PORT OF OAKLAND

January 12, 2004

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

RE: 4th Quarter 2003, 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 first 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.)

Innovative Technical Solutions, Inc.

January 08, 2004

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

Fourth Quarter of 2003 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 destroyed[1] 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 Port Field Support Services Complex (PFSSC) 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 PFSSC. 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 PFSSC 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). Field notes of well adjustment activities are noted in the Daily Field Activity Reports included as Appendix C. A copy of the survey report stamped and signed by PLS with new elevation data is included as Appendix D.

GROUNDWATER MONITORING

ITSI personnel performed groundwater monitoring and sampling at the 2277 7th Street site on November 26, 2003. Prior to purging and sampling the monitoring wells, ITSI measured the depth to groundwater below the top of the well casing with a water level indicator. After measuring the depth to water, ITSI purged the wells using a disposable bailer. Conductivity, pH, and temperature were monitored periodically during purging. ITSI collected the groundwater samples 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 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 fourth quarter 2003 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 November 26, 2003. 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 November 2003 is consistent with the historic flow direction reported in the previous reports.

Results of the November 26, 2003 groundwater sampling at 2277 7th Street are summarized below:

- TPHg was detected in one well at a concentration of 160 µg/L in MW-4. The laboratory, however, reported that the result is based on an analyte with chromatographic pattern that does not resemble the chromatographic pattern of a gasoline standard.

- Benzene was detected in one monitoring wells at a concentration of 320 µg/L in MW-4.
- Toluene was detected in one well at a concentration of 0.91 µg/L in MW-4.
- Ethylbenzene was not detected above the reporting limit in any of the wells sampled this quarter.
- Total xylenes was detected in one monitoring well at a concentration of 0.53 µg/L in MW-4.
- MTBE was detected in one well at a concentration of 4.1 µg/L in MW-5 using EPA method 8021B. However, the same sample was not detected above the reporting limit using confirmation by EPA method 8260B.
- TPHd was detected in two wells at concentrations of 68 µg/L in MW-4 and 94 µg/L in MW-8A, respectively. Both results, however, were qualified as based on analytes with chromatographic patterns that do not resemble the chromatographic pattern of a diesel 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 November 26, 2003 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 relative percent difference (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 7th St. MW-4 11/26/03	ANALYTE	X_1	X_2	RPD
	MTBE	<2.0	<2.0	--
	B	320	210	41.51%
	T	0.91	0.66	31.85%
	E	<0.5	<0.5	--
	X	0.53	0.50	5.83%
	TPHd	68	50	30.51%
	TPHg	160	120	28.57%

- The relative percent difference between the analytical results from MW-4 and its duplicate sample MW-4D ranged from 5.83% to 41.51%. 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 the activities related to the construction of the new PFSSC facility at the site. 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.

The free-phase petroleum product has been monitored in wells MW-1 and MW-3 on a quarterly basis during the quarterly groundwater sampling event. Free-phase petroleum product was measured at 0.40 feet and 2.06 feet in MW-1 and MW-3, respectively, this quarter.

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

REGISTERED GEOLOGIST
JEFFREY D. HESS
No. 4776
Exp. 4/04
STATE OF CALIFORNIA

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, November 26, 2003
Figure 4 – Groundwater Sample Results, 2277 7th Street, November 26, 2003

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
Appendix D – Survey 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
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
	17.21	11/26/2003	12.01	5.20

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
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

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]
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
		9/28/1999	--	--	0.2	--	active skimmer
		10/29/1999	--	--	--	125[2]	active skimmer
		11/12/1999	9.14	9.23	0.09	--	active skimmer
		1/28/2000	--	--	--	135	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	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
		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

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	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]
	16.18 [9]	11/26/2003	10.79	12.85	2.06	--	[7]
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 [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
	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
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

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	12/31/97	73 [1,2,3]	<47	<280	110 [1]	1.0 [1]	<0.5	<1.0	NA
(cont'd)	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
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

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

Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/1)	TPHmo (µg/1)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/1)	MTBE (µg/1)
MW-5	06/24/99	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	3.1
(cont'd)	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]
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							

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

Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/1)	TPHmo (µg/1)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/1)	MTBE (µg/1)
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]
	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]
	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							
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

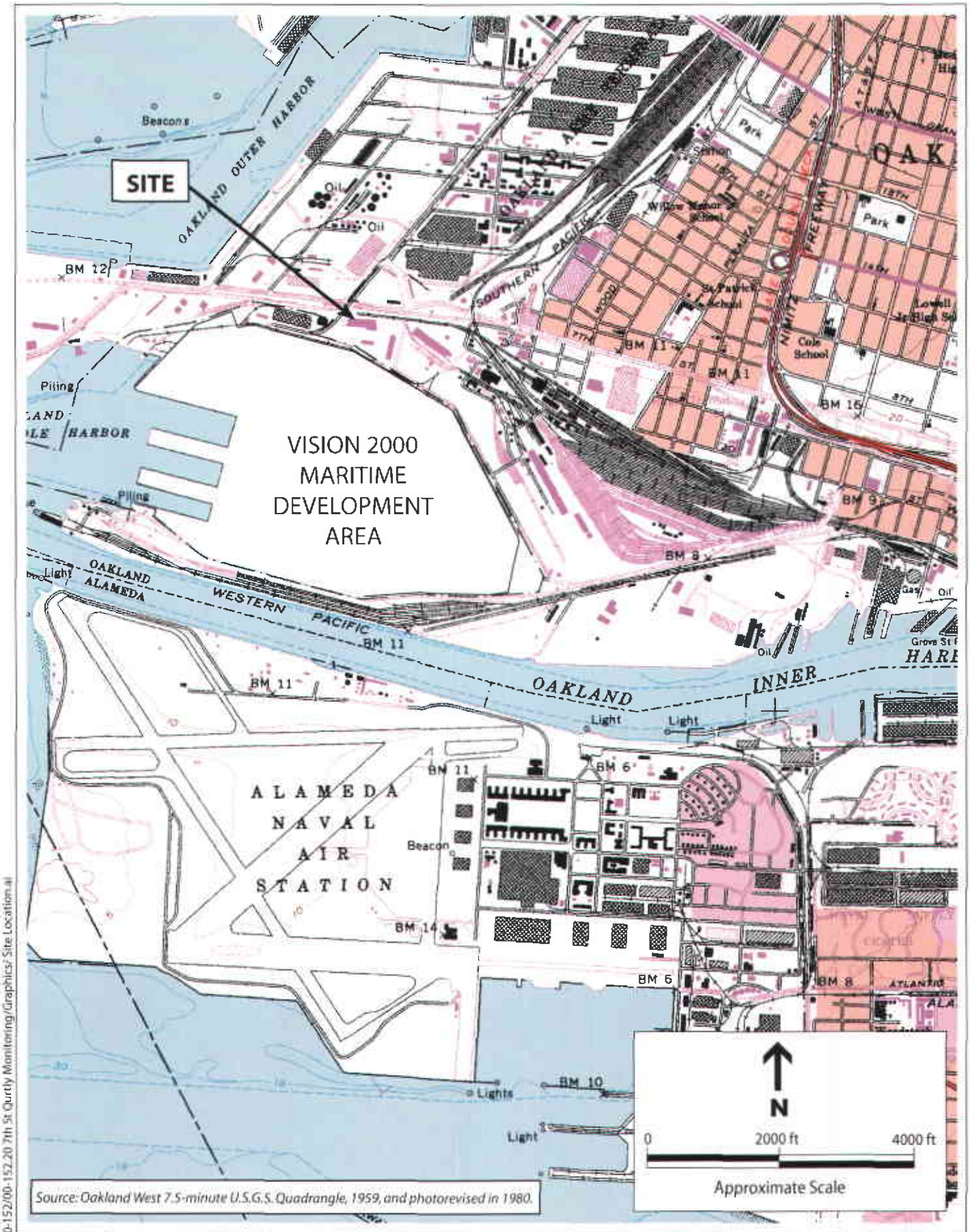
Table 3
Groundwater Sample Results
Port of Oakland, 2277 7th Street, Oakland California

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)

[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
- 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 7 th 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



Projects/2000/00-152/00-152.20 7th St Qurtly Monitoring/Graphics/ Site Location.ai

ITSI Innovative Technical Solutions, Inc.

Port of Oakland
2225 and 2277 Seventh Street
Oakland, California

Figure 1
Site Location Map

N81°53'14"W

MW-8A

MW-4

C-401

MW-2

MW-1

MW-3

MW-5

2277 7TH STREET

2225 7TH STREET

PROPERTY BOUNDARY LINE

Future Port Field Support Services Building

MARITIME STREET

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.

N

0 100 200

SCALE IN FEET

Projects/06-152 Port of Oakland/06-152 20 7th Street/Graphics/CAD/Qtr 12-03 Site Plan.dwg

Innovative Technical Solutions, Inc.

Fourth Quarter 2003, Quarterly Groundwater Monitoring and Product Recovery
2277 Seventh Street
Oakland, California

Figure 2
Site Plan

N81°53'14"W

MW-8A
(4.39)

MW-4
(4.46)

4.5

5.0

5.5

6.0

C-401

MW-2
(5.20)

MW-1
(FP)

MW-3
(FP)

MW-5
(6.79)

2277 7TH STREET

2225 7TH STREET

PROPERTY
BOUNDARY
LINE

Future Port Field
Support Services
Building

MARITIME STREET

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.
- (5.20) Groundwater Elevation measured on November 26, 2003.
- FP Fuel Product

N

0 100 200

SCALE IN FEET

CAD GIS Stations\00-152 Port of Oakland\00-152 20 7th Street\Qtr 12-03 Contwtr Elev.dwg

ITSI Innovative Technical Solutions, Inc.

Fourth Quarter 2003, Quarterly Groundwater Monitoring and Product Recovery
2277 Seventh Street
Oakland, California

Figure 3
Groundwater Elevations
November 26, 2003

N81°53'14"W

TPHg 160Y
TPHd 68Y
TPHmo ND<300
B 320
T 0.91C
E ND<0.5
X ND<0.53
MTBE ND<2.0

MW-4

TPHg ND<50
TPHd 94Y
TPHmo ND<300
B ND<0.5
T ND<0.5
E ND<0.5
X ND<0.5
MTBE ND<2.0

MW-8A

C-401

TPHg ND<50
TPHd ND<50
TPHmo ND<300
B 3.0
T ND<0.5
E ND<0.5
X ND<0.5
MTBE ND<2.0

MW-1
FP

MW-2

MW-3
FP

MW-5

TPHg ND<50
TPHd ND<50
TPHmo ND<300
B ND<0.5
T ND<0.5
E ND<0.5
X ND<0.5
MTBE 4.1/ND<0.5*

2277 7TH STREET

2225 7TH STREET

PROPERTY
BOUNDARY
LINE

Future Port Field
Support Services
Building

MARITIME STREET

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.

FP	Presence of Free Product in Well.
TPHg	Total Petroleum Hydrocarbon as gasoline.
TPHd	Total Petroleum Hydrocarbon as Diesel.
TPHmo	Total Petroleum Hydrocarbon as Motor Oil.
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylene
MTBE	Methyl t-butyl ether
ND	Not Detected

Results are reported in micrograms per liter.

* = MTBE By EPA Method 8206B confirmation analysis.

Y = sample exhibits chromotographic pattern which does not resemble standard.

C = presence confirmed, but RPD between columns exceeds 40%

N

0 100 200

SCALE IN FEET

Projects\00-152 Port of Oakland\00-152.20 7th Street\Graphics\CAD\Dlr 12-03 Gnwtr Samples.dwg

ITSI Innovative Technical Solutions, Inc.

Fourth Quarter 2003, Quarterly *Groundwater* Monitoring and Product Recovery
2277 Seventh Street
Oakland, California

Figure 4
Groundwater Sample Results
November 26, 2003

APPENDIX A

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

Innovative Technical Solutions, Inc.

MONITORING WELL WATER LEVEL MEASUREMENT FORM

PROJECT NAME: 2277 7th Street PROJECT NO.: 00-152.25

MEASURED BY: R. Leong DATE: 11/26/2003

Monitoring Well ID	Depth to Water (feet)	Total Well Depth (feet)	Time
MW-2	12.01	17.90	9:35
MW-4	8.69	18.77	11:12
MW-5	6.70	16.84	10:30
MW-6	Well was destroyed on December 18, 2002		
MW-7	Well was destroyed on December 18, 2002		
MW-8A	8.55	20.45	11:55

ITSI Innovative Technical Solutions, Inc.

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: Port of Oakland – 2277 7th Street PROJECT NO.: 00-152.25

WELL NO.: MW-2 TESTED BY: R. LEONG DATE: 11/26/2003

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 12.01

Total Well Depth (ft.): 17.90 Purge Method: Disposable Bailer

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

Time Start Purge: 9:30 Time End Purge: 10:05

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		
	17.90		12.01		5.89		0.16	0.64	1.44		0.94

Time	9:40	9:45	9:50	9:55	10:00	10:05	
Cumulative Volume Purged (gals)	0.5	1.0	1.5	2.0	2.5	3.0	
Cumulative Number of Casing Volumes	0.5	1.0	1.5	2.0	2.5	3.0	
Temperature (F°/C°)	19.4	19.3	20	20.8	20.9	21.1	
pH	6.68	6.81	6.93	6.94	6.93	6.93	
Specific Conductivity (mS/cm)	2.44	2.44	2.45	2.45	2.46	2.45	
Turbidity (NTU)	0	0	0	10	17	24	

WELL SAMPLING

Sampling Time: 10:15 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

ITSI Innovative Technical Solutions, Inc.

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: Port of Oakland – 2277 7th Street PROJECT NO.: 00-152.25

WELL NO.: MW-4 TESTED BY: R. Leong DATE: 11/26/2003

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 8.69

Total Well Depth (ft.): 18.77 Purge Method: Disposable Bailer

Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): 0.80

Time Start Purge: 11:16 Time End Purge: 11:21

Comments : Groundwater has slight hydrocarbon odor

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		
	18.77		8.69		10.08		0.16	0.64	1.44		1.60

Time	11:16	11:17	11:18	11:19	11:20	11:21	
Cumulative Volume Purged (gals)	0.8	1.6	2.4	3.2	4.0	4.8	
Cumulative Number of Casing Volumes	0.5	1	1.5	2	2.5	3.0	
Temperature (F°(C°))	20	20.4	21.0	21.5	21.0	21.0	
pH	6.98	6.92	6.94	6.95	6.95	6.96	
Specific Conductivity (mS/cm)	1.59	1.55	1.60	1.64	1.65	1.65	
Turbidity (NTU)	19	34	36	38	40	43	

WELL SAMPLING

Sampling Time: 11:30 Sampling Method: Disposable Bailer

Duplicate Sample & Time: MW-4D @ 11:35

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab
MW-4	2 (1 L Amber)	TPHd, TPHmo	none	C&T
MW-4D	2 (1 L Amber)	TPHd, TPHmo	none	C&T
MW-4	5 voas	TPHg, MTBE, BTEX	HCL	C&T
MW-4D	5 voas	TPHg, MTBE, BTEX	HCL	C&T

Innovative Technical Solutions, Inc.

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: Port of Oakland – 2277 7th Street PROJECT NO.: 00-152.25

WELL NO.: MW-5 TESTED BY: R. LEONG DATE: 11/26/2003

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 6.70

Total Well Depth (ft.): 16.84 Purge Method: Disposable Bailer

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

Time Start Purge: 10:30 Time End Purge: 10:39

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		
	16.84	-	6.70	=	10.14	x	0.16	0.64	1.44	=	1.60

Time	10:32	10:33	10:35	10:37	10:39		
Cumulative Volume Purged (gals)	1.0	1.5	2.5	3.5	4.8		
Cumulative Number of Casing Volumes	<1	~1	<2	~2	3		
Temperature (F/C°)	18.2	20.6	20.6	21.1	21.1		
pH	7.31	7.04	7.16	7.03	7.05		
Specific Conductivity (mS/cm)	1.79	2.20	2.15	1.96	2.00		
Turbidity (NTU)	22	62	40	24	29		

WELL SAMPLING

Sampling Time: 11:00 Sampling Method: Disposable Bailer

Duplicate Sample & Time: NONE

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

Innovative Technical Solutions, Inc.

MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME: Port of Oakland – 2277 7th Street PROJECT NO.: 00-152.25

WELL NO.: MW-8A TESTED BY: R LEONG DATE: 11/26/2003

WELL PURGING

Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.): 8.55

Total Well Depth (ft.): 20.45 Purge Method: Disposable Bailer

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

Time Start Purge: 11:55 Time End Purge: 12:07

Comments :

Well Volume Calculation (fill in before purging)	Total Depth (ft)		Depth to Water (ft)		Water Column (ft)		Multiplier for Casing Diameter (in)				Casing Volume (gal)
							2	4	6		
	20.45	-	8.55	=	11.90	x	0.16	0.64	1.44	=	1.9

Time	11:57	11:59	12:01	12:03	12:05	12:07	
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°))	20.2	20.0	19.9	20.0	20.1	20.1	
pH	7.16	7.16	7.16	7.16	7.16	7.16	
Specific Conductivity (mS/cm)	2.97	3.05	3.10	3.05	2.97	2.96	
Turbidity (NTU)	>999	580	167	671	999	>999	

WELL SAMPLING

Sampling Time: 12:15 Sampling Method: Disposable Bailer

Duplicate Sample & Time: NONE

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

APPENDIX B

LABORATORY REPORTS

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

ANALYTICAL REPORT

Prepared for:

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

Date: 18-DEC-03
Lab Job Number: 169123
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: _____ for AMP
Project Manager

Reviewed by: _____
Operations Manager

RECEIVED
DEC 29 2003

Chain-Of-Custody

Innovative Technical Solutions, Inc.
2730 Shadelands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 – (925) 256-8998 (fax)

Local Address: 2277 7th Street, Oakland, California

Project Name and Number: Port of Oakland / 00-152.25
Project Manager: Rachel Hess
Site Location: 2277 7th Street, Oakland, ca

Laboratory Name: Curtis & Tompkins
Address: 2323 5th Street, Berkeley, California
Contact Name: John Gofette
Phone: (510) 486-0900

Date: 11/26/03
Page: 1 of 1

Sample I.D.	Date	Time	Sample Depth	No. of Containers	Sample Matrix	TPHd by 8015B	TPHmo by 8015B	TPHg by 8015B	BTEX & MTBE by 8021B	MTBE Confirmation by 8260B						Special Instructions/Comments
Analysis:																Silica Gel Clean up for TPHd, mo
Preservative:						-	-	HCl	HCl	HCl						
Container Type:						1Lt Amber	1Lt Amber	Voa	Voa	Voa						
1 Trip Blank	11/26/03	8:00	-	2	H2O			X	X	X						
2 MW-2		10:15	15.0			X	X	X	X	X						
3 MW-4		11:30	15.0			X	X	X	X	X						
4 MW-11D		11:35	15.0			X	X	X	X	X						
5 MW-5		11:00	15.0			X	X	X	X	X						
6 MW-8A		12:15	15.0			X	X	X	X	X						

Received: On ice: Cold / Ambient / Intact

Sampled By: Rogerio Leong
Signature:
Special Instructions: Direct Bill Port of Oakland
Contact Jeff Rubin @ (510) 627-1134
Send Results to: Rachel Hess (ITSI)
(w/fax #) (925) 256 8993
Turnaround Time: Standard

Courier/Airbill No.: N/A

Relinquished By/Affiliation:	Date:	Time:	Received By/Affiliation:	Date:	Time:
Rogerio Leong / ITSI	11/26/03	13:25		11/26/03	1:20pm

ITSI 5/02

RECEIVED
DEC 29 2003

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25		
Matrix:	Water	Sampled:	11/26/03
Units:	ug/L	Received:	11/26/03
Diln Fac:	1.000	Analyzed:	12/01/03
Batch#:	86553		

Field ID: TRIP BLANK
Type: SAMPLE
Lab ID: 169123-001

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	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)	104	57-150	8015B
Bromofluorobenzene (FID)	112	65-144	8015B
Trifluorotoluene (PID)	81	54-149	EPA 8021B
Bromofluorobenzene (PID)	85	58-143	EPA 8021B

Field ID: MW-2
Type: SAMPLE
Lab ID: 169123-002

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	3.0	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)	106	57-150	8015B
Bromofluorobenzene (FID)	114	65-144	8015B
Trifluorotoluene (PID)	82	54-149	EPA 8021B
Bromofluorobenzene (PID)	87	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25		
Matrix:	Water	Sampled:	11/26/03
Units:	ug/L	Received:	11/26/03
Diln Fac:	1.000	Analyzed:	12/01/03
Batch#:	86553		

Field ID: MW-4 Lab ID: 169123-003
Type: SAMPLE

Analyte	Result	RL	Analysis
Gasoline C7-C12	160 Y	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	320	0.50	EPA 8021B
Toluene	0.91 C	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	0.53	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	114	57-150	8015B
Bromofluorobenzene (FID)	111	65-144	8015B
Trifluorotoluene (PID)	88	54-149	EPA 8021B
Bromofluorobenzene (PID)	86	58-143	EPA 8021B

Field ID: MW-4D Lab ID: 169123-004
Type: SAMPLE

Analyte	Result	RL	Analysis
Gasoline C7-C12	120 Y	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	210	0.50	EPA 8021B
Toluene	0.66 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)	113	57-150	8015B
Bromofluorobenzene (FID)	111	65-144	8015B
Trifluorotoluene (PID)	85	54-149	EPA 8021B
Bromofluorobenzene (PID)	85	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

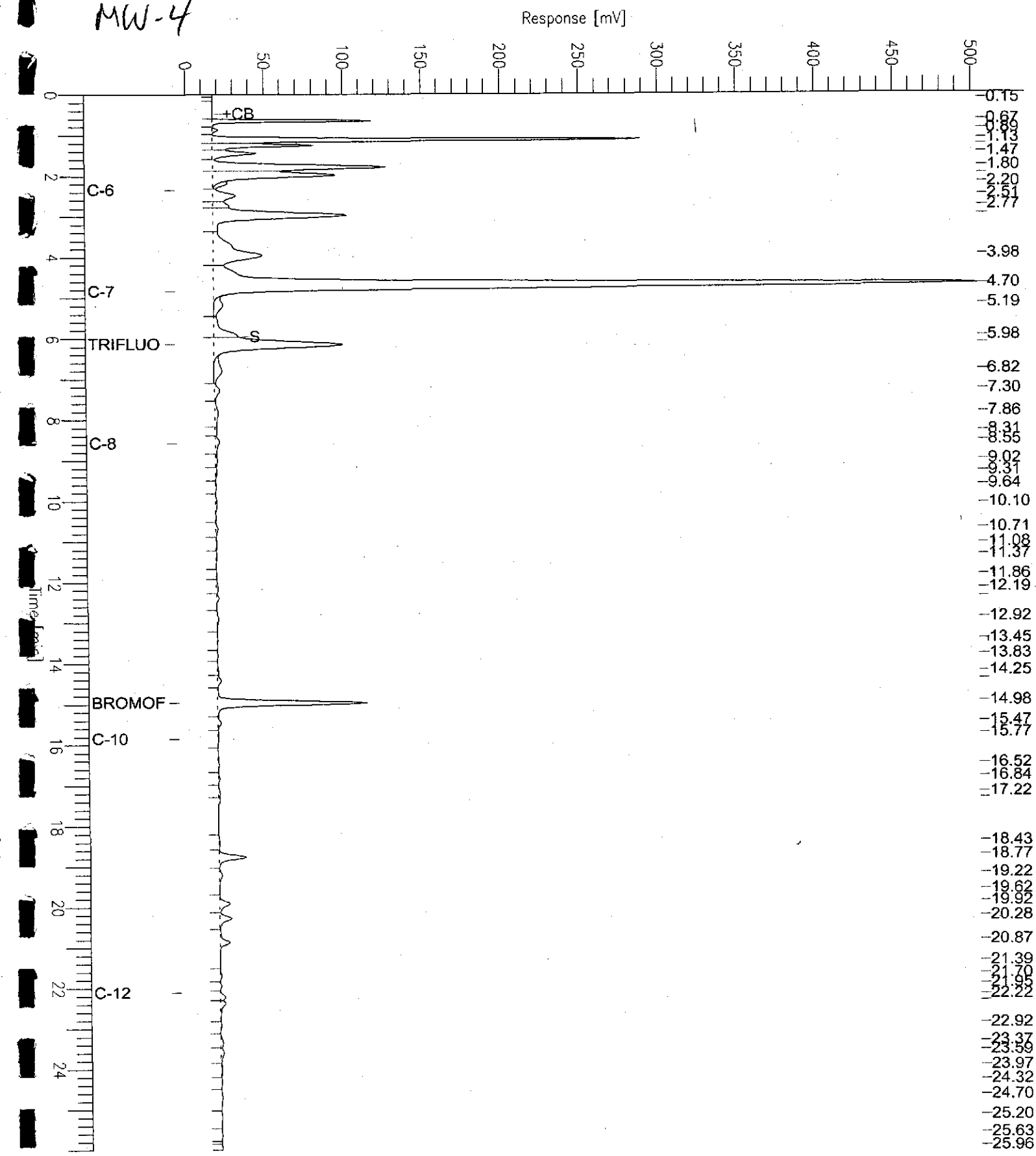
GC07 TVH 'A' Data File RTX 502

RECEIVED
DEC 29 2003

Sample Name : 169123-003,86553
FileName : G:\GC07\DATA\335A005.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: -7 mV

Sample #: a1.0 Page 1 of 1
Date : 12/2/03 09:22 AM
Time of Injection: 12/1/03 12:35 PM
Low Point : -7.01 mV High Point : 503.65 mV
Plot Scale: 510.7 mV

MW-4



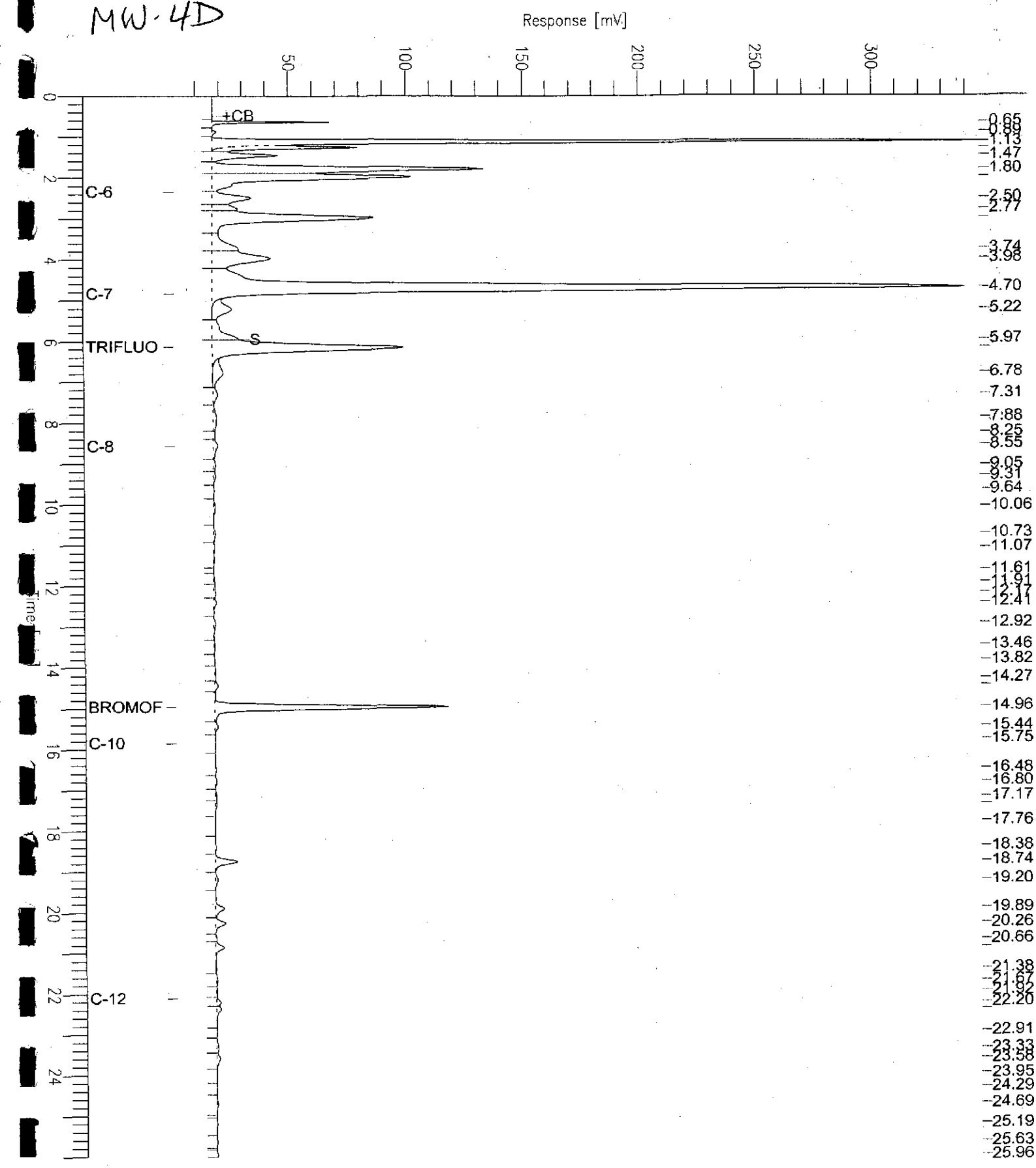
GC07 TVH 'A' Data File RTX 502

Sample Name : 169123-004,86553
FileName : G:\GC07\DATA\335A006.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 1 mV

Sample #: a1.0
Date : 12/2/03 09:22 AM
Time of Injection: 12/1/03 01:17 PM
Low Point : 0.90 mV High Point : 346.23 mV
Plot Scale: 345.3 mV

DEC 29 2003

MW-4D



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25		
Matrix:	Water	Sampled:	11/26/03
Units:	ug/L	Received:	11/26/03
Diln Fac:	1.000	Analyzed:	12/01/03
Batch#:	86553		

Field ID: MW-5 Lab ID: 169123-005
Type: SAMPLE

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	4.1	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)	102	57-150	8015B
Bromofluorobenzene (FID)	109	65-144	8015B
Trifluorotoluene (PID)	80	54-149	EPA 8021B
Bromofluorobenzene (PID)	84	58-143	EPA 8021B

Field ID: MW-8A Lab ID: 169123-006
Type: SAMPLE

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	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)	106	57-150	8015B
Bromofluorobenzene (FID)	112	65-144	8015B
Trifluorotoluene (PID)	83	54-149	EPA 8021B
Bromofluorobenzene (PID)	87	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25		
Matrix:	Water	Sampled:	11/26/03
Units:	ug/L	Received:	11/26/03
Diln Fac:	1.000	Analyzed:	12/01/03
Batch#:	86553		

Type: BLANK Lab ID: QC233687

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	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)	103	57-150	8015B
Bromofluorobenzene (FID)	108	65-144	8015B
Trifluorotoluene (PID)	79	54-149	EPA 8021B
Bromofluorobenzene (PID)	84	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

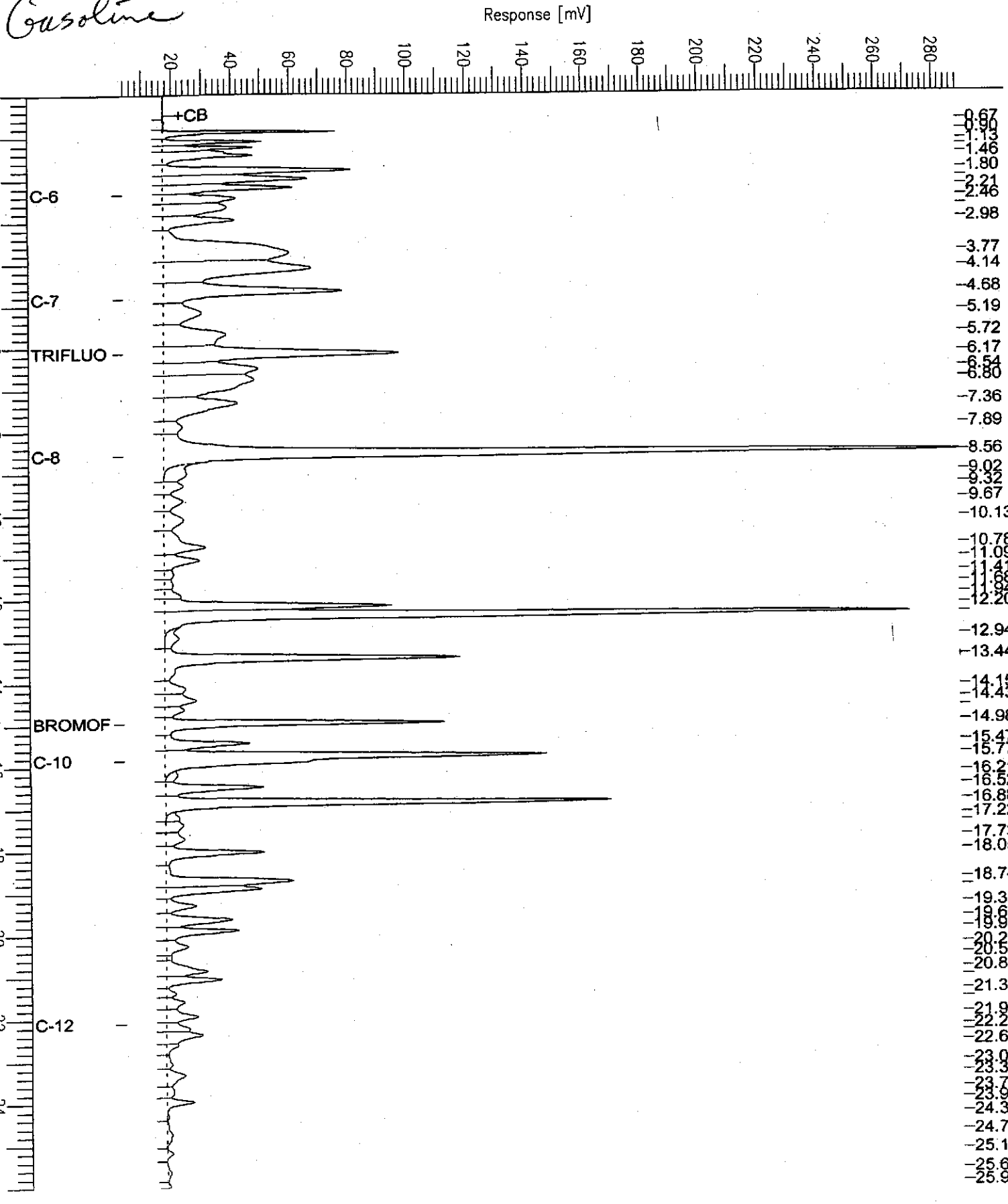
1.1

GC07 TVH 'A' Data File RTX 502

Sample Name : ccv/lcs,qc233689,86553,03ws1767,5/5000
FileName : G:\GC07\DATA\335A002.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 4 mV

Sample #:
Date : 12/1/03 11:07 AM
Time of Injection: 12/1/03 10:41 AM
Low Point : 3.87 mV High Point : 288.05 mV
Plot Scale: 284.2 mV

Gasoline



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	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:	QC233688	Batch#:	86553
Matrix:	Water	Analyzed:	12/01/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA		
MTBE	20.00	17.28	86	63-133
Benzene	20.00	21.63	108	78-123
Toluene	20.00	20.37	102	79-120
Ethylbenzene	20.00	20.41	102	80-120
m,p-Xylenes	40.00	42.17	105	76-120
o-Xylene	20.00	20.42	102	80-121

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		78	54-149
Bromofluorobenzene (PID)		82	58-143

NA= Not Analyzed

Curtis & Tompkins, Ltd.

DEC 29 '03

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions, Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC233689	Batch#:	86553
Matrix:	Water	Analyzed:	12/01/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,021	101	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		118	57-150
Bromofluorobenzene (FID)		111	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

3.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	86553
MSS Lab ID:	169134-001	Sampled:	11/26/03
Matrix:	Water	Received:	11/26/03
Units:	ug/L	Analyzed:	12/01/03
Diln Fac:	1.000		

Type: MS Lab ID: QC233704

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	8.729	2,000	1,968	98	76-120
MTBE			NA		
Benzene			NA		
Toluene			NA		
Ethylbenzene			NA		
m,p-Xylenes			NA		
o-Xylene			NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		122	57-150
Bromofluorobenzene (FID)		116	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

Type: MSD Lab ID: QC233705

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,971	98	76-120	0	20
MTBE		NA				
Benzene		NA				
Toluene		NA				
Ethylbenzene		NA				
m,p-Xylenes		NA				
o-Xylene		NA				

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		119	57-150
Bromofluorobenzene (FID)		114	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	11/26/03
Units:	ug/L	Received:	11/26/03
Diln Fac:	1.000	Prepared:	11/28/03
Batch#:	86541	Analyzed:	12/02/03

Field ID: MW-2 Lab ID: 169123-002
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	90	44-146

Field ID: MW-4 Lab ID: 169123-003
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	68 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	106	44-146

Field ID: MW-4D Lab ID: 169123-004
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	82	44-146

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

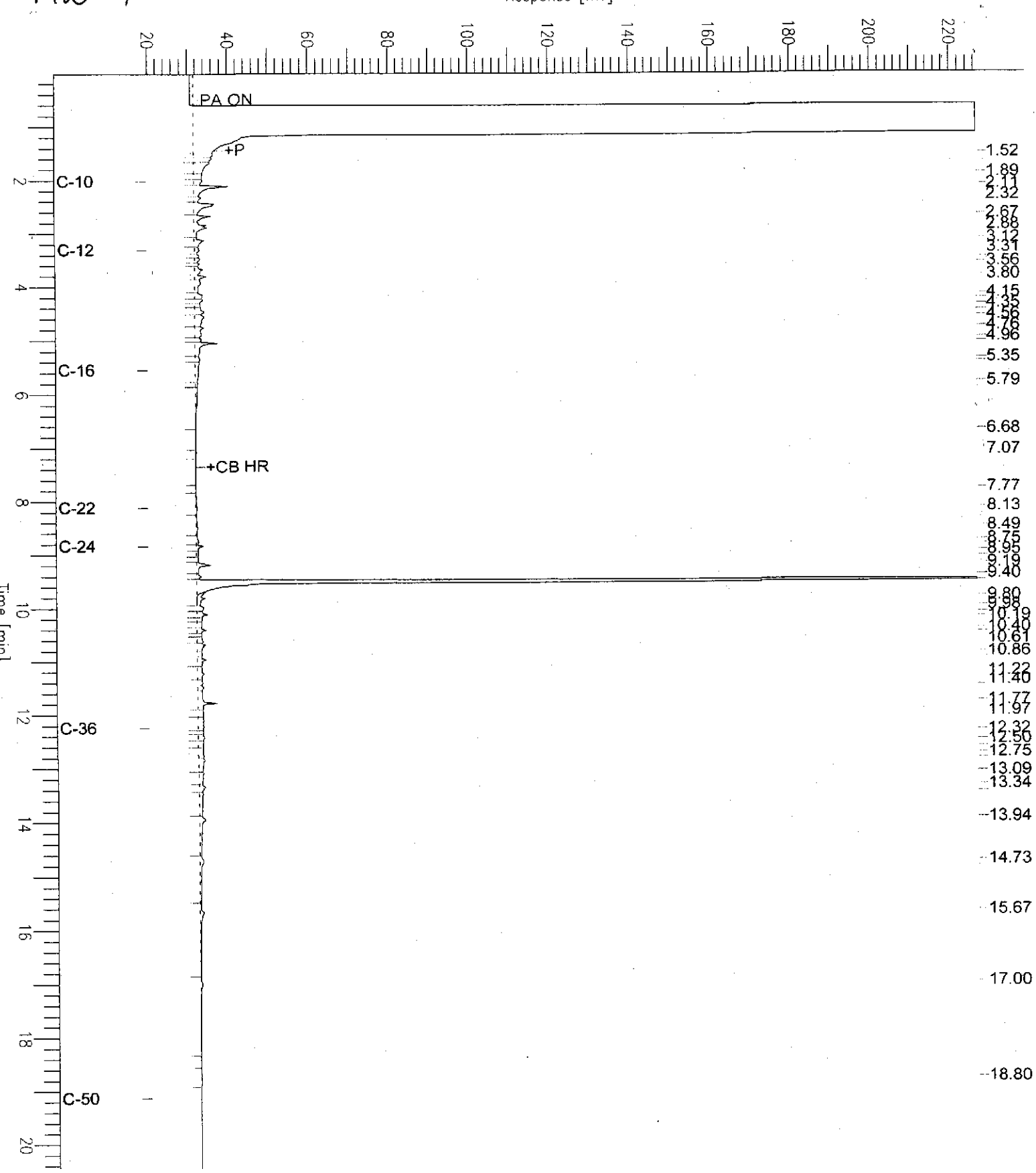
5.0

Chromatogram

Sample Name : 169123-003sg,86541
FileName : G:\GC11\CHA\335A038.RAW
Method : ATEH328S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 20 mV

Sample #: 86541
Date : 12/2/03 09:45 AM
Time of Injection: 12/2/03 05:53 AM
Low Point : 19.76 mV High Point : 226.62 mV
Plot Scale: 206.9 mV

MW-4



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	11/26/03
Units:	ug/L	Received:	11/26/03
Diln Fac:	1.000	Prepared:	11/28/03
Batch#:	86541	Analyzed:	12/02/03

Field ID: MW-5 Lab ID: 169123-005
Type: SAMPLE Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane	121	44-146

Field ID: MW-8A Lab ID: 169123-006
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	94 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	82	44-146

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC233643

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

Surrogate	%REC	Limits
Hexacosane	68	44-146

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

5.0

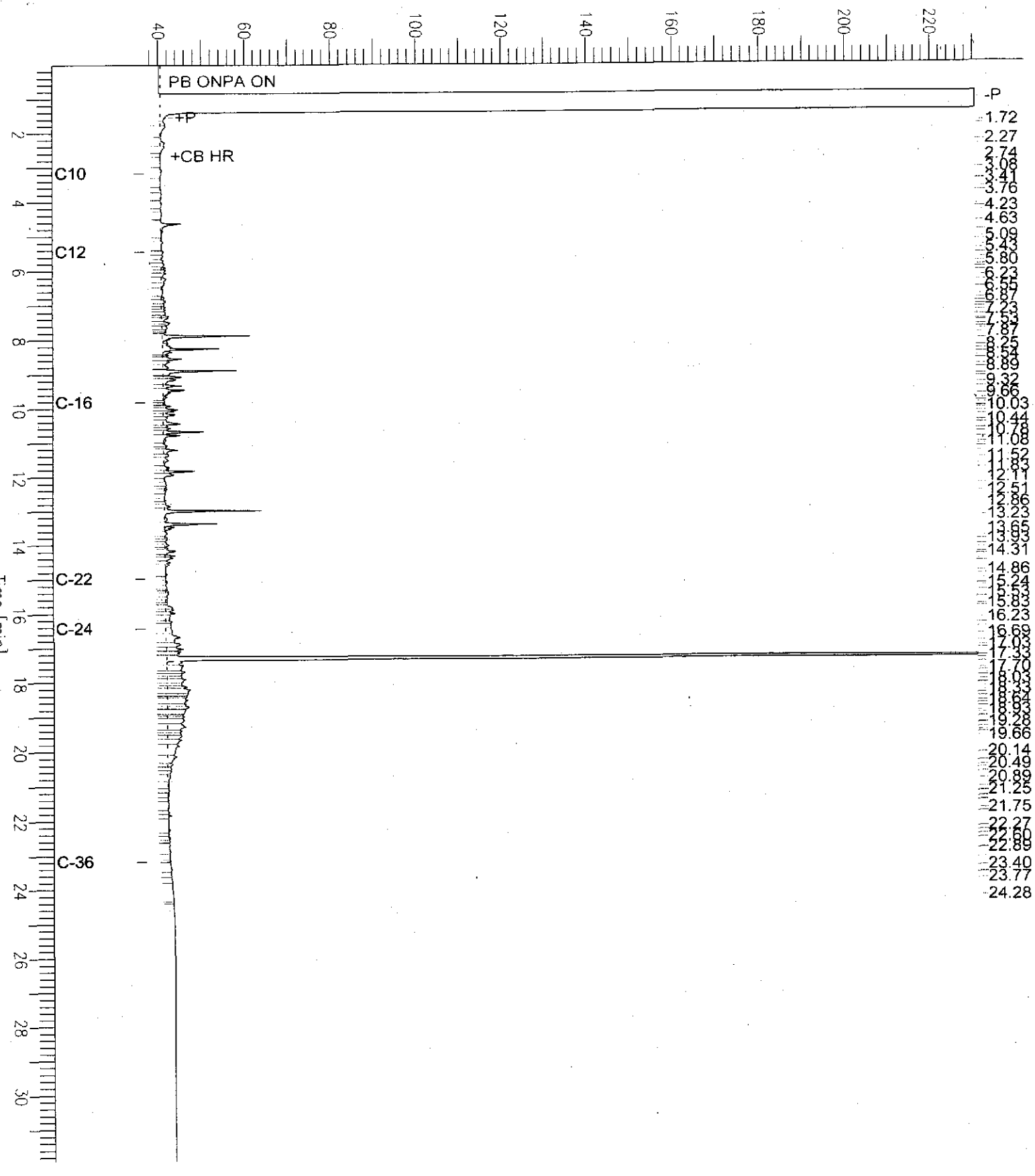
Chromatogram

[redacted]

Sample Name : 169123-006sg,86541
FileName : G:\GC15\CHB\335B021.RAW
Method : BTEH320.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 37 mV

Sample #: 86541 Page 1 of 1
Date : 12/2/03 11:01 AM
Time of Injection: 12/2/03 02:23 AM
Low Point : 36.90 mV High Point : 230.53 mV
Plot Scale: 193.6 mV

MW-8A

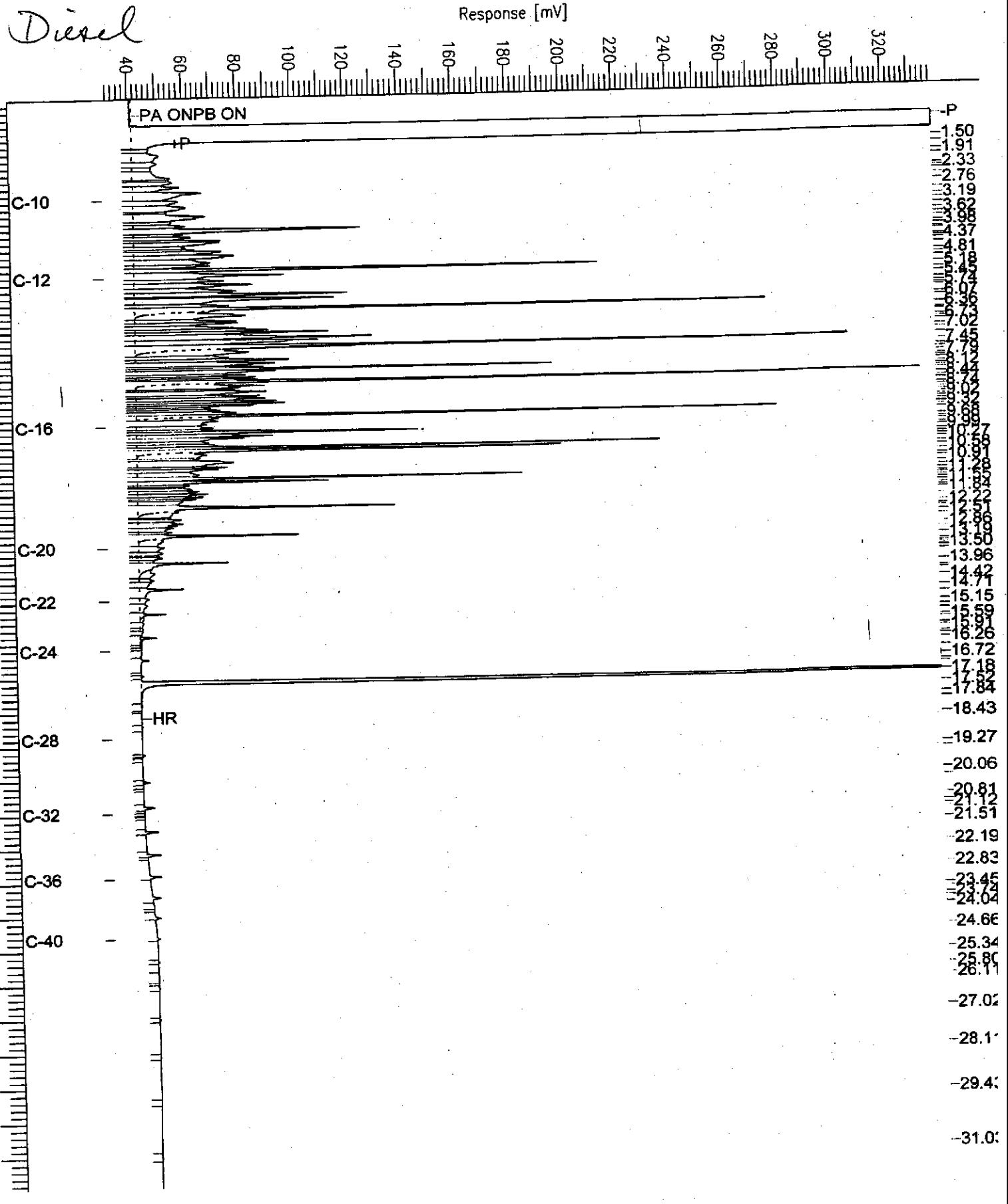


Chromatogram

Sample Name : ccv,03ws1851,dsl
FileName : G:\GC13\CHB\334B003.RAW
Method : BTEH316.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 30 mV

Sample #: 500mg/L
Date : 11/30/03 05:45 PM
Time of Injection: 11/30/03 04:49 PM
Low Point : 30.13 mV High Point : 339.00 mV
Plot Scale: 308.9 mV

Diesel

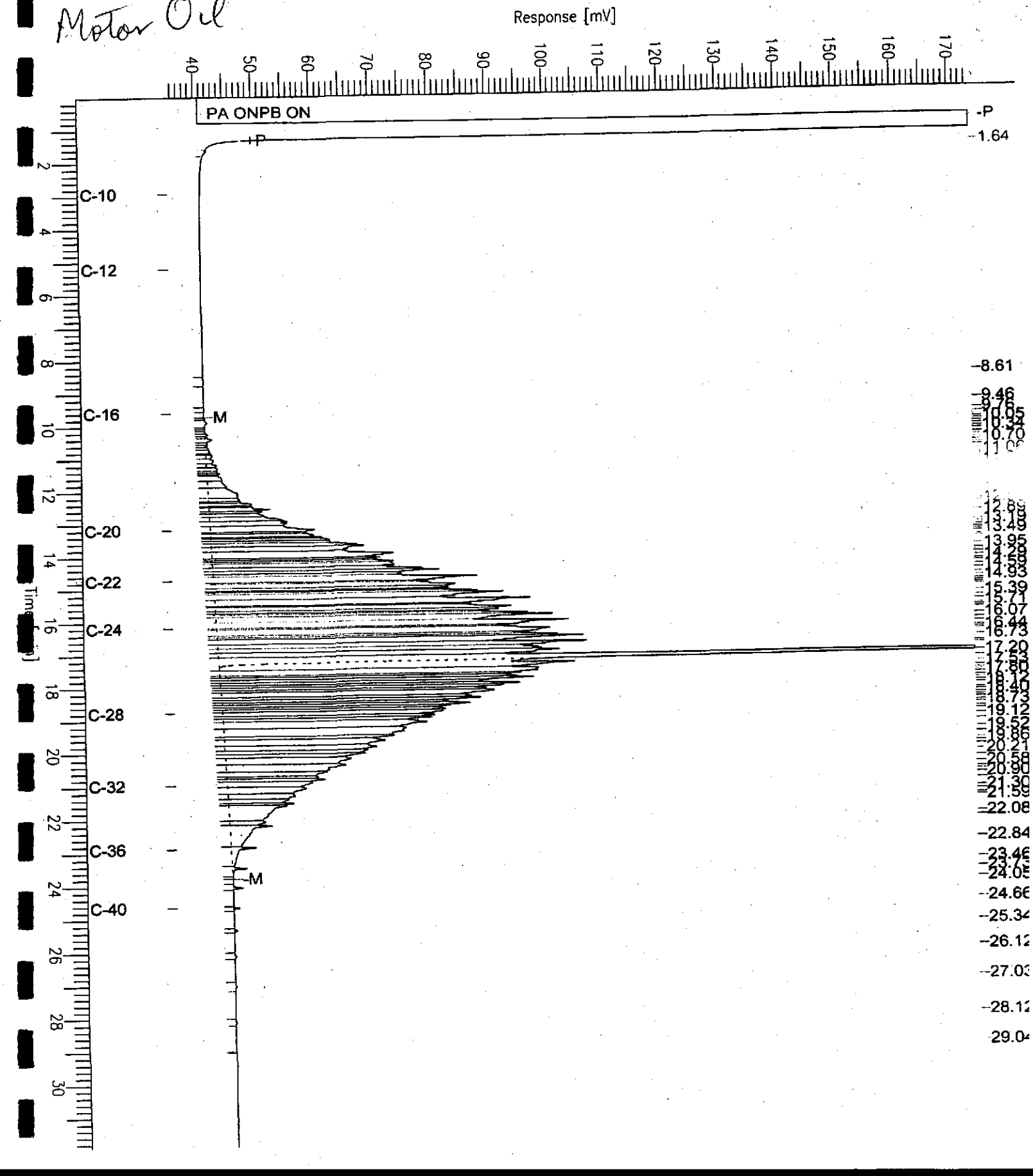


Chromatogram

Sample Name : ccv,03ws1852,mo
FileName : G:\GC13\CHB\334B004.RAW
Method : BTEH316.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 35 mV

Sample #: 500mg/L
Date : 11/30/03 06:33 PM
Time of Injection: 11/30/03 05:28 PM
Low Point : 35.45 mV High Point : 173.64 mV
Plot Scale: 138.2 mV

Motor Oil



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 3520C
Project#:	00-152.25	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	86541
Units:	ug/L	Prepared:	11/28/03
Diln Fac:	1.000	Analyzed:	12/02/03

Type: BS
Lab ID: QC233644

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,624	105	38-137

Surrogate	%REC	Limits
Hexacosane	96	44-146

Type: BSD
Lab ID: QC233645

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,216	89	38-137	17	35

Surrogate	%REC	Limits
Hexacosane	82	44-146

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	86600
Lab ID:	169123-005	Sampled:	11/26/03
Matrix:	Water	Received:	11/26/03
Units:	ug/L	Analyzed:	12/02/03
Diln Fac:	1.000		

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

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	77-129
Toluene-d8	103	80-120
Bromofluorobenzene	85	80-123

ND= Not Detected
RL= Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC233867	Batch#:	86600
Matrix:	Water	Analyzed:	12/02/03
Units:	ug/L		

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

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	87	80-123

ND= Not Detected
RL= Reporting Limit

9.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	169123	Location:	2277 7th Street POO
Client:	Innovative Technical Solutions,Inc.	Prep:	EPA 5030B
Project#:	00-152.25	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	86600
Units:	ug/L	Analyzed:	12/02/03
Diln Fac:	1.000		

Type: BS Lab ID: QC233865

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	50.24	100	69-124
Benzene	50.00	47.02	94	80-120
Toluene	50.00	49.96	100	80-120
Chlorobenzene	50.00	48.64	97	80-120
Ethylbenzene	50.00	48.56	97	80-120
m,p-Xylenes	100.0	98.23	98	80-121
o-Xylene	50.00	50.15	100	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-129
Toluene-d8	104	80-120
Bromofluorobenzene	84	80-123

Type: BSD Lab ID: QC233866

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	52.13	104	69-124	4	20
Benzene	50.00	45.52	91	80-120	3	20
Toluene	50.00	47.58	95	80-120	5	20
Chlorobenzene	50.00	47.73	95	80-120	2	20
Ethylbenzene	50.00	47.10	94	80-120	3	20
m,p-Xylenes	100.0	95.99	96	80-121	2	20
o-Xylene	50.00	48.86	98	80-120	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	77-129
Toluene-d8	103	80-120
Bromofluorobenzene	84	80-123

RPD= Relative Percent Difference

8.0

APPENDIX C

DAILY FIELD ACTIVITY REPORT

Innovative Technical Solutions, Inc.
2730 Shadlands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 (Tel), (925) 256-8998 (Fax)

00152.15
Task 08

DAILY ACTIVITY REPORT

PROJECT NAME:	**Port of Oakland**	DATE: 11-10-01
PROJECT NUMBER:	~~00152.08~~ 00152.15	PAGE 1 OF 1
SITE LOCATION:	Maritime Ave, Oakland, CA	

DESCRIPTION OF FIELD ACTIVITIES AND EVENTS

0630: Arrived on site, checked the condition of the monitor wells in the compaction area. The 36" diameter sonic tube around the MW-3 well had been slightly deformed due to uneven compaction around the tube. Rainfall over the weekend had also moistened the cardboard sonic tube. - a new sonic tube will have to be installed prior to the traffic loop installation.
0700: Work activities started, a new gravel lift is being added to the compaction area.
- observed the work activities to ensure the well casings were not damaged.
0990: Spoke with Steve Ng from the Port of Oak. about the completion of the well boxes after the base material had been brought to grade.
1000: break
1015: Continued placing base material.
1200: lunch
1230: Continued placing base material. Continued compaction of material also.
1500: Completed the placement of base rock around the MW-2 and MW-3 areas.
- Spoke with the construction supervisor about the paving schedule for the area. Asphault is tentitively scheduled for the first part of December. The exact date will be coordinated with the Port of Oakland (Steve Ng) and ITSI would be notified to complete the traffic loop installations.
1500: left site.

PREPARED BY: S. Ace
DATE: 11-10-01
PREPARERS SIGNATURE: Susan F. Ace

Innovative Technical Solutions, Inc.
2730 Shadelands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 (Tel), (925) 256-8998 (Fax)

PROJECT NAME: Port of Oakland
PROJECT NUMBER: 00152.15
SITE LOCATION: 7th Street

DAILY ACTIVITY REPORT

DATE: 11-17-03
PAGE 1 OF 1

DESCRIPTION OF FIELD ACTIVITIES AND EVENTS

Leave for site with Brian Dee -
0900 - stop at OHS to get concrete (6- bags), trowal & 24" sonic tubes at K-Prime -
Plan is put an outer sonic tube around the 8' tube & place concrete in the annular space and set the traffic rated 12-inch round lock on monitoring well 2 & 3.
Obtain the materials and leave for the Port of Oakland.
1100 At port of Oakland. Get access to water from the site near the treatment compound.
Check with Jim (site super) about the plan to set the locks now before the rain ruins the already wet sonic tubes. Jim agrees - but suggest pouring the concrete @ 3-inches lower than the top of the road box. This would enable the asphalt to be laid down smooth up to the road box and make the transition seamless. Steve Ng on the site agrees.
Jim and Steve measure the height of the road box with a laser. The sonic tubes are adjusted accordingly. The road boxes are set up to the mark provided by Jim & Steve.
1210 Brian Dee & Tim W. begin to mix concrete for the setting of the road boxes. Replace lock on MW-2 with a lock from the treatment compound.
Concrete is poured. Need a little more. Can't make it. Steve & Barb before the crew leaves for the day.
1430 - off site - return to office -
Need 3 more bags of cement to top off concrete support structure to @ 3" below the top of the road boxes.
Work on notes - down load pictures -

PREPARED BY: Tim Watkins	REVIEWED BY:
DATE: 11-17-03	DATE:
PREPARERS SIGNATURE: T. Watkins	REVIEWERS SIGNATURE:

* *Not appropriate for a field activity report when only one responsible person is in the field.*

Innovative Technical Solutions, Inc.
2730 Shadelands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 (Tel), (925) 256-8998 (Fax)

PROJECT NAME: Port of Oakland
PROJECT NUMBER: 00152.15
SITE LOCATION: 7th Street

DAILY ACTIVITY REPORT

DATE: 11-18-03
PAGE 1 OF 1

DESCRIPTION OF FIELD ACTIVITIES AND EVENTS

0930 - Leave office to get concrete - Will meet Brian Rea at site to top off concrete structure of MW-2 & 3.
1030 Arrive at site - begin preparations -
1100 Brian arrives at site.
Top off concrete structures -
Clean-up site of materials -
1215 Leave site
1350 Arrive office -
Down load pictures - prepare field notes -

Talk with Rogerio about what could be done to the structure during the well sampling scheduled for the following week - Told him to cut the 24" Sonic tube at least 3-4 inches for the top of the concrete on MW-3.
For MW-2 - do the same. However, put dirt in the annular space between 36" Sonic tube & the 24-inch tube. This will help stabilize the concrete structure because of the proximity to the road edge of the parking lot.

PREPARED BY: Tim Watchus	REVIEWED BY:
DATE: 11-19-03	DATE:
PREPARERS SIGNATURE: T. Watchus	REVIEWERS SIGNATURE:

* *Not appropriate for a field activity report when only one responsible person is in the field.*

ITSI Innovative Technical Solutions, Inc.
2730 Shadelands Drive, Suite 100
Walnut Creek, California 94598
(925) 946-3100 (Tel), (925) 256-8998 (Fax)

PROJECT NAME: Port of Oakland
PROJECT NUMBER: 00-152.25
SITE LOCATION: 2777 Seventh Street, Oakland, Ca

DAILY ACTIVITY REPORT

DATE: 11/26/03
PAGE 1 OF 1

DESCRIPTION OF FIELD ACTIVITIES AND EVENTS

8:00 Arrive at site
8:15 Meet PLS survey onsite and show the two wells to be surveyed (MW-2 and MW-3)
9:10 Dennis Hill onsite with coblers and bottles
9:40 Start purging MW-2
10:15 Sample MW-2
10:30 Set up at MW-5
11:00 Sample MW-5
11:10 Set up at MW-4
11:30 Sample MW-4
11:35 Sample MW-4D
11:50 Set up at MW-8A
12:15 Sample MW-8A
12:30 Measure free product in MW-3:
DTP = 10.79' ; DTW = 12.85' ; Product thickness = 2.06'
12:45 Measure free product in MW-1:
DTP = 8.85' ; DTW = 9.25' ; Product thickness = 0.40'
13:00 Clean up equipment + compound
13:05 leave site to drop samples off at C&T.

11/26/03

PREPARED BY: Rogelio Leong DATE: 11/26/03
PREPARER'S SIGNATURE:

DlyActRpt w- no- Reviewed by:

APPENDIX D

SURVEY REPORT

RECEIVED
DEC 0 5 2003

DESCRIPTION	CASING ELEVATION	VAULT ELEVATION			
MW 2	16.96	17.21			
MW 3	16.18	16.44			
CONTROL: CP#51 A NAIL AND WASHER, WAS HELD WITH AN ELEVATION					
	OF 13.966', PORT OF OAKLAND DATUM.