Data File: \\Lims\gdrive\ezchrom\Projects\GC15B\Data\362b004
Sequence File: \\Lims\gdrive\ezchrom\Projects\GC15B\Sequence\362.seq
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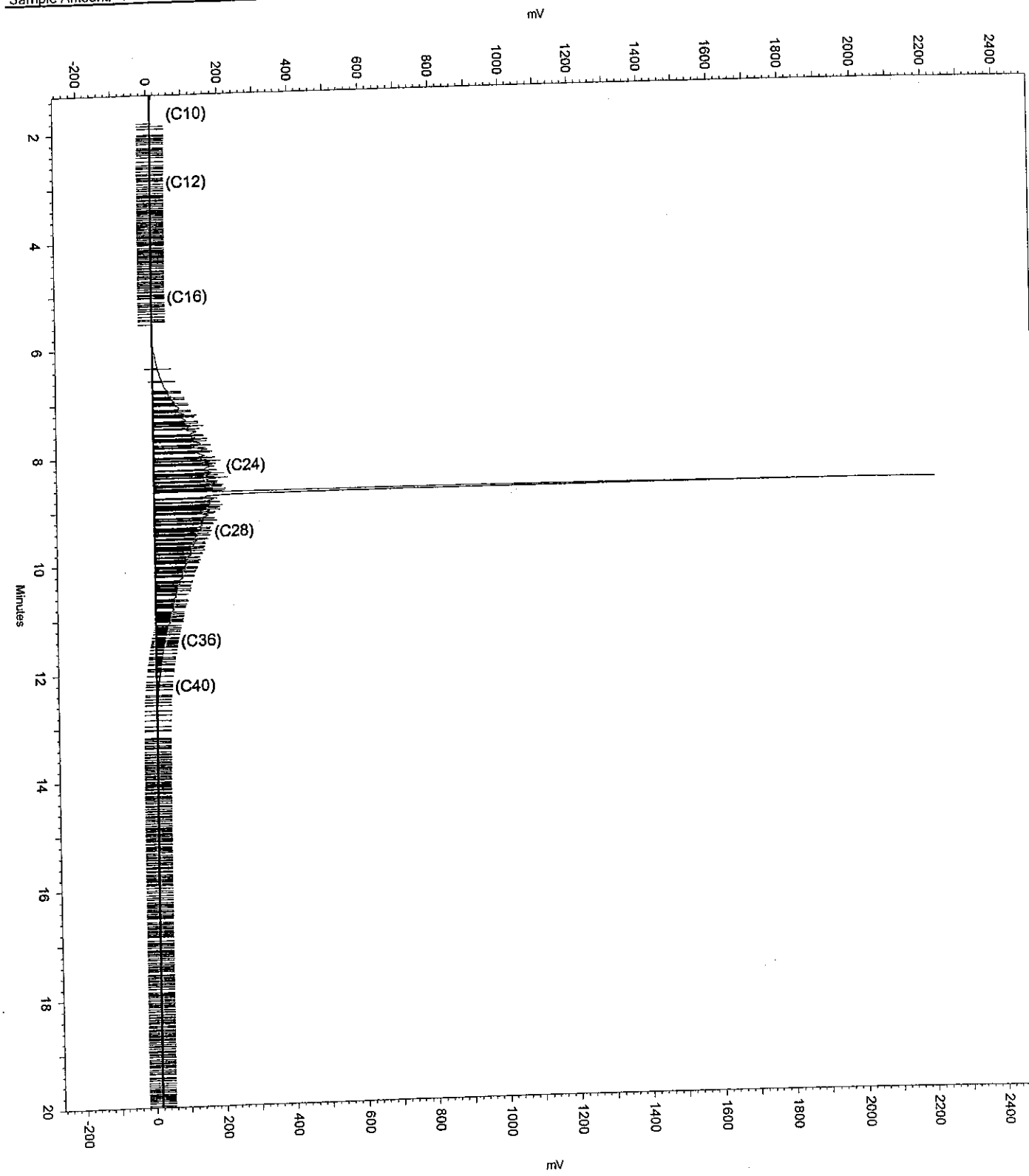
Run Date: 12/28/2005 12:32:03 PM
Analysis Date: 12/28/2005 1:11:59 PM
Instrument: GC15B Vial: 4 Operator: Teh 3. Analyst (lims2k3\teh3)
Sample Amount: 1

Motor Oil



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/21/05
Units:	ug/L	Received:	12/21/05
Diln Fac:	1.000	Prepared:	12/22/05
Batch#:	108975		

Field ID:	MW-8A	Analyzed:	12/29/05
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	183972-005		

Analyte	Result	RL
Diesel C10-C24	63 H Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	98	60-135

Type:	BLANK	Analyzed:	12/28/05
Lab ID:	QC322165	Cleanup Method:	EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	102	60-135

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

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	108975
Units:	ug/L	Prepared:	12/22/05
Diln Fac:	1.000	Analyzed:	12/28/05

