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PORT OF OAKLAND

July 23, 2004

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

Alameda County
JUL 27 2004
Environmental Health

RE: 2nd Quarter 2004, Quarterly Groundwater Monitoring and Product Recovery Report – 2277 Seventh Street, Oakland, CA

Dear Mr. Chan:

Please find enclosed the subject Port of Oakland (Port) groundwater monitoring and product recovery report for 2277 Seventh Street in Oakland, California. This report is being submitted in accordance with Alameda County Health Care Services Agency (ACHCSA) requirements.

The next monitoring event will be performed during the third quarter of 2004, and will be in accordance with the aforementioned requirements. If you have any questions or comments regarding the results, please contact me at (510) 627-1134.

Sincerely,

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

Enclosure: noted

Cc (w encl.): Michele Heffes

Cc (w/o encl.): Jeff Jones
Rogerio Leong (Innovative Technical Solutions, Inc.)
Rachel B. Hess (Innovative Technical Solutions, Inc.)
Jeffrey D. Hess (Innovative Technical Solutions, Inc.)



July 21, 2004

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

**Second Quarter of 2004 Quarterly Groundwater Monitoring
and Product Monitoring Report**
2277 Seventh Street
Oakland, California

Dear Mr. Rubin:

Innovative Technical Solutions, Inc. (ITSI) is pleased to submit this report to the Port of Oakland (Port) for the groundwater monitoring and sampling program at 2277 7th Street in Oakland, California (Figure 1). This report summarizes the quarterly monitoring of four groundwater-monitoring wells (MW-2, MW-4, MW-5, and MW-8A) at 2277 7th Street. The locations of these wells are shown on Figure 2.

This report also encompasses the operation of the product recovery system at the 2277 7th Street site. The operation of the active product recovery system was stopped since April 2003 when a section of the conveyance system was removed for construction upgrades at the site. Collection of groundwater samples from monitoring wells MW-1 and MW-3 was not performed this quarter due to the presence of separate-phase petroleum hydrocarbons.

BACKGROUND

Monitoring wells were installed to assess groundwater quality following the removal of underground storage tanks (USTs) from the site in September 1993. The former USTs, located on the south side of Building C-401, consisted of two 10,000-gallon gasoline tanks (CF-17 and CF-18), one 500-gallon oil tank (CF-19), and one 300-gallon waste oil tank (CF-20). On April 20, 2000, Harding ESE (Harding) performed oversight of the abandonment of monitoring well MW-8, located at the northern edge of the property. This monitoring well was properly destroyed¹ to accommodate the construction of a railroad track associated with the Port of Oakland Vision 2000 improvements. All surface structures, including the well, needed to be removed.

Harding monitored MW-8 from 1998 until it was abandoned. During this time, no groundwater samples were collected because the well contained a thick, viscous, tar-like petroleum product. After the railroad construction was completed, the Port had a replacement well, MW-8A, installed in the same vicinity on October 2, 2001 by ITSI. MW-8A has been sampled since the Fourth quarter of 2001, and no separate phase petroleum has been detected.

¹ - Destruction and abandonment of all monitoring wells were performed in accordance with Alameda County Public Works Agency Guidelines.

Site preparation activities for the construction of a new Harbor Facilities Center (HFC) were initiated in November 2002. The eastern side of Building C-401 was demolished, and the asphalt pavement east of the building was removed in December 2002. A concrete ring was placed around each well for protection and prevention from damage by heavy equipment during site demolition. Two monitoring wells (MW-6 and MW-7) were properly destroyed to facilitate the construction plans at the site, and six monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-8A) still remain onsite. The surface grade was raised approximately 2 feet in the vicinity of wells MW-2 and MW-3 during the first quarter of 2003.

On April 16, 2003, ITSI on behalf of the Port oversaw the removal of a 100-foot section of the product recovery conveyance system (refer to Figure 2). The Port contracted Dillard Environmental Services (Dillard) to perform the work. The section of product recovery system was removed to minimize interference with site development. A new product removal system will be installed after development activities are completed. The conveyance system consisted of a PVC conduit pipe containing the pneumatic and product recovery lines. These lines connected the system control box and the recovery tank to the skimmer pump installed in well MW-3. Portions of the surface concrete pieces and asphalt from the trench line were appropriately excavated, removed and stockpiled onsite. Sections of the removed conduit pipes and product line were appropriately disposed of and transported offsite by Dillard as non-RCRA hazardous solid waste material under the Uniform Hazardous Waste Manifest.

Monitoring wells were previously installed at the adjacent 2225 7th Street site to assess groundwater quality following the removal of USTs in 1989 and 1992. The 2225 7th Street site is also currently under modification for the construction of the future HFC. Buildings C-406 and C-407 were demolished and the entire surrounding asphalt pavement was removed in November 2002. The three former monitoring wells (MW-1, MW-2, and MW-3) located at the site were properly destroyed to facilitate the Port's construction plans.

On November 17 and 18, 2003, ITSI personnel raised monitoring wells MW-2 and MW-3 to match the asphalt surface elevation of the future HFC parking lot. New traffic rated well boxes were placed on the two wells and the elevation of the top of each well box was set with a laser level instrument. The elevations of the wells were subsequently surveyed on November 26, 2003 to a relative Port of Oakland datum by PLS Surveys, Inc. (PLS).

GROUNDWATER MONITORING

ITSI personnel performed groundwater monitoring and sampling at the 2277 7th Street site on June 2, 2004. Prior to purging and sampling the monitoring wells, the depth to groundwater below the top of the well casing was measured with a water level indicator. After measuring the depth to water, the wells were purged using a disposable bailer. Conductivity, pH, and temperature were monitored periodically during purging. Collection of groundwater samples was performed after removing a minimum of three well-casing volumes of water and upon stabilization of three consecutive measurements of conductivity, pH, and temperature. The depths to groundwater and field parameter measurements were recorded on the respective Monitoring Well Water Level Measurement and Monitoring Well Purging and Sampling forms included as Appendix A. The purge water was stored onsite in the treatment system's product recovery tank. Dillard Environmental Services Company, Inc. (Dillard) periodically removes and appropriately disposes of the purge water along with the product in the tank.

ITSI collected groundwater samples from the monitoring wells using Teflon disposable bailers and then transferred the groundwater into laboratory-provided containers. A duplicate sample was collected for quality assurance. Sample containers were labeled with the sample number, date and time of collection, and sampler's initials, and then placed in an insulated cooler with ice. The samples were accompanied by a laboratory provided trip blank and delivered under chain-of-custody protocol to Curtis & Tompkins in Berkeley, a California certified analytical laboratory.

The second quarter 2004 groundwater monitoring event at 2277 7th Street involved monitoring and sampling of monitoring wells MW-2, MW-4, MW-5, and MW-8A, and monitoring of the free-phase petroleum product in wells MW-1 and MW-3. Groundwater level measurements are summarized in Table 1 and product thickness measurements are summarized on Table 2. The groundwater gradient direction is presented on Figure 3. Copies of the respective Monitoring Well Water Level Measurement and Monitoring Well Purging and Sampling forms are included in Appendix A.

LABORATORY ANALYSIS OF GROUNDWATER SAMPLES

Curtis and Tompkins of Berkeley, California performed the chemical analyses of the groundwater samples using the following analytical methods:

- Total petroleum hydrocarbons as gasoline (TPHg) in accordance with EPA Method 8015B.
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl t-butyl ether (MTBE) in accordance with EPA Method 8021B with confirmation of MTBE by EPA Method 8260B.
- TPH as diesel (TPHd) in accordance with EPA Method 8015B following a silica-gel cleanup procedure.
- TPH as motor oil (TPHmo) in accordance with EPA Method 8015B following a silica-gel cleanup procedure.

The laboratory results for 2277 7th Street are summarized in Table 3 and are shown on Figure 4. Copies of the laboratory results and chain-of-custody forms are provided in Appendix B.

FINDINGS

Groundwater measurements were conducted on June 2, 2004. The water levels are presented in Table 1. The groundwater elevation contour map is presented on Figure 3. According to these contours, the groundwater appears to be flowing towards the north-northeast. The groundwater flow direction observed during June 2004 is consistent with the historic flow direction reported in the previous reports.

Results of the June 2, 2004 groundwater sampling at 2277 7th Street are summarized below:

- TPHg was detected in one well at a concentration of 620 µg/L in MW-4. The laboratory, however, classified the result as lighter hydrocarbons contributed to the quantitation.
- Benzene was detected in one well at a concentration of 210 µg/L in MW-4.
- Toluene was detected in one well at a concentration of 0.55 µg/L in MW-4. This result was classified as presence confirmed, but relative percent difference (RPD) between columns exceeds 40%.

- Ethylbenzene was not detected in any of the wells sampled this quarter.
- Total xylenes was not detected in any of the wells sampled this quarter.
- MTBE was not detected in any of the wells sampled this quarter.
- TPHd was detected in one well at a concentration of 67 µg/L in MW-8A. This result, however, was classified as a sample that exhibits chromatographic pattern which does not resemble standard.
- TPHmo was not detected above the reporting limit in any of the wells sampled this quarter.

QUALITY ASSURANCE AND QUALITY CONTROL

A duplicate sample was collected simultaneously from monitoring well MW-4 and labeled as MW-4D at 2277 7th Street on June 2, 2004 and submitted to the analytical laboratory to evaluate the precision of the analytical results. Precision is an indication of the reproducibility of results and is assessed by calculating the RPD between the primary sample result (X_1) and the duplicate sample result (X_2), as follows:

$$RPD = \frac{X_1 - X_2}{(X_1 + X_2)/2} \times 100$$

For example: A low RPD indicates high precision; a RPD of 67 percent indicates the two results differ by a factor of two. As shown below, the RPD was calculated for chemical compounds detected above the reporting limit in either the duplicate or primary sample.

2277 7 th St. MW-4 06/02/04	ANALYTE	X_1	X_2	RPD
	MTBE	<0.5	<0.5	--
	B	210	130	47.06%
	T	0.55	<0.50	--
	E	<0.50	<0.50	--
	X	<0.50	<0.50	--
	TPHd	<50	<50	--
	TPHg	620	400	43.14%

- The relative percent difference between the analytical results from MW-4 and its duplicate sample MW-4D ranged from 43.14% to 47.06% for benzene and diesel analytes. The overall RPD values indicate that the results from the sample and the duplicate analysis are in agreement.

PRODUCT RECOVERY SYSTEM AT 2277 7TH STREET

Until April 16, 2003 the product recovery system at 2277 7th Street consisted of an air-actuated (active) product skimmer in MW-3. The product in MW-3 was discharged to a product recovery 1,000-gallon tank that Foss Environmental Services Company, Inc. (former contractor) emptied at various times throughout a quarter. A passive skimmer was installed in MW-1, although it was removed on May 22, 2000 because no measurable product appeared in the well. The passive skimmer was subsequently replaced in the well during

the following months after free product was measured in MW-1. The active and passive product recovery systems are currently interrupted with both skimmers removed from the wells due to activities related to the construction of the new HFC at the site.

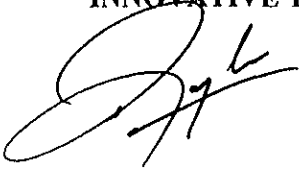
The Port is currently replacing the former free product recovery system with the installation of two mitigation systems at the site. Overaa Construction (Overaa) is completing the installation of a soil gas venting system beneath the new HFC's building slab, and Beliveau Engineering Contractors, Inc., subcontracted to Dillard, is also completing a new recovery system designed to recover the product floating on the groundwater beneath the site.

The free-phase petroleum product has been monitored in wells MW-1 and MW-3 on a quarterly basis in conjunction with every quarterly groundwater sampling event. Free-phase petroleum product was measured at 0.45 feet and 1.32 feet in MW-1 and MW-3, respectively, this quarter. Table 2 presents a summary of the product thickness data. A summary of the activities during the past quarters associated with the operation and maintenance of the product recovery system is presented in Table 4.

We appreciate the opportunity to present this report and trust that this document meets with your approval. Please do not hesitate to contact us at (925) 946-3105 with any questions or comments.

Sincerely yours,

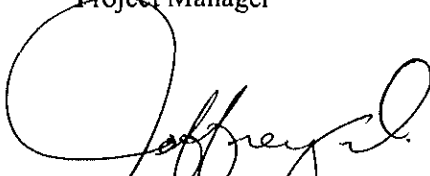
INNOVATIVE TECHNICAL SOLUTIONS, INC.



Rogerio Leong
Project Geologist



Rachel B. Hess
Project Manager



Jeffrey D. Hess, R.G.
Senior Geologist



Attachments:

Table 1 – Groundwater Elevations Data, 2277 7th Street
Table 2 – Summary of Product Removal and Product Thickness, 2277 7th Street
Table 3 – Groundwater Sample Results, 2277 7th Street
Table 4 – Summary of Operation and Maintenance Activities

Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Groundwater Elevations, 2277 7th Street, June 2, 2004
Figure 4 – Groundwater Sample Results, 2277 7th Street, June 2, 2004

Appendix A – Monitoring Well Water Level Measurement Form and
Monitoring Well Purging and Sampling Form
Appendix B - Laboratory Reports
Appendix C – Daily Field Activity Report

Table 1
Groundwater Elevations Data
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation Top of Casing (feet)	Date Of Monitoring	Depth to Water (feet)	Groundwater Elevation (feet)
MW-1	14.14	4/18/2000	8.21	5.93
		5/22/2000	8.17	5.97
		7/10/2001	10.00	4.14
		12/12/2001	NA	NA
		3/8/2002	NA	NA
		6/13/2002	NA	NA
		9/26/2002	NA	NA
		12/12/2002	NA	NA
		3/17/2003	NA	NA
		6/18/2003	NA	NA
		9/3/2003	NA	NA
		11/26/2003	NA	NA
		3/5/2004	NA	NA
6/2/2004	NA	NA		
MW-2	14.36	12/31/1997	8.73	5.63
		4/13/1998	7.72	6.64
		11/6/1998	9.43	4.93
		3/19/1999	8.21	6.15
		6/24/1999	8.91	5.45
		9/28/1999	9.42	4.94
		11/12/1999	9.63	4.73
		2/11/2000	8.54	5.82
		5/22/2000	8.10	6.26
		9/6/2000	8.79	5.57
		12/19/2000	9.19	5.17
		2/21/2001	7.99	6.37
		4/3/2001	8.23	6.13
		7/10/2001	8.70	5.66
		12/12/2001	8.16	6.20
		1/22/2002	7.64	6.72
		3/8/2002	8.31	6.05
	6/13/2002	8.64	5.72	
	9/26/2002	8.95	5.41	
	12/12/2002	9.17	5.19	
3/17/2003	7.77	6.59		
6/18/2003	8.44	5.92		
9/3/2003	8.98	5.38		
11/26/2003	12.01	5.20		
3/5/2004	9.75	7.46		
6/2/2004	11.22	5.99		
	17.21			

Table 1
Groundwater Elevations Data
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation Top of Casing (feet)	Date Of Monitoring	Depth to Water (feet)	Groundwater Elevation (feet)
MW-4	13.15	12/31/1997	7.09	6.06
		4/13/1998	7.71	5.44
		11/6/1998	8.69	4.46
		3/19/1999	8.00	5.15
		6/24/1999	8.45	4.70
		9/28/1999	8.73	4.42
		11/12/1999	8.83	4.32
		2/11/2000	7.71	5.44
		5/22/2000	8.09	5.06
		9/6/2000	8.32	4.83
		12/19/2000	8.47	4.68
		2/21/2001	7.51	5.64
		4/3/2001	8.13	5.02
		7/10/2001	8.12	5.03
		12/12/2001	7.65	5.50
		1/22/2002	7.60	5.55
		3/8/2002	7.96	5.19
		6/13/2002	8.20	4.95
		9/26/2002	8.21	4.94
		12/12/2002	8.38	4.77
3/17/2003	7.72	5.43		
6/18/2003	8.02	5.13		
9/3/2003	8.29	4.86		
11/26/2003	8.69	4.46		
3/5/2004	7.45	5.70		
6/2/2004	8.25	4.90		
MW-5	13.49	12/31/1997	6.38	7.11
		4/13/1998	5.56	7.93
		11/6/1998	6.59	6.90
		3/19/1999	6.20	7.29
		6/24/1999	6.73	6.76
		9/28/1999	6.91	6.58
		11/12/1999	7.06	6.43
		2/11/2000	7.00	6.49
		5/22/2000	6.21	7.28
		9/6/2000	6.56	6.93
		12/19/2000	6.68	6.81
		2/21/2001	6.08	7.41
		4/3/2001	6.38	7.11
		7/10/2001	6.58	6.91
		12/12/2001	6.40	7.09
		1/22/2002	6.10	7.39
		3/8/2002	6.10	7.39
		6/13/2002	6.31	7.18
		9/26/2002	6.60	6.89
		12/12/2002	6.75	6.74
3/17/2003	5.73	7.76		
6/18/2003	6.10	7.39		
9/3/2003	6.50	6.99		
11/26/2003	6.70	6.79		
3/5/2004	5.70	7.79		
6/2/2004	6.27	7.22		

Table 1
Groundwater Elevations Data
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation Top of Casing (feet)	Date Of Monitoring	Depth to Water (feet)	Groundwater Elevation (feet)
MW-6	14.00	6/24/1999	8.61	5.39
		9/28/1999	9.26	4.74
		11/12/1999	8.01	5.99
		2/11/2000	7.20	6.80
		5/22/2000	7.13	6.87
		9/6/2000	7.12	6.88
		12/19/2000	7.57	6.43
		2/21/2001	7.50	6.50
		4/3/2001	6.88	7.12
		7/10/2001	7.15	6.85
		12/12/2001	9.50	4.50
		1/22/2002	6.69	7.31
		3/8/2002	6.98	7.02
		6/13/2002	7.45	6.55
		9/26/2002	7.95	6.05
12/12/2002	7.71	6.29		
		12/18/2002	Monitoring well was destroyed	
MW-7	14.35	12/31/1997	8.88	5.47
		4/13/1998	7.86	6.49
		11/6/1998	9.55	4.80
		3/19/1999	8.41	5.94
		6/24/1999	9.08	5.27
		9/28/1999	9.60	4.75
		11/12/1999	9.77	4.58
		2/11/2000	8.67	5.68
		5/22/2000	8.43	5.92
		9/6/2000	8.88	5.47
		12/19/2000	9.21	5.14
		2/21/2001	8.13	6.22
		4/3/2001	8.45	5.90
		7/10/2001	8.87	5.48
		12/12/2001	8.39	5.96
		1/22/2002	7.99	6.36
		3/8/2002	8.51	5.84
		6/13/2002	8.90	5.45
9/26/2002	9.00	5.35		
12/12/2002	9.28	5.07		
		12/18/2002	Monitoring well was destroyed	

Table 1
Groundwater Elevations Data
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation Top of Casing (feet)	Date Of Monitoring	Depth to Water (feet)	Groundwater Elevation (feet)
MW-8A	12.94	12/12/2001	7.20	NA
		1/22/2002	7.20	5.74
		3/8/2002	7.70	5.24
		6/13/2002	7.72	5.22
		9/26/2002	7.91	5.03
		12/12/2002	8.15	4.79
		3/17/2003	7.28	5.66
		6/18/2003	7.72	5.22
		9/3/2003	8.18	4.76
		11/26/2003	8.55	4.39
		3/5/2004	6.92	6.02
		6/2/2004	7.92	5.02

¹ Elevation data relative to Port of Oakland datum; well surveys performed on September 12, 1996, February 4, 1998, and November 26, 2003, by PLS Surveys.

- Data prior to November 6, 1998 taken from *Groundwater Monitoring, Sampling and Product Removal System O&M Report* dated July 21, 1998, by Innovative Technical Solutions, Inc

- Monitoring MW-8 was abandoned on April 20, 2000 in order to construct a railroad track associated with the Port of Oakland Vision 2000.

NA = Not available

Table 2
Summary of Product Removal and Product Thickness
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation of Top of Casing (feet)	Date Of Monitoring	Depth to Free Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Estimated Product Removed (gallons)	Product Removal Method ²
MW-1	14.14	12/31/1997	-	-	-	0.2	passive skimmer
		1/29/1998	-	-	-	0.2	passive skimmer
		3/2/1998	-	-	-	0.018	passive skimmer
		5/11/1998	-	-	-	0.02	passive skimmer
		6/15/1998	-	-	-	0.2	passive skimmer
		11/6/1998	9.34	10.3	0.96	1.2	passive skimmer
		1/7/1999	-	-	-	0.2	passive skimmer
		2/11/1999	-	-	-	0.2	passive skimmer
		3/12/1999	-	-	-	0.2	passive skimmer
		3/19/1999	NM	8.45	>0.01	0.07	passive skimmer
		4/14/1999	-	-	-	0.2	passive skimmer
		5/11/1999	-	-	-	0.2	passive skimmer
		6/24/1999	8.88	9.63	0.8	0.2	passive skimmer
		7/15/1999	--	--	--	0.2	passive skimmer
		7/16/1999	--	--	--	0.2	passive skimmer
		8/27/1999	--	--	--	0.2	passive skimmer
		9/28/1999	--	--	0.65	0.2	passive skimmer
		10/5/1999	--	--	--	0.2	passive skimmer
		11/12/1999	9.38	10.27	0.89	0.2	passive skimmer
		12/21/1999	--	--	--	0.2	passive skimmer
		1/26/2000	--	--	--	0.2	passive skimmer
		1/28/2000	9.22	9.24	0.02	--	passive skimmer
		2/11/2000	--	7.00	0.00	0.2	passive skimmer
		3/1/2000	--	7.45	0.00	0.0	passive skimmer
		3/21/2000	NM	7.34	0.00	0.0	passive skimmer
		4/18/2000	NM	8.21	0.00	0.0	passive skimmer
		5/22/2000 ³	NM	8.51	0.00	0.0	passive skimmer
		9/6/2000 ⁴	8.52	9.24	0.72	0.0	passive skimmer
		9/21/2000	8.71	9.26	0.55	0.0	passive skimmer
		10/11/2000	--	--	--	0.0	passive skimmer
		11/30/2000	--	--	--	0.0	passive skimmer
		12/19/2000	9.5	9.89	0.39	0.0	passive skimmer
		2/22/2001	8.3	8.4	0.13	0.0	passive skimmer
		4/3/2001	8.3	8.55	0.25	0.0	passive skimmer
		4/23/2001	--	--	--	0.0	passive skimmer
		5/11/2001	--	--	--	0.0	passive skimmer
		5/30/2001	8.5	8.9	0.40	0.0	passive skimmer
		6/14/2001	--	--	--	0.0	passive skimmer
		7/10/2001	8.8	10	1.20	0.0	passive skimmer
		12/12/2001	NA	NA	NA	1.0	passive skimmer
		3/8/2002	NA	NA	NA	NA	passive skimmer
		4/3/2002	8.3	9.2	0.90	--	passive skimmer
		4/23/2002	8.5	9.6	1.10	--	passive skimmer
		5/10/2002	8.7	9.6	0.90	--	passive skimmer
		5/24/2002	8.8	10	1.20	--	passive skimmer

Table 2
Summary of Product Removal and Product Thickness
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation of Top of Casing (feet)	Date Of Monitoring	Depth to Free Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Estimated Product Removed (gallons)	Product Removal Method ²
MW-1 (Cont'd)	14.14	6/13/2002	8.7	10	1.30	--	passive skimmer
		6/21/2002	8.8	10	1.20	--	passive skimmer
		7/5/2002	8.5	9.4	0.90	0.2	passive skimmer
		7/19/2002	8.6	9.6	1.00	0.2	passive skimmer
		7/30/2002	8.5	9.3	0.80	0.2	passive skimmer
		8/14/2002	8.5	9.3	0.80	0.2	passive skimmer
		9/13/2002	8.8	9.6	0.80	0.2	passive skimmer
		9/26/2002	8.6	9.5	0.90	0.2	passive skimmer
		10/14/2002	9.0	10.1	1.10	0.2	passive skimmer
		11/4/2002	9.22	10.12	0.90	0.2	passive skimmer
		11/21/2002	8.48	8.86	0.38	0.2	passive skimmer
		12/6/2002	8.85	9.38	0.53	0.0	passive skimmer
		12/18/2002	8.05	8.26	0.21	0.2	passive skimmer
		12/30/2002	7.61	7.63	0.02	<0.1	passive skimmer
		1/2/2003	7.36	7.36	sheen	<0.1	passive skimmer
		1/3/2003	7.35	7.35	sheen	<0.1	passive skimmer
		1/14/2003	7.35	7.36	sheen	<0.1	passive skimmer
		1/30/2003	7.75	7.81	0.06	<0.1	passive skimmer
		2/18/2003	7.81	8.35	0.54	<0.1	passive skimmer
		2/26/2003	7.72	8.62	0.90	<0.1	passive skimmer
		3/13/2003	7.80	8.11	0.89	0.2	passive skimmer
		3/17/2003	7.61	8.88	1.27	0.2	passive skimmer
		4/16/2003	7.42	8.71	1.29	<0.2	passive skimmer
		6/18/2003	8.20	9.44	1.24	<0.2	passive skimmer
		9/3/2003	8.50	9.40	0.90	--	8
		11/26/2003	8.85	9.25	0.40	--	8
		3/5/2004	6.76	7.07	0.31	--	8
6/2/2004	8.26	8.71	0.45	--	8		
MW-3	14.22	12/31/1997	-	-	-	30	active skimmer
		1/29/1998	-	-	-	10	active skimmer
		4/13/1998	-	-	-	240	active skimmer
		5/11/1998	-	-	-	1,545	active skimmer
		6/15/1998	-	-	-	1,950	active skimmer
		11/6/1998	8.84	9.94	1.1	500	active skimmer
		1/5/1999	-	-	-	275 ²	active skimmer
		1/14/1999	-	-	-	400 ²	active skimmer
		2/3/1999	-	-	-	400 ²	active skimmer
		2/26/1999	-	-	-	570 ²	active skimmer
		3/19/1999	7.52	8.05	0.5	211	active skimmer
		6/16/1999	-	-	-	310	active skimmer
		6/24/1999	8.38	8.56	0.2	--	active skimmer
		7/14/1999	--	--	--	50 ²	active skimmer

Table 2
Summary of Product Removal and Product Thickness
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation of Top of Casing (feet)	Date Of Monitoring	Depth to Free Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Estimated Product Removed (gallons)	Product Removal Method ²
MW-3	14.22	9/28/1999	--	--	0.2	--	active skimmer
(Cont'd)		10/29/1999	--	--	--	125 ²	active skimmer
		11/12/1999	9.14	9.23	0.09	--	active skimmer
		1/28/2000	--	--	--	135	active skimmer
		2/11/2000	7.97	8.37	0.40	40	active skimmer
		3/1/2000	6.59	7.24	0.65	0.0	active skimmer
		3/21/2000	6.50	6.56	0.06	35	active skimmer
		4/18/2000	--	--	--	--	active skimmer
		5/22/2000	7.51	8.05	0.54	40	active skimmer
		6/26/2000	7.82	8.2	0.38	90	active skimmer
		7/25/2000	7.90	8.92	1.02	20	active skimmer
		8/31/2000	8.15	9.5	1.35	30	active skimmer
		9/6/2000	8.21	9.42	1.21	--	active skimmer
		9/21/2000	8.30	8.88	0.58	115	active skimmer
		10/11/2000	--	--	--	170	active skimmer
		11/30/2000	--	--	--	105	active skimmer
		12/19/2000	8.60	9.65	1.05	10	active skimmer
		2/22/2001	6.36	8.15	1.79	--	active skimmer
		4/3/2001	7.48	8.88	1.40	--	active skimmer
		4/23/2001	7.85	9.1	1.25	--	active skimmer
		5/11/2001	--	--	--	--	active skimmer
		5/30/2001	7.75	9.1	1.35	--	active skimmer
		6/14/2001	--	--	--	--	active skimmer
		7/10/2001	8.10	9.6	1.50	--	active skimmer
		12/12/2001	NA	NA	NA	1,000 ⁵	active skimmer
		3/8/2002	7.80	8	0.20	1,000 ⁵	active skimmer
		4/3/2002	7.60	7.7	0.10	--	active skimmer
		4/23/2002	7.90	8.4	0.50	--	active skimmer
		4/25/2002	7.90	8.8	0.90	--	active skimmer
		5/10/2002	8.10	8.2	0.10	--	active skimmer
		5/24/2002	8.05	8.1	0.05	--	active skimmer
		6/13/2002	8.10	8.7	0.60	1,000 ⁵	active skimmer
		7/5/2002	8.10	8.95	0.85	--	active skimmer
		7/19/2002	8.10	8.9	0.80	--	active skimmer
		7/30/2002	8.10	8.9	0.80	--	active skimmer
		8/14/2002	8.10	8.9	0.80	--	active skimmer
		9/13/2002	8.30	9.3	1.00	--	active skimmer
		9/26/2002	8.30	9.0	0.70	--	active skimmer
		10/14/2002	8.60	9.5	0.90	--	active skimmer
		11/4/2002	8.75	9.99	1.24	--	active skimmer
		11/21/2002	8.59	11.29	2.70	150 ⁶	active skimmer
		12/6/2002	8.56	9.3	0.74	150 ⁶	active skimmer
		12/18/2002	7.35	8.43	1.08	25 ⁶	active skimmer

Table 2
Summary of Product Removal and Product Thickness
Port of Oakland, 2277 7th Street, Oakland, California

Well ID	Elevation of Top of Casing (feet)	Date Of Monitoring	Depth to Free Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Estimated Product Removed (gallons)	Product Removal Method ²
MW-3 (Cont'd)	14.22	12/30/2002	6.50	7.15	0.65	25 ⁶	active skimmer
		1/2/2003	6.20	6.20	sheen	--	active skimmer
		1/3/2003	6.21	6.21	sheen	--	active skimmer
		1/14/2003	6.20	6.21	0.01	--	active skimmer
		1/30/2003	6.81	6.85	0.04	--	active skimmer
		2/18/2002	7.09	7.15	0.06	--	active skimmer
		2/26/2003	7.04	7.11	0.07	--	active skimmer
		3/13/2003	7.22	8.11	0.89	--	active skimmer
		3/17/2003	7.15	7.50	0.35	5 ⁶	active skimmer
		4/16/2003	7.27	8.25	0.98	--	active skimmer
		6/18/2003	7.78	9.00	1.22	--	⁷
		9/3/2003	8.31	9.96	1.65	--	⁷
		11/26/2003	10.79	12.85	2.06	--	⁷
	3/5/2004	8.39	9.85	1.46	--	⁷	
		6/2/2004	10.03	11.35	1.32	--	
MW-6	14.00	13/31/97	-	-	-	0.0014	passive skimmer
		1/29/1998	-	-	-	0.0014	passive skimmer
		3/2/1998	-	-	-	0.0014	passive skimmer
		11/6/1998	NM	9.62	>0.01	0.0	passive skimmer
		3/19/1999	NM	7.37	>0.01	0.0	passive skimmer
MW-8 ¹	12.94	12/31/1997	8.49	8.82	0.33	4.38	-
		11/6/1998	9.25	10.3	1.1	3.48	-

- Data prior to November 6, 1998 taken from *Groundwater Monitoring, Sampling and Product Removal System O&M Report* dated July 21, 1998, by Innovative Technical Solutions, Inc.

- Data prior to November 6, 1998 taken from *Groundwater Monitoring, Sampling and Product*

- Product removal volumes from 11/6/98 on represent total product removed during that reporting period.

¹ Free product in well is too viscous to allow product thickness or groundwater level measurements.

² Product removal totals for MW-3 are estimated from documentation of product removal from the treatment system performed by Performance Excavators, Inc.

³ The passive skimmer was removed from MW-1 on 5/22/00.

⁴ The passive skimmer replaced MW-1 on 9/6/00.

⁵ Removal total is the volume of both product and wastewater removed from the treatment system by Foss Environmental Services Company, Inc.

⁶ Product removed is based on volume measured in the 1,000-gallon holding poly-tank.

⁷ The active skimmer was removed from MW-3 on 04/16/2003

⁸ Passive skimmer was removed from MW-1

⁹ Elevation data relative to Port of Oakland datum; well surveys performed on November 26, 2003, by PLS Survey.

NM - Well checked for free product but not able to detect a measurable amount in the well.

Shaded areas indicate data from this reporting period.

NA - Not Available

Table 3
Groundwater Sample Results
Port of Oakland, 2277 7th Street, Oakland California

Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
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 ¹²	<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
	03/19/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	06/24/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	09/28/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	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	

Table 3
Groundwater Sample Results
Port of Oakland, 2277 7th Street, Oakland California

Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
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	<1	<4	
03/19/99	81	<50	<300	250	<1	1.2	<1	<4	
Dup.	06/24/99	190	<50	<300	360	1.4	2.2	1	24
	09/28/99	750 ^{3,5}	63 ^{3,5}	<300	280	1.5	<1	<1	<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
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

Table 3
Groundwater Sample Results
Port of Oakland, 2277 7th Street, Oakland California

Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
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
	03/19/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	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
	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
	05/22/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	09/06/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	12/19/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	07/10/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	12/05/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2
	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

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Port of Oakland, 2277 7th Street, Oakland California

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MW-6	11/06/98	120	12,000	1,200	19	0.65	1.8	<0.5	<2	
	03/19/99	170	3,800	580	21	0.86	1.5	2.9	<2	
	06/24/99	120	1,700 ⁷	<300 ⁷	18	<0.5	1.0	<0.5	54	
	09/28/99	130 ^{3,5}	820	<300	20	0.51	2.2	<0.5	<2	
	11/12/99	150	11,000 ^{2,6}	3,000 ^{3,6}	27	<0.5	2.2	<0.5	13 ⁹	
	02/11/00	270 ²	2,300	<300	23	0.51	2.7	<0.5	5.8	
	05/22/00	350	3,000	<300	18	0.51	<0.5	<0.5	7.7	
	09/06/00	190	610	<300	26	<0.5	1.7	<0.5	<0.5 ¹⁰	
	12/19/00	130 ^{3,11}	620	<300	24	<0.5	1.6	<0.5	<2	
	02/21/01	120 ¹³	440	<300	21	<0.5	0.96	<0.5	<2	
	07/10/01	120	560	<300	29	<0.5	0.99	<0.5	<2	
	12/12/01	53	550	<300	27	<0.5	1.3	<0.5	<2.0	
	03/08/02	160 ²	640 ²	<500	30	<0.5	<0.5	<0.5	5.0 ¹⁴	
	06/13/02	160 ²	670 ²	<500	34	<0.5	<0.5	<0.5	<5.0	
	09/26/02	230 ²	1400 ²	<500	40	0.64	0.8	<0.5	<5.0	
12/12/02	53	110	<300	43	<0.5	<0.5	<0.5	<2.0		
12/18/02	Monitoring well was destroyed									
MW-7	09/06/95	<50	<300	800	<0.4	<0.3	<0.3	<0.4	NA	
	01/08/96	<50	410	110	<0.4	<0.3	<0.3	<0.4	NA	
	04/04/96	<50	530	340	<0.5	<0.5	<0.5	<1.0	NA	
	07/10/96	80	840	1,700	<0.4	<0.3	<0.3	<0.4	NA	
	12/03/96	<50	280 ^{1,2}	<250	<0.5	<0.5	<0.5	<1.0	NA	
	03/28/97	65 ⁶	94 ²	<250	<0.5	<0.5	<0.5	<1.0	NA	
	06/13/97	<50	100	<250	<0.5	<0.5	<0.5	<1.0	NA	
	09/18/97	<50	240	<250	<0.5	<0.5	<0.5	<1.0	NA	
	12/31/97	<50	53 ^{2,3}	<280	<0.5	<0.5	<0.5	<1.0	NA	
	04/13/98	<50	<48	<290	<0.5	<0.5	<0.5	<1.0	NA	
	11/06/98	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2	
	03/19/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	5.3	
	06/24/99	73	<50	<300	<0.5	<0.5	<0.5	<0.5	12	
	09/28/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	14	
	11/12/99	<50	600 ^{2,6}	420 ³	<0.5	<0.5	<0.5	<0.5	15 ⁹	
	02/11/00	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	51	
	05/22/00	110	53 ²	<300	<0.5	<0.5	<0.5	<0.5	75	
	09/06/00	50 ⁶	<50	<300	<0.5	<0.5	<0.5	<0.5	40 ¹⁰	
	12/19/00	54 ¹¹	51 ⁵	<300	<0.5	<0.5	<0.5	<0.5	47 ^{10,12}	
	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	66 ¹⁰	
	Dup.	02/21/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	60 ¹⁰
	Dup.	07/10/01	<50	51 ²	<300	<0.5	<0.5	<0.5	<0.5	76 ¹⁰
	Dup.	07/10/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	75 ¹⁰
Dup.	12/12/01	51	<50	<300	<0.5	<0.5	<0.5	<0.5	98 ¹⁴	
Dup.	12/12/01	64	52 ^{13,15}	<300	<0.5	<0.5	<0.5	<0.5	96 ¹⁴	
	03/08/02	52 ²	<50	<500	<0.5	<0.5	<0.5	<0.5	24 ¹⁴	
	06/13/02	87 ²	54 ²	<500	<0.5	<0.5	<0.5	<0.5	51	
	09/26/02	83 ²	84 ²	<500	<0.5	<0.5	<0.5	<0.5	75 ¹⁰	
	12/12/02	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	58 ¹⁴	
	12/18/02	Monitoring well was destroyed								

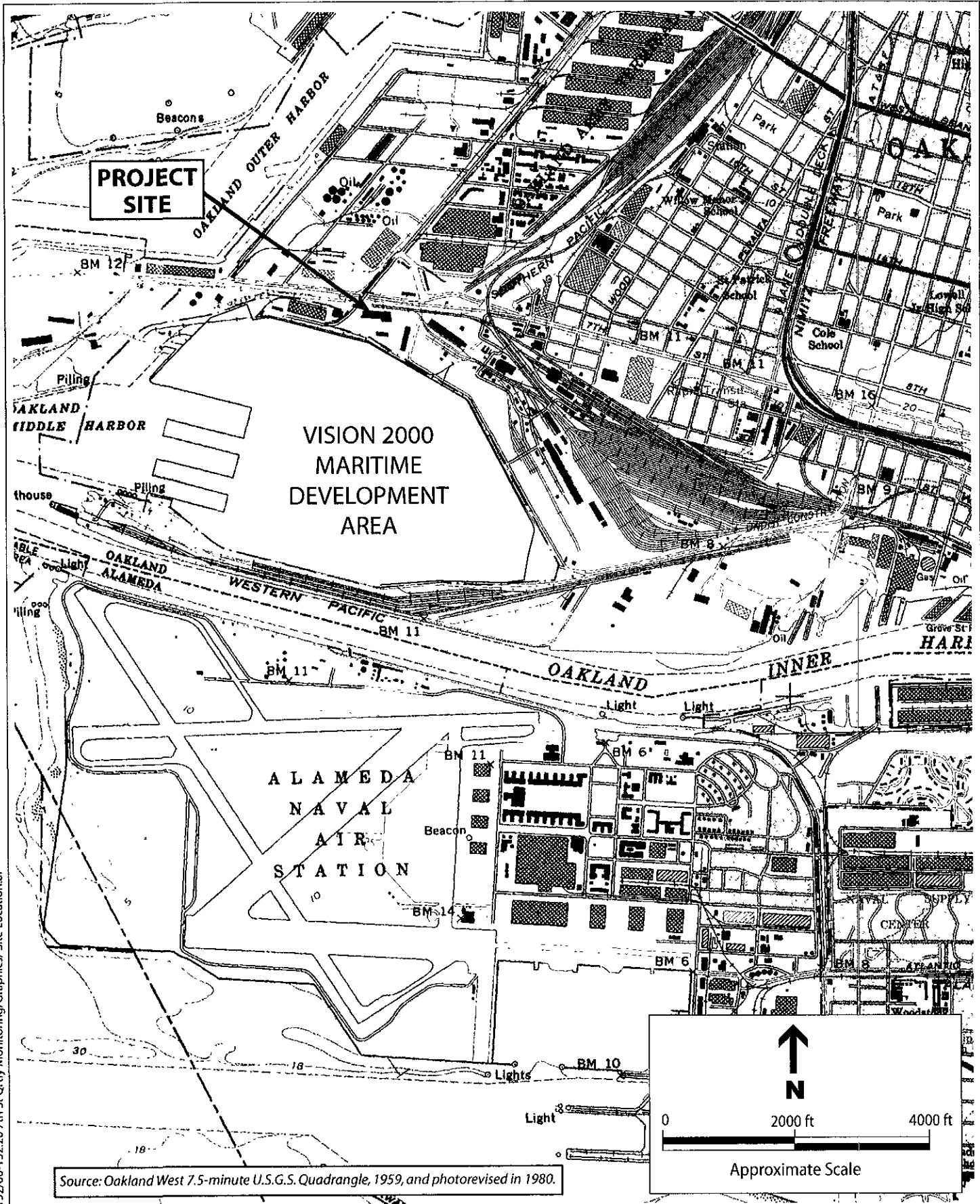
Table 3
Groundwater Sample Results
Port of Oakland, 2277 7th Street, Oakland California

Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
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
	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

- 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 of 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
 - Data from December 1997 through April 1998 taken from *Groundwater Monitoring, Sampling and Product Removal System O&M Report* dated July 21, 1998, by Innovative Technical Solutions, Inc.
 -Data prior to December 1997 taken from *Groundwater Analytical Results, Quarterly Groundwater Monitoring Report: Third Quarter 1997, Building C-401, 2277 7th Street, Oakland, CA, dated October 24, 1997, by Uribe and Associate*
- 17 Presence confirmed, but Relative Percent Difference (RPD) between columns exceeds 40%
 NA Not Analyzed.

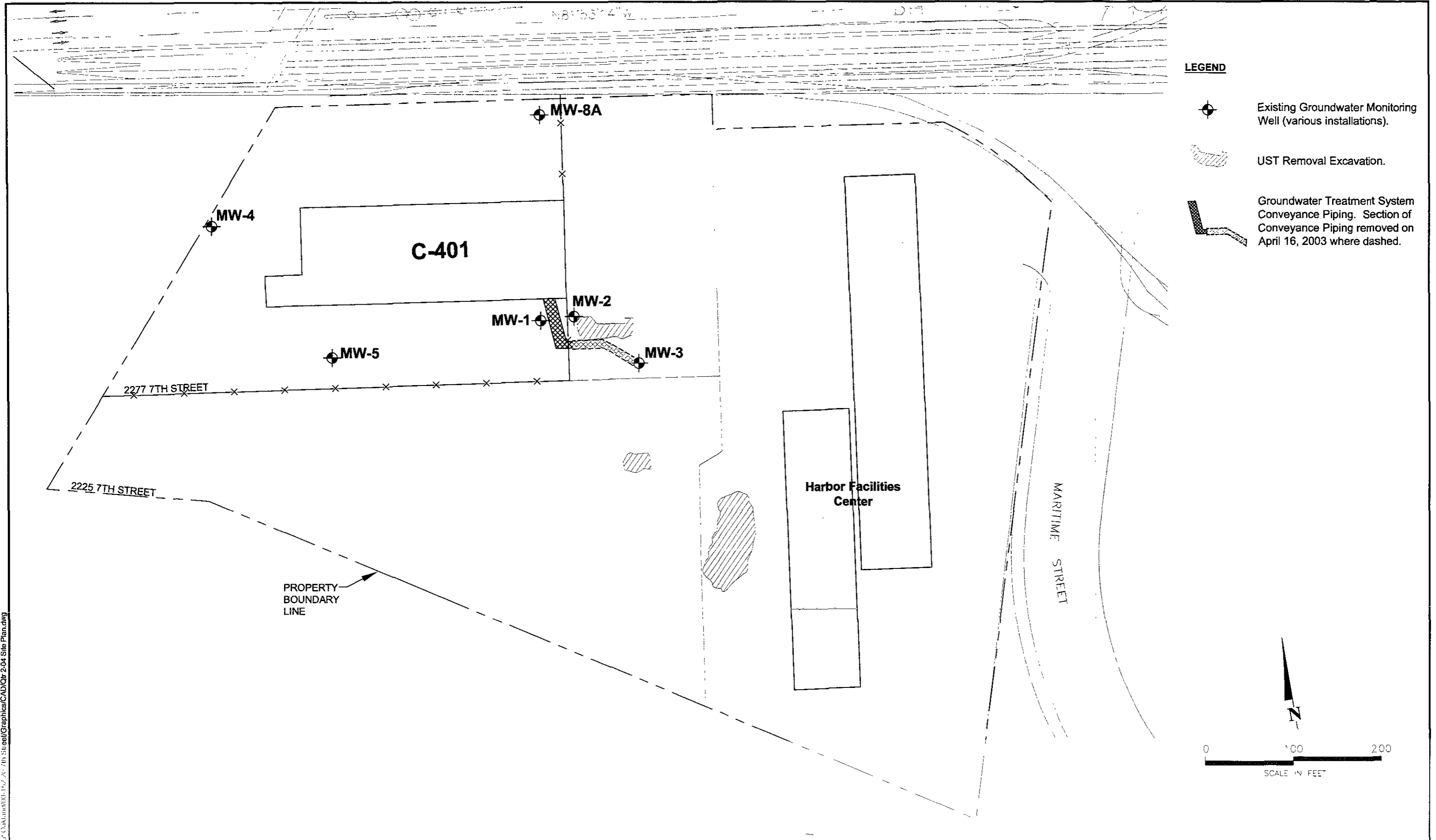
Table 4
Summary of Operation and Maintenance Activities
Port of Oakland, 2277 7th Street, Oakland, California

Date	System Status	Comments
7/5/2002	Off	System is turned off and is in the process of being moved to new location.
7/19/2002	Off	System is moved to new location but is not hooked up to electricity.
7/30/2002	Off	System is moved to new location but is not hooked up to electricity.
8/14/2002	Off	System is moved to new location but is not hooked up to electricity.
9/13/2002	On	System is powered and operating
9/26/2002	On	System operating OK
10/14/2002	On	System operating OK.
11/4/2002	On	System operating OK.
11/21/2002	On	System operating OK.
12/6/2002	On	System operating OK.
12/18/2002	On	System operating OK.
12/23/2002	On	System operating OK.
12/27/2002	On	System operating OK.
12/30/2002	On	System operating OK
1/2/2003	Off	System is turned off because no free product was detected in well MW-3
1/3/2003	Off	System is turned off because no free product was detected in well MW-3
1/14/2003	Off	System is turned off because only product sheen was detected in well MW-3
1/30/2003	Off	System is turned off because only product sheen was detected in well MW-3
2/18/2003	Off	System is turned off because only product sheen was detected in well MW-3
2/26/2003	Off	System is turned off because only product sheen was detected in well MW-3
3/13/2003	Off	System is kept off because of the expected rainfall during weekend
3/17/2003	On	System is tested to verify that only product is being recovered from well MW-3
4/16/2003	Off	Product recovery line was removed due to Port's construction upgrades at the site
6/18/2003	Off	Product recovery line was removed on 04/16/2003
9/3/2003	Off	Product recovery line was removed on 04/16/2003
11/26/2003	Off	Product recovery line was removed on 04/16/2003
3/5/2004	Off	Product recovery line was removed on 04/16/2003
6/2/2004	Off	Product recovery line was removed on 04/16/2003






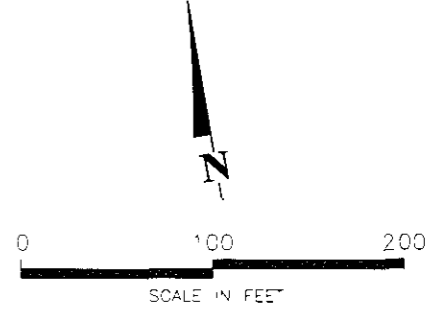
Source: Oakland West 7.5-minute U.S.G.S. Quadrangle, 1959, and photorevised in 1980.

Projects/2000/00-152/00-152.20 7th St Qrtly Monitoring/Graphics/Site Location.mai

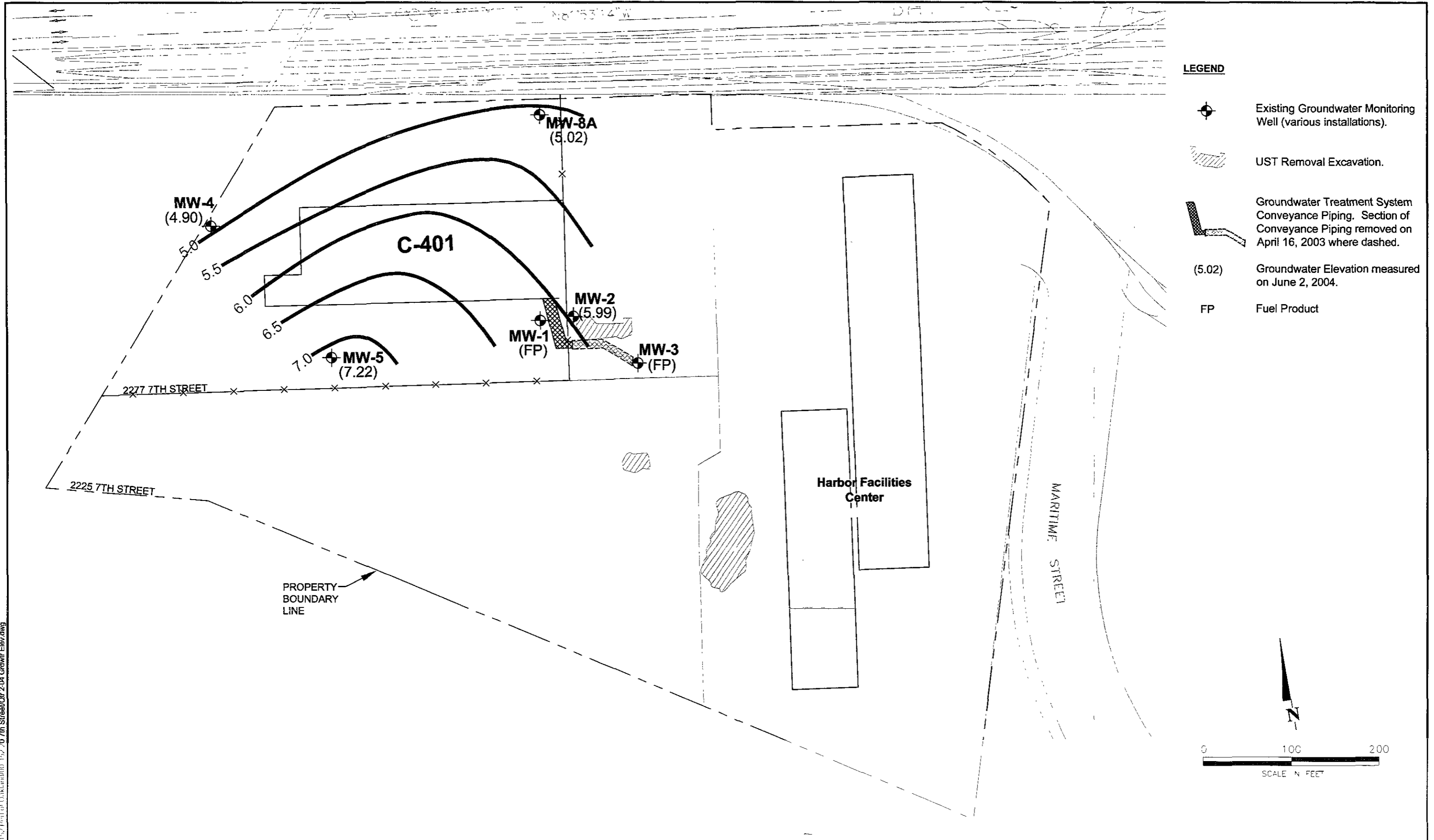


LEGEND



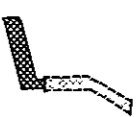
-  Existing Groundwater Monitoring Well (various installations).
-  UST Removal Excavation.
-  Groundwater Treatment System Conveyance Piping. Section of Conveyance Piping removed on April 16, 2003 where dashed.

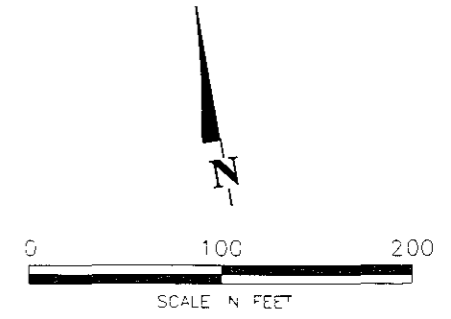


Project No. 04-01 Part of Oakland 04-01-1-2 21-7th Street/Graphical/CAD/04-01-2-04 Site Plan.dwg



LEGEND

-  Existing Groundwater Monitoring Well (various installations).
-  UST Removal Excavation.
-  Groundwater Treatment System Conveyance Piping. Section of Conveyance Piping removed on April 16, 2003 where dashed.
- (5.02) Groundwater Elevation measured on June 2, 2004.
- FP Fuel Product



CAD: GIS Staff Date: 06/15/04 Plot of: C:\Inventor\000_152_70 7th Street\04_2004\Drawn Elev.dwg

APPENDIX A

**MONITORING WELL WATER LEVEL MEASUREMENT FORM
AND
MONITORING WELL PURGING AND SAMPLING FORM**

MONITORING WELL WATER LEVEL MEASUREMENT FORM

PROJECT NAME: 2277 7th Street

PROJECT NO.: 00-152.25

MEASURED BY: RLEONG

DATE: 06/02/2004

Membrane Well ID	Depth to Water (feet)	Total Well Depth (feet)	Time
MW-2	11.22	17.10	12:45
MW-4	8.25	18.75	10:47
MW-5	6.27	16.75	11:43
MW-6	Well was destroyed on December 18, 2002		
MW-7	Well was destroyed on December 18, 2002		
MW-8A	7.92	20.40	09:55

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: PORTOF OAKLAND - 2277 7th STREET PROJECT NO.: 00-152.25

WELL NO.: MW-2 TESTED BY: RLEONG DATE: 06/02/2004

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 11.22

Total Well Depth (ft.): 17.10 Purge Method: Disposable Bailer

Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): 0.5

Time Start Purge: 12:49 Time End Purge: 12:56

Comments : _____

Well Volume Calculation (fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	x	Multiplier for Casing Diameter (in)			Casing Volume (gal)
					2	4	6	
	17.10	11.22	5.88		0.16	0.64	1.44	0.95

Time	12:50	12:52	12:54	12:56			
Cumulative Volume Purged (gals)	0.5	1.0	2	3			
Cumulative Number of Casing Volumes	0.5	1	2	3			
Temperature (F°/C°)	20	19	19	18			
pH	7.2	7.1	6.9	7.0			
Specific Conductivity (mS/cm)	2.1	2.0	2.1	2.1			
Turbidity (NTU)	16	21	24	56			

WELL SAMPLING

Sampling Time: 13:00 Sampling Method: Disposable Bailer

Duplicate Sample & Time: None

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab
MW-2	2 (1 L Amber)	TPHd, TPHmo	none	C&T
MW-2	5 voas	TPHg, MTBE, BTEX	HCL	C&T

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: PORTOF OAKLAND - 2277 7th STREET PROJECT NO.: 00-152.25

WELL NO.: MW-4 TESTED BY: RLEONG DATE: 06/02/04

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 8.25

Total Well Depth (ft.): 18.75 Purge Method: Disposable Bailer

Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): 0.50

Time Start Purge: 10:50 Time End Purge: 11:00

Comments : _____

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
							2	4	6		
	<u>18.75</u>		<u>8.25</u>		<u>10.50</u>		<u>0.16</u>	<u>0.64</u>	<u>1.44</u>		<u>1.68</u>

Time	<u>10:52</u>	<u>10:54</u>	<u>10:56</u>	<u>10:58</u>	<u>11:00</u>		
Cumulative Volume Purged (gals)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
Cumulative Number of Casing Volumes	<u>~0.5</u>	<u>~1.3</u>	<u>~1.7</u>	<u>2.3</u>	<u>3</u>		
Temperature (F°/C°)	<u>21</u>	<u>20</u>	<u>20</u>	<u>21</u>	<u>21</u>		
pH	<u>7.1</u>	<u>7.8</u>	<u>7.2</u>	<u>7.1</u>	<u>7.1</u>		
Specific Conductivity (mS/cm)	<u>1.5</u>	<u>1.6</u>	<u>1.6</u>	<u>1.6</u>	<u>1.6</u>		
Turbidity (NTU)	<u>6</u>	<u>10</u>	<u>186</u>	<u>555</u>	<u>486</u>		

WELL SAMPLING

Sampling Time: 11:15 Sampling Method: Disposable Bailer

Duplicate Sample & Time: MW-4D @ 11:20

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab
<u>MW4 / MW-4D</u>	<u>4x (1 L Amber)</u>	<u>TPHd, TPHmo</u>	<u>none</u>	<u>C&T</u>
<u>MW-4 / MW-4D</u>	<u>10 / 8 voas</u>	<u>TPHg, MTBE, BTEX</u>	<u>HCL</u>	<u>C&T</u>

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: PORTOF OAKLAND - 2277 7th STREET PROJECT NO.: 00-152.25
 WELL NO.: MW-5 TESTED BY: RLEONG DATE: 06/02/2004

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 6.27
 Total Well Depth (ft.): 16.75 Purge Method: Disposable Bailer
 Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): 0.50
 Time Start Purge: 11:46 Time End Purge: 11:56

Comments : _____

Well Volume Calculation (fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	x	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
					2	4	6		
	<u>16.75</u>	<u>6.27</u>	<u>10.48</u>		<u>0.16</u>	<u>0.64</u>	<u>1.44</u>		<u>1.68</u>

Time	<u>11:48</u>	<u>11:50</u>	<u>11:52</u>	<u>11:54</u>	<u>11:56</u>		
Cumulative Volume Purged (gals)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
Cumulative Number of Casing Volumes	<u>0.6</u>	<u>1.2</u>	<u>1.8</u>	<u>2.4</u>	<u>2.98</u>		
Temperature (F°/C°)	<u>22</u>	<u>22</u>	<u>23</u>	<u>22</u>	<u>22</u>		
pH	<u>7.6</u>	<u>7.4</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>		
Specific Conductivity (mS/cm)	<u>1.3</u>	<u>1.6</u>	<u>1.9</u>	<u>1.9</u>	<u>1.9</u>		
Turbidity (NTU)	<u>15</u>	<u>398</u>	<u>381</u>	<u>507</u>	<u>660</u>		

WELL SAMPLING

Sampling Time: 12:00 Sampling Method: Disposable Bailer
 Duplicate Sample & Time: NONE

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab
<u>MW-5</u>	<u>2 (1 L Amber)</u>	<u>TPHd, TPHmo</u>	<u>none</u>	<u>C&T</u>
<u>MW-5</u>	<u>5 voas</u>	<u>TPHg, MTBE, BTEX</u>	<u>HCL</u>	<u>C&T</u>

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: PORTOF OAKLAND - 2277 7th STREET PROJECT NO.: 00-152.25
 WELL NO.: NW-8A TESTED BY: RLEONG DATE: 06/02/2004

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 7.92
 Total Well Depth (ft.): 20.40 Purge Method: Disposable Bailer
 Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): 0.25
 Time Start Purge: 10:00 Time End Purge: 10:28

Comments : _____

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
							2	4	6		
	20.40		7.92		12.48		0.16	0.64	1.44		2.0

Time	10:08	10:12	10:16	10:20	10:24	10:28	
Cumulative Volume Purged (gals)	1	2	3	4	5	6	
Cumulative Number of Casing Volumes	0.5	1	1.5	2	2.5	3	
Temperature (F° C°)	18	18	18	18	18	18	
pH	6.7	7.1	7.2	7.1	7.3	7.2	
Specific Conductivity (mS/cm)	2.5	2.5	2.5	2.5	2.4	2.4	
Turbidity (NTU)	998	990	910	980	979	999	

WELL SAMPLING

Sampling Time: 10:30 Sampling Method: Disposable Bailer
 Duplicate Sample & Time: _____

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab
<u>NW-8A</u>	2 (1 L Amber)	TPHd, TPHmo	none	C&T
<u>NW-8A</u>	5 voas	TPHg, MTBE, BTEX	HCL	C&T



2730 Shadelands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 - (925) 256-8998 (fax)

Local Address: 2277 SEVENTH ST.
OAKLAND, CALIFORNIA

Chain-Of-Custody

Project Name and Number: PORT OF OAKLAND / 00-152.25
Project Manager: RACHEL HESS
Site Location: 2277 7th STREET, OAKLAND, CA

Laboratory Name: CURTIS & TOMKINS
Address: 2323 5th STREET Contact Name: JOHN ETOLETTE
BERKELEY, CALIFORNIA Phone: (510) 486-0900

Date: 06/02/04
Page: 1 of 1

Sample I.D.	Date	Time	Sample Depth	No. of Containers	Sample Matrix	Analysis:					Special Instructions/Comments
						TPH by 8015B	TPH w/o by 8015B	TPH by box 8015B	BTEX + NTRC by 80211	NTRC Cont. w/ton by 82160	
TRIP BLANK	06/02/04	0900	-	2	40	-	-	Hcl	Hcl	Hcl	SILICA GEL CLEAN UP FOR TPHd, NO
NW-2	↓	1300	12	7	↓	X	X	X	X	X	
NW-4		1115	10	7	X	X	X	X	X	X	
NW-4D		1120	10	7	X	X	X	X	X	X	
NW-5		1200	12	7	X	X	X	X	X	X	
NW-8A		1030	~9.0	7	X	X	X	X	X	X	

Sampled By: Rogerio Leony
Signature: [Signature]
Special Instructions: DIRECT BILL PORT OF OAKLAND
CONTACT JEFF RUBIN @
(510) 627-1134
Send Results to: RACHEL HESS (ITSI)
(w/fax #) (925) 256-8998
Turnaround Time: STANDARD

Courier/Airbill No.:					
Relinquished By/Affiliation:	Date:	Time:	Received By/Affiliation:	Date:	Time:
<u>Rogerio Leony / ITS</u>	<u>6/2/04</u>	<u>1430</u>	<u>[Signature]</u>	<u>6/2/04</u>	<u>1430</u>

APPENDIX B
LABORATORY REPORTS



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

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

RECEIVED
JUN 23 2004


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

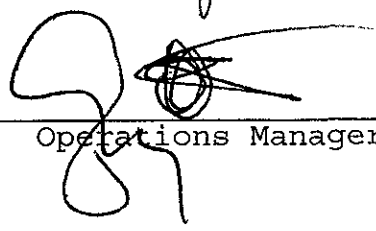
Prepared for:

Innovative Technical Solutions, Inc.
2730 Shadelands Drive
Suite 100
Walnut Creek, CA 94598-2540

Date: 18-JUN-04
Lab Job Number: 172627
Project ID: 00-152.25
Location: 2277 7th Street POO

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

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2730 Shadelands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 - (925) 256-8998 (fax)

Local Address: 2277 SEVENTH ST.
OAKLAND, CALIFORNIA

Chain-Of-Custody

Project Name and Number: PORT OF OAKLAND / 00-152.25
Project Manager: RACHEL HESS
Site Location: 2277 7th STREET, OAKLAND, CA

Laboratory Name: CURTIS & TOMKINS
Address: 2323 5th STREET Contact Name: JOHN GOYETTE
BERKELEY, CALIFORNIA Phone: (510) 486-0900

Date: 06/02/04
Page: 1 of 1

Sample I.D.	Date	Time	Sample Depth	No. of Containers	Sample Matrix	Analysis:					Special Instructions/Comments
						TPHd by 8015B	TPH w/o by 8015B	TPH by 8015B	BTEX + NTRC by 8021B	MTBE Confirmation by 8260	
TRIP BLANK	06/02/04	0900	-	2	H ₂ O						SILICA GEL CLEAN UP FOR TPHd, MO
NW-2		1300	12	7		X	X	X	X	X	
NW-4		1115	10	7		X	X	X	X	X	
NW-4D		1120	10	7		X	X	X	X	X	
NW-5		1200	12	7		X	X	X	X	X	
NW-8A		1030	~9.0	7		X	X	X	X	X	

Received On Ice
 Cold Ambient Intact

Sampled By: ROGERIO LEONG
 Signature: [Signature]
 Special Instructions: DIRECT BILL PORT OF OAKLAND
CONTACT JEFF RUBIN @
(510) 627-1134
 Send Results to: RACHEL HESS (ITSI)
 (w/fax #) (925) 256-8998
 Turnaround Time: STANDARD

Courier/Airbill No.:		Date:	Time:	Received By/Affiliation:	Date:	Time:
Relinquished By/Affiliation:						
<u>Rogerio Leong / ITSI</u>		<u>6/2/04</u>	<u>1430</u>	<u>Kevin GARDNER</u>	<u>6-2/04</u>	<u>1430</u>

Total Volatile Hydrocarbons

Lab #: 172627	Location: 2277 7th Street POO
Client: Innovative Technical Solutions, Inc.	Prep: EPA 5030B
Project#: 00-152.25	
Matrix: Water	Batch#: 91672
Units: ug/L	Sampled: 06/02/04
Diln Fac: 1.000	Received: 06/02/04

Field ID: TRIP BLANK	Analyzed: 06/04/04
Type: SAMPLE	Analysis: EPA 8021B
Lab ID: 172627-001	

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	84	55-139
Bromofluorobenzene (PID)	91	62-134

Field ID: MW-2	Lab ID: 172627-002
Type: SAMPLE	Analyzed: 06/03/04

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	95	74-142	EPA 8015B
Bromofluorobenzene (FID)	96	80-139	EPA 8015B
Trifluorotoluene (PID)	83	55-139	EPA 8021B
Bromofluorobenzene (PID)	89	62-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
 L= Lighter hydrocarbons contributed to the quantitation
 ND= Not Detected
 RL= Reporting Limit
 Page 1 of 4

Total Volatile Hydrocarbons

Lab #: 172627	Location: 2277 7th Street POO
Client: Innovative Technical Solutions, Inc.	Prep: EPA 5030B
Project#: 00-152.25	
Matrix: Water	Batch#: 91672
Units: ug/L	Sampled: 06/02/04
Diln Fac: 1.000	Received: 06/02/04

Field ID: MW-4	Lab ID: 172627-003
Type: SAMPLE	Analyzed: 06/03/04

Analyte	Result	RL	Analysis
Gasoline C7-C12	620 L	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	210	0.50	EPA 8021B
Toluene	0.55 C	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	102	74-142	EPA 8015B
Bromofluorobenzene (FID)	99	80-139	EPA 8015B
Trifluorotoluene (PID)	91	55-139	EPA 8021B
Bromofluorobenzene (PID)	93	62-134	EPA 8021B

Field ID: MW-4D	Lab ID: 172627-004
Type: SAMPLE	Analyzed: 06/04/04

Analyte	Result	RL	Analysis
Gasoline C7-C12	400 L	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	130	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	97	74-142	EPA 8015B
Bromofluorobenzene (FID)	94	80-139	EPA 8015B
Trifluorotoluene (PID)	89	55-139	EPA 8021B
Bromofluorobenzene (PID)	88	62-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
 L= Lighter hydrocarbons contributed to the quantitation
 ND= Not Detected
 RL= Reporting Limit
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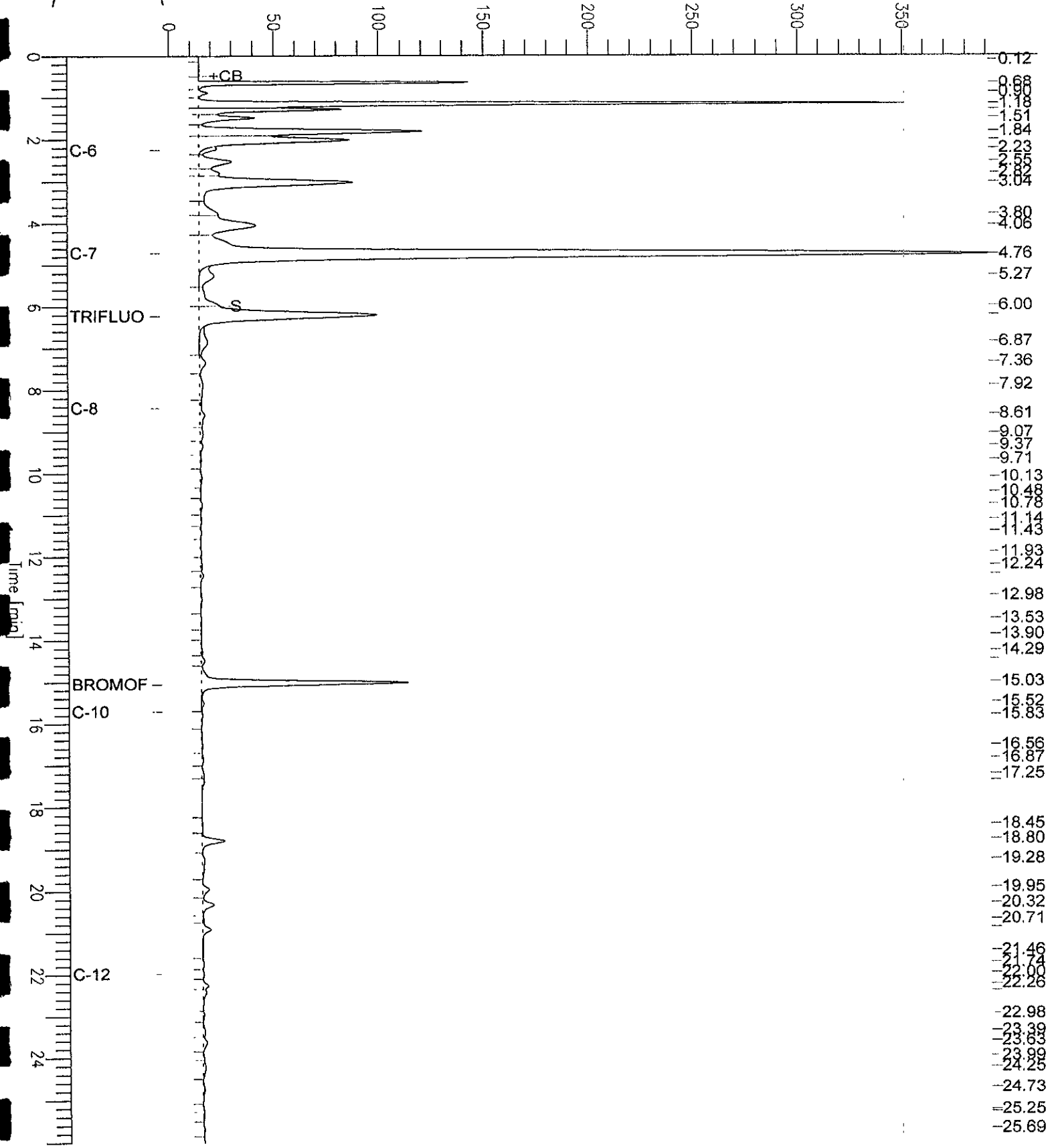
GC07 TVH 'A' Data File RTX 502

Sample Name : 172627-003,91672
 FileName : G:\GC07\DATA\155A022.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor : 1.0

Sample #: a1.3
 Date : 6/4/04 10:36 AM
 Time of Injection: 6/3/04 11:36 PM
 Low Point : -4.31 mV
 Plot Scale: 395.7 mV
 End Time : 26.00 min
 Plot Offset: -4 mV
 High Point : 391.36 mV

MW-4

Response [mV]



GC07 TVH 'A' Data File RTX 502

Sample Name : 172627-004,91672

Sample #: a1.3

Page 1 of 1

FileName : G:\GC07\DATA\155A023.raw

Date : 6/4/04 10:36 AM

Method : TVHBTXE

Time of Injection: 6/4/04 12:11 AM

Start Time : 0.00 min

End Time : 26.00 min

Low Point : 2.09 mV

High Point : 264.40 mV

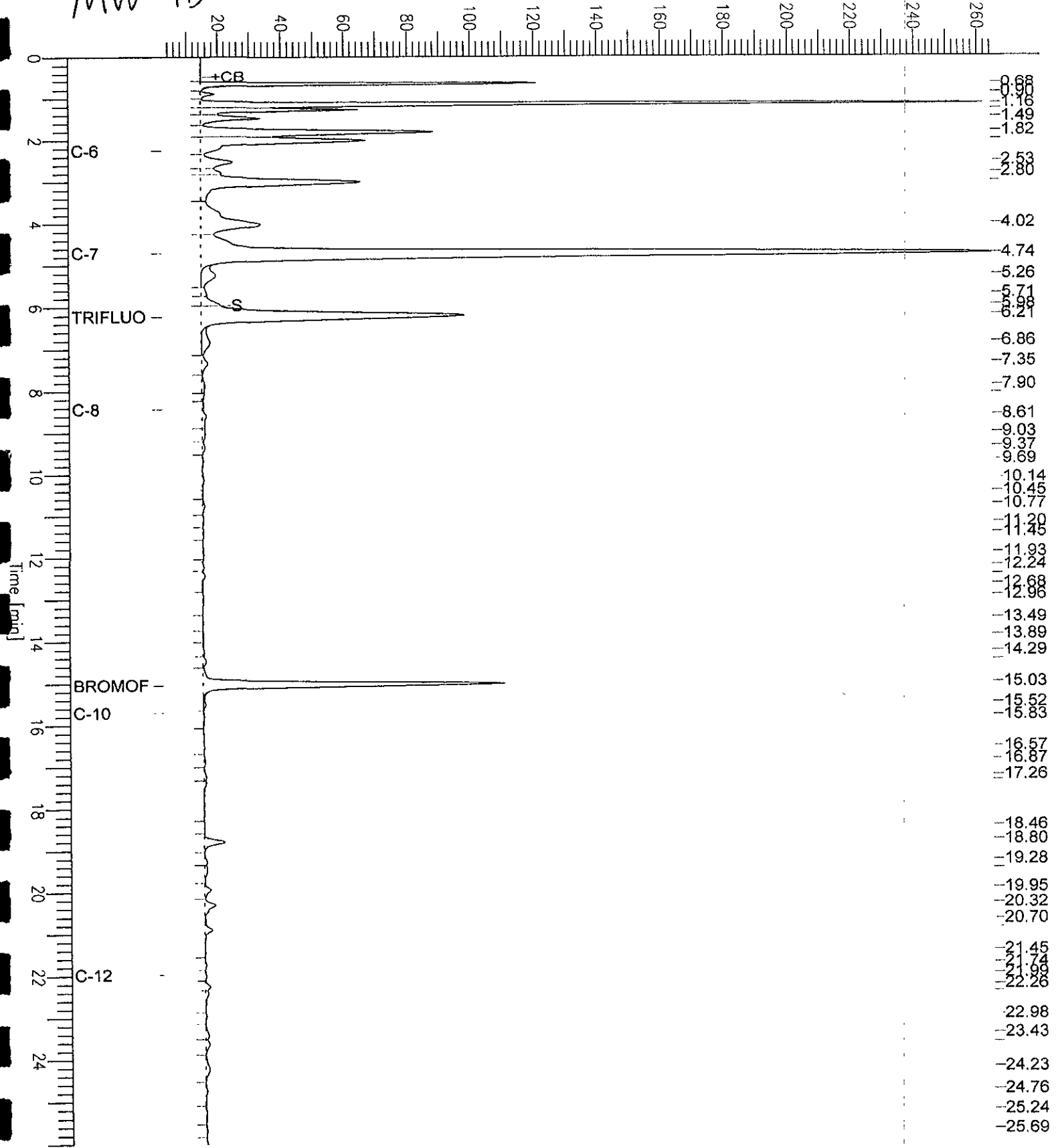
Scale Factor: 1.0

Plot Offset: 2 mV

Plot Scale: 262.3 mV

MW-4D

Response [mV]



GC07 TVH 'A' Data File RTX 502

Sample Name : ccv/lcs,qc253140,91672,04ws0931,5/5000
 File Name : G:\GC07\DATA\155a001.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor : 1.0

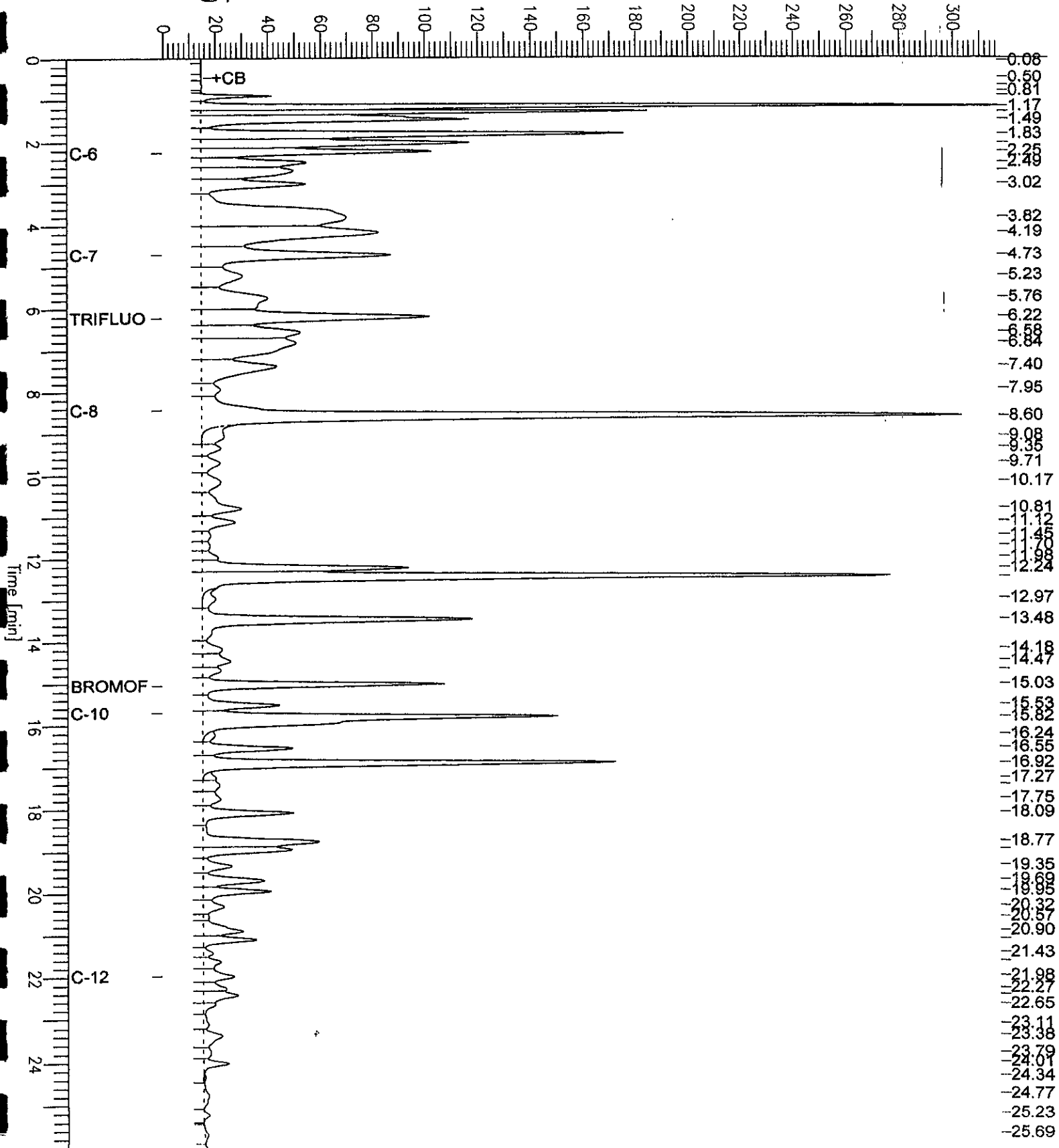
End Time : 26.00 min
 Plot Offset : -0 mV

Sample # :
 Date : 6/3/04 11:52 AM
 Time of Injection : 6/3/04 10:00 AM
 Low Point : -0.48 mV
 High Point : 316.65 mV
 Plot Scale : 317.1 mV

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Gasoline

Response [mV]





Total Volatile Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 5030B
Project#:	00-152.25		
Matrix:	Water	Batch#:	91672
Units:	ug/L	Sampled:	06/02/04
Diln Fac:	1.000	Received:	06/02/04

Type: BLANK Analyzed: 06/03/04
 Lab ID: QC253138

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	92	74-142	EPA 8015B
Bromofluorobenzene (FID)	91	80-139	EPA 8015B
Trifluorotoluene (PID)	81	55-139	EPA 8021B
Bromofluorobenzene (PID)	84	62-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
 L= Lighter hydrocarbons contributed to the quantitation
 ND= Not Detected
 RL= Reporting Limit
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Batch QC Report

Total Volatile Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC253139	Batch#:	91672
Matrix:	Water	Analyzed:	06/03/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	19.84	99	59-131
Benzene	20.00	19.98	100	80-120
Toluene	20.00	19.93	100	80-120
Ethylbenzene	20.00	20.49	102	80-120
m,p-Xylenes	20.00	20.15	101	80-120
o-Xylene	20.00	20.51	103	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	83	55-139
Bromofluorobenzene (PID)	83	62-134

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC253140	Batch#:	91672
Matrix:	Water	Analyzed:	06/03/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,207	110	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	74-142
Bromofluorobenzene (FID)	94	80-139

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	EPA 8021B
Field ID:	ZZZZZZZZZZ	Batch#:	91672
MSS Lab ID:	172630-001	Sampled:	06/02/04
Matrix:	Water	Received:	06/02/04
Units:	ug/L	Analyzed:	06/03/04
Diln Fac:	1.000		

Type: MS Lab ID: QC253156

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.1000	20.00	20.71	104	63-140
Benzene	<0.09000	20.00	20.49	102	80-120
Toluene	<0.04600	20.00	20.02	100	80-120
Ethylbenzene	<0.05900	20.00	20.15	101	80-120
m,p-Xylenes	<0.06600	20.00	19.86	99	80-120
o-Xylene	<0.05300	20.00	20.23	101	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	85	55-139
Bromofluorobenzene (PID)	96	62-134

Type: MSD Lab ID: QC253157

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	21.73	109	63-140	5	23
Benzene	20.00	20.46	102	80-120	0	20
Toluene	20.00	19.98	100	80-120	0	20
Ethylbenzene	20.00	20.18	101	80-120	0	20
m,p-Xylenes	20.00	19.70	98	80-120	1	20
o-Xylene	20.00	20.29	101	80-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	85	55-139
Bromofluorobenzene (PID)	97	62-134

Total Extractable Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/02/04
Units:	ug/L	Received:	06/02/04
Diln Fac:	1.000	Prepared:	06/08/04
Batch#:	91790		

Field ID:	MW-2	Analyzed:	06/09/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	172627-002		

Analyte	Result	RL
Diesel C10-C24 (SGCU)	ND	50
Motor Oil C24-C36 (SGCU)	ND	300
Surrogate	%REC	Limits
Hexacosane (SGCU)	102	53-142

Field ID:	MW-4	Analyzed:	06/10/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	172627-003		

Analyte	Result	RL
Diesel C10-C24 (SGCU)	ND	50
Motor Oil C24-C36 (SGCU)	ND	300
Surrogate	%REC	Limits
Hexacosane (SGCU)	111	53-142

Field ID:	MW-4D	Analyzed:	06/10/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	172627-004		

Analyte	Result	RL
Diesel C10-C24 (SGCU)	ND	50
Motor Oil C24-C36 (SGCU)	ND	300
Surrogate	%REC	Limits
Hexacosane (SGCU)	127	53-142

Field ID:	MW-5	Analyzed:	06/09/04
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	172627-005		

Analyte	Result	RL
Diesel C10-C24 (SGCU)	ND	50
Motor Oil C24-C36 (SGCU)	ND	300
Surrogate	%REC	Limits
Hexacosane (SGCU)	88	53-142

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit
 SGCU= Silica gel cleanup



Total Extractable Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/02/04
Units:	ug/L	Received:	06/02/04
Diln Fac:	1.000	Prepared:	06/08/04
Batch#:	91790		

Field ID: MW-8A Analyzed: 06/09/04
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 172627-006

Analyte	Result	RL
Diesel C10-C24 (SGCU)	67 Y	50
Motor Oil C24-C36 (SGCU)	ND	300

Surrogate	%REC	Limits
Hexacosane (SGCU)	90	53-142

Type: BLANK Analyzed: 06/10/04
 Lab ID: QC253564 Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane (SGCU)	90	53-142

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit
 GCU= Silica gel cleanup

Chromatogram

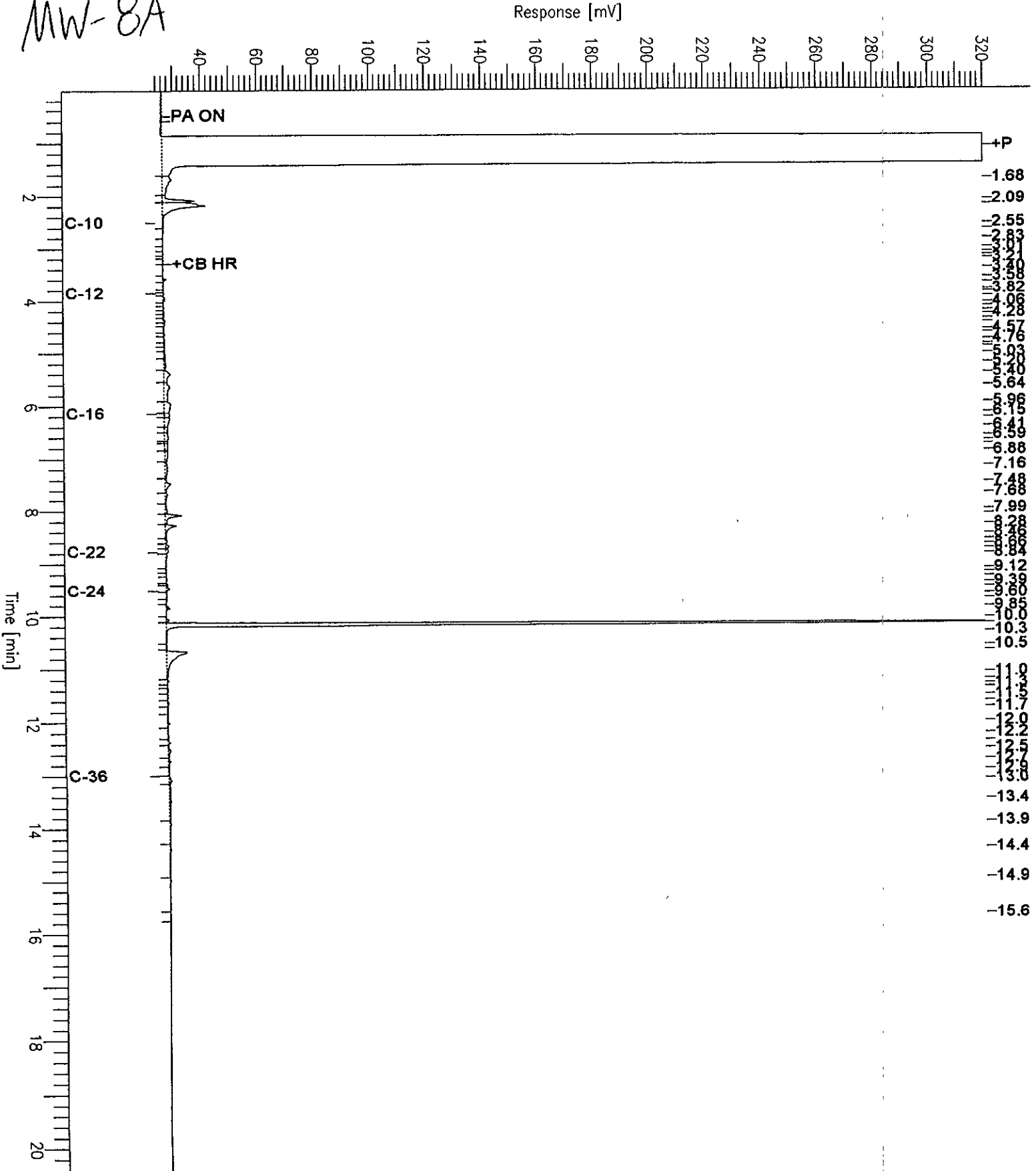
Sample Name : 172627-006sg,91790
FileName : G:\GC11\CHA\161A021.RAW
Method : ATEH156S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 20.45 min
Plot Offset: 24 mV

Sample #: 91790
Date : 6/10/04 08:23 AM
Time of Injection: 6/9/04 09:12 PM
Low Point : 23.89 mV
Plot Scale: 296.1 mV

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MW-8A



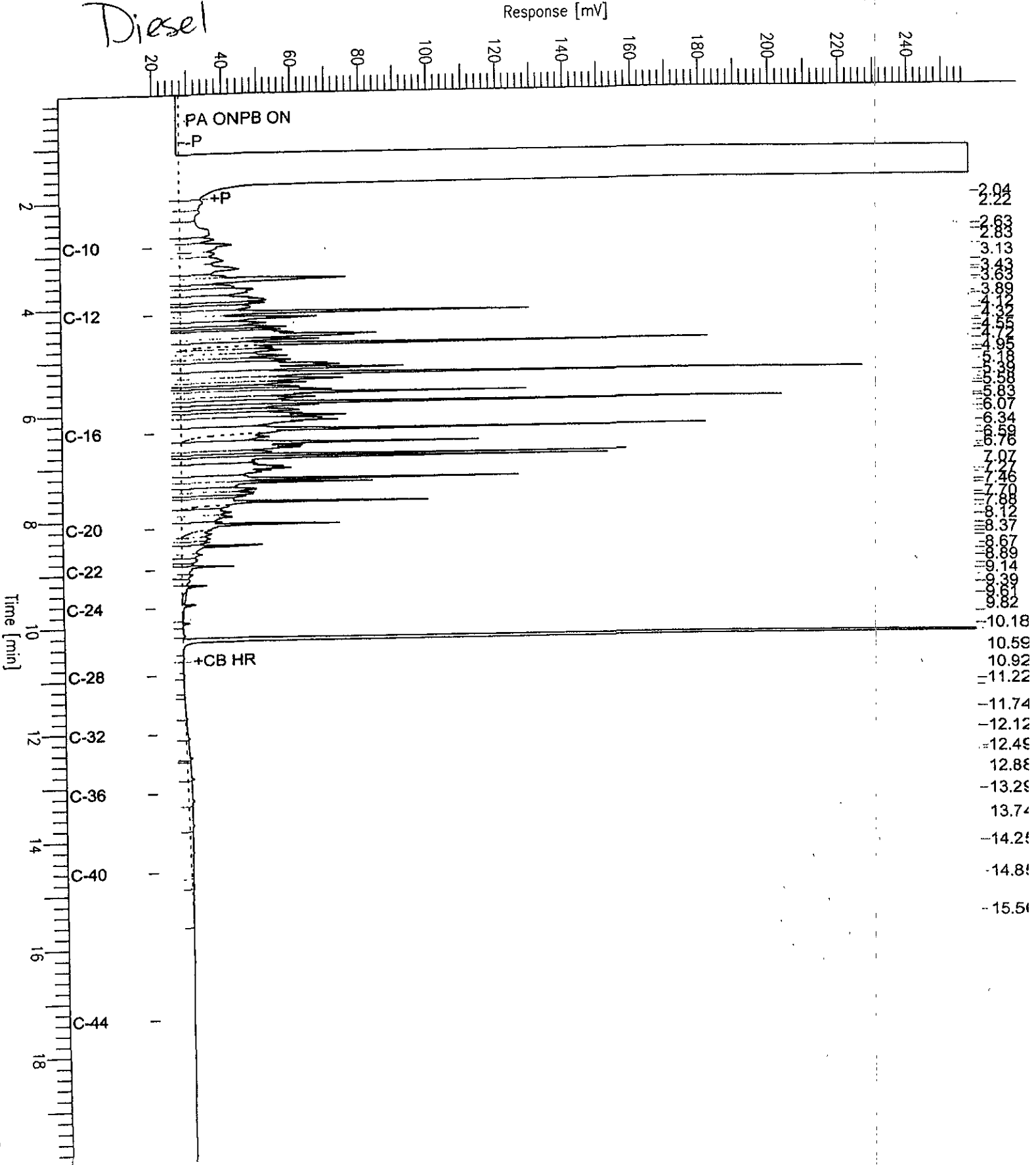
Chromatogram

Sample Name : ccv,04ws0894,dsl
 FileName : G:\GC13\CHB\161B003.RAW
 Method : BTEH160S.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

End Time : 19.99 min
 Plot Offset: 20 mV

Sample #: 500mg/L
 Date : 6/9/04 06:01 PM
 Time of Injection: 6/9/04 04:28 PM
 Low Point : 19.72 mV
 Plot Scale: 237.8 mV
 High Point : 257.57 mV

Diesel



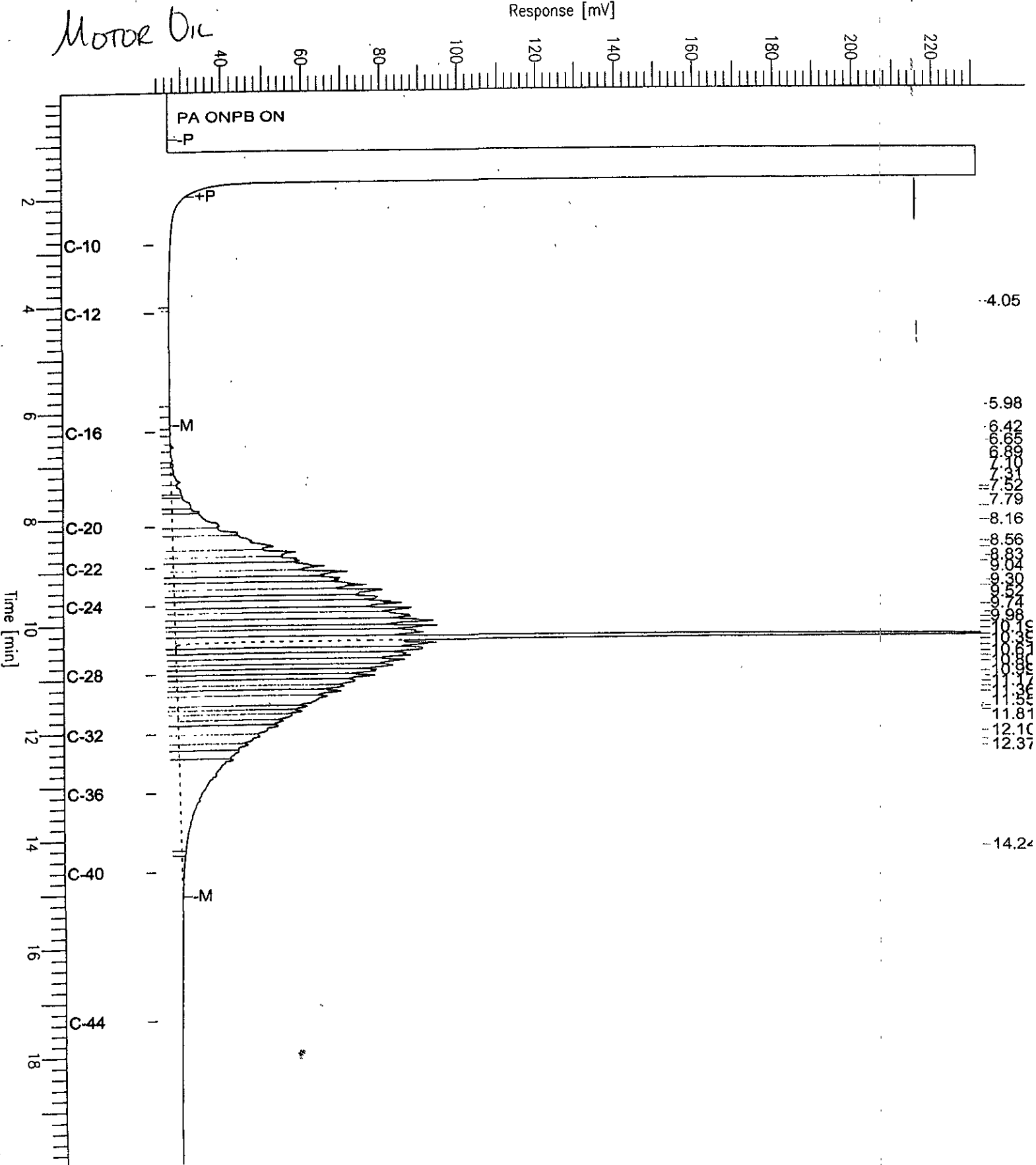
Chromatogram

Sample Name : ccv,04ws0958.mo
FileName : G:\GC13\CHB\161B004.RAW
Method : BTEH160S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 23 mV

Sample #: 500mg/L
Date : 6/9/04 06:01 PM
Time of Injection: 6/9/04 04:56 PM
Low Point : 23.39 mV
Plot Scale: 207.7 mV
High Point : 231.05 mV

Page 1 of 1



Batch QC Report

Total Extractable Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC253565	Batch#:	91790
Matrix:	Water	Prepared:	06/08/04
Units:	ug/L	Analyzed:	06/10/04

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	2,500	2,647	106	57-128

Surrogate	%REC	Limits
Hexacosane (SGCU)	124	53-142

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	172627	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	91790
MSS Lab ID:	172511-006	Sampled:	05/25/04
Matrix:	Water	Received:	05/26/04
Units:	ug/L	Prepared:	06/08/04
Diln Fac:	1.000	Analyzed:	06/10/04

Type: MS Cleanup Method: EPA 3630C
 Lab ID: QC253566

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	<35.00	2,500	2,065	83	47-139

Surrogate	%REC	Limits
Hexacosane (SGCU)	96	53-142

Type: MSD Cleanup Method: EPA 3630C
 Lab ID: QC253567

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24 (SGCU)	2,500	2,258	90	47-139	9	45

Surrogate	%REC	Limits
Hexacosane (SGCU)	110	53-142

RPD= Relative Percent Difference
 SGCU= Silica gel cleanup
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APPENDIX C
DAILY FIELD ACTIVITY REPORT

PROJECT NAME: Port of Oakland

DATE: 06/02/04

PROJECT NUMBER: 00-152.25

DAILY ACTIVITY REPORT

PAGE 1 OF 1

SITE LOCATION: 7th Street, Oakland, Ca

DESCRIPTION OF FIELD ACTIVITIES AND EVENTS

7:30 Pick up bottles and cooler at C&T in Berkeley

8:00 At site; buckets are cracked and leaking

8:30 At ACE Hardware to buy new buckets.

9:00 Purchase Ice and nylon strings

9:30 Back on site

9:45 Trailer is parked over well NW-8A, Requested tenant to move trailer.

10:00 Calibrate Horiba U-10, conductivity meter.

10:30 Sample NW-8A

11:15 Sample NW-4

11:20 Sample NW-4D

12:00 Sample NW-5

13:00 Sample NW-2

13:30 Monitor free product in NW-1 : FP = 8.26'
GW = 8.71'

Product Thickness = 0.45'

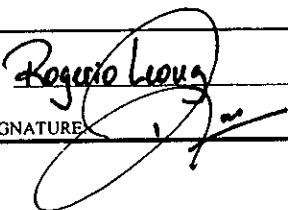
13:45 Monitor free product in NW-3 : FP = 10.03'
GW = 11.35'

Product Thickness = 1.32'

14:30 Drop cooler and relax samples at C&T lab.

15:30 Return Horiba U-10 at EQUIPCO, Concord.

PREPARED BY:



DATE: 06/02/04

PREPARER'S SIGNATURE