Type: BS
Lab ID: QC322166

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,531	101	53-138

Surrogate	%REC	Limits
Hexacosane	103	60-135

Type: BSD
Lab ID: QC322167

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,553	102	53-138	1	36

Surrogate	%REC	Limits
Hexacosane	104	60-135

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	109007
Lab ID:	183972-001	Sampled:	12/21/05
Matrix:	Water	Received:	12/21/05
Units:	ug/L	Analyzed:	12/27/05
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	80-125
Toluene-d8	98	80-120
Bromofluorobenzene	105	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	109013
Lab ID:	183972-002	Sampled:	12/21/05
Matrix:	Water	Received:	12/21/05
Units:	ug/L	Analyzed:	12/27/05
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	76	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	80-125
Toluene-d8	103	80-120
Bromofluorobenzene	115	80-124

ND= Not Detected
RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-4D	Batch#:	109013
Lab ID:	183972-003	Sampled:	12/21/05
Matrix:	Water	Received:	12/21/05
Units:	ug/L	Analyzed:	12/27/05
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	76	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	80-125
Toluene-d8	103	80-120
Bromofluorobenzene	114	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	109013
Lab ID:	183972-004	Sampled:	12/21/05
Matrix:	Water	Received:	12/21/05
Units:	ug/L	Analyzed:	12/27/05
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	80-125
Toluene-d8	102	80-120
Bromofluorobenzene	116	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-8A	Batch#:	109110
Lab ID:	183972-005	Sampled:	12/21/05
Matrix:	Water	Received:	12/21/05
Units:	ug/L	Analyzed:	12/29/05
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	128 *	80-125
Toluene-d8	106	80-120
Bromofluorobenzene	116	80-124

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC322285	Batch#:	109007
Matrix:	Water	Analyzed:	12/27/05
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	80-125
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC322313	Batch#:	109013
Matrix:	Water	Analyzed:	12/27/05
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	80-125
Toluene-d8	99	80-120
Bromofluorobenzene	108	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC322659	Batch#:	109110
Matrix:	Water	Analyzed:	12/29/05
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	118	80-125
Toluene-d8	103	80-120
Bromofluorobenzene	119	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	109007
Units:	ug/L	Analyzed:	12/27/05
Diln Fac:	1.000		

Type: BS Lab ID: QC322281

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	23.50	94	72-120
Benzene	25.00	24.55	98	80-120
Toluene	25.00	25.25	101	80-120
Ethylbenzene	25.00	27.46	110	80-120
m,p-Xylenes	50.00	55.64	111	80-121
o-Xylene	25.00	27.50	110	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	80-125
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-124

Type: BSD Lab ID: QC322282

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	22.32	89	72-120	5	20
Benzene	25.00	23.58	94	80-120	4	20
Toluene	25.00	25.01	100	80-120	1	20
Ethylbenzene	25.00	25.71	103	80-120	7	20
m,p-Xylenes	50.00	52.04	104	80-121	7	20
o-Xylene	25.00	26.16	105	80-120	5	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	80-125
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-124

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	109013
Units:	ug/L	Analyzed:	12/27/05
Diln Fac:	1.000		

Type: BS Lab ID: QC322311

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	23.57	94	72-120
Benzene	25.00	22.95	92	80-120
Toluene	25.00	25.83	103	80-120
Ethylbenzene	25.00	25.44	102	80-120
m,p-Xylenes	50.00	52.65	105	80-121
o-Xylene	25.00	27.28	109	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	89	80-125
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-124

Type: BSD Lab ID: QC322312

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	22.55	90	72-120	4	20
Benzene	25.00	23.97	96	80-120	4	20
Toluene	25.00	25.20	101	80-120	2	20
Ethylbenzene	25.00	24.10	96	80-120	5	20
m,p-Xylenes	50.00	50.78	102	80-121	4	20
o-Xylene	25.00	25.59	102	80-120	6	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	94	80-125
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-124

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC322658	Batch#:	109110
Matrix:	Water	Analyzed:	12/29/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	20.35	81	72-120
Benzene	25.00	23.35	93	80-120
Toluene	25.00	24.17	97	80-120
Ethylbenzene	25.00	24.50	98	80-120
m,p-Xylenes	50.00	49.27	99	80-121
o-Xylene	25.00	25.49	102	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	80-125
Toluene-d8	104	80-120
Bromofluorobenzene	89	80-124

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	183972	Location:	Harbor Facilities Center,
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	109110
MSS Lab ID:	184025-002	Sampled:	12/21/05
Matrix:	Water	Received:	12/22/05
Units:	ug/L	Analyzed:	12/29/05
Diln Fac:	1.000		

Type: MS Lab ID: QC322660

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	1.938	25.00	27.89	104	74-121
Benzene	<0.1050	25.00	24.69	99	78-120
Toluene	<0.08280	25.00	25.78	103	78-120
Ethylbenzene	<0.05896	25.00	27.90	112	77-120
m,p-Xylenes	<0.2410	50.00	54.27	109	74-120
o-Xylene	<0.1041	25.00	27.02	108	74-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	128 *	80-125
Toluene-d8	105	80-120
Bromofluorobenzene	92	80-124

Type: MSD Lab ID: QC322661

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	25.43	94	74-121	9	20
Benzene	25.00	24.63	99	78-120	0	20
Toluene	25.00	25.47	102	78-120	1	20
Ethylbenzene	25.00	27.26	109	77-120	2	20
m,p-Xylenes	50.00	54.47	109	74-120	0	20
o-Xylene	25.00	27.43	110	74-120	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	128 *	80-125
Toluene-d8	107	80-120
Bromofluorobenzene	98	80-124

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference