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By lopprojectop at 9:04 am, Nov 17, 2005

November 16, 2005

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

RE: 3rd Quarter 2005, 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 fourth quarter of 2005, 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.)



November 8, 2005

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

# RECEIVED

By lopprojectop at 9:04 am, Nov 17, 2005

Third Quarter of 2005 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 7<sup>th</sup> 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 7<sup>th</sup> Street. The locations of these wells are shown on Figure 2.

Collection of groundwater samples from monitoring wells MW-1 and MW-3 was not performed this quarter due to the presence of measurable thickness of separate-phase petroleum hydrocarbons floating on the groundwater surface.

#### **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 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.

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

Third Quarter of 2005 Groundwater Monitoring and Product Monitoring Report 2277 Seventh Street, Oakland, California

Site preparation activities for the construction of a new Harbor Facilities Center (HFC) were initiated in November 2002 at 2277 7<sup>th</sup> Street site. 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.

Three additional monitoring wells were previously installed at the adjacent 2225 7<sup>th</sup> Street site to assess groundwater quality following the removal of USTs in 1989 and 1992. The 2225 7<sup>th</sup> Street site was also modified and included for the expansion plan of 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 also properly destroyed to facilitate the Port's construction plans.

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. 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 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. A new product removal system was installed as part of the HFC construction activities. The system was operational in November 2004 after the HFC development activities were completed.

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 7<sup>th</sup> Street site on September 29, 2005. 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 a 55-gallon DOT drum. Dillard Environmental Services Company, Inc. (Dillard) periodically removes and appropriately disposes of the purge water.



Third Quarter of 2005 Groundwater Monitoring and Product Monitoring Report 2277 Seventh Street, Oakland, California

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 McCampbell Analytical, Inc. (MAI) in Pacheco, a California certified analytical laboratory.

The third quarter 2005 groundwater monitoring event at 2277 7<sup>th</sup> 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

MAI 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 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 7<sup>th</sup> 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 September 29, 2005. 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 September 2005 is consistent with the historic flow direction reported in the previous reports.

Results of the September 29, 2005 groundwater sampling at 2277 7<sup>th</sup> Street are summarized below:

- TPHg was detected in one well at a concentration of 360 μg/L in MW-4. This result was qualified by the laboratory as unmodified or weakly modified gasoline is significant.
- Benzene was detected in one well at a concentration of 160 μg/L in MW-4.
- Toluene was not detected above the reporting limit in any of the wells sampled this quarter.
- Ethylbenzene was not detected above the reporting limit in any of the wells sampled this quarter.
- Total xylenes were not detected above the reporting limit in any of the wells sampled this quarter.



- MTBE was not detected above the reporting limit in any of the wells sampled this quarter.
- TPHd was detected in two wells at concentrations of 59 μg/L in well MW-4 and 66 μg/L in well MW-8A, respectively. The MW-4 result was qualified by the laboratory as gasoline range compounds are signicant and the MW-8A result as diesel range compounds are significant; no recognizable pattern.
- TPHmo was not detected above 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  $7^{th}$  Street on September 29, 2005 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 of 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	7 <sup>th</sup>	St
M	W-4	4
09/2	29/0	)5

ANALYTE	$\mathbf{X}_{1}$	$\mathbf{X}_2$	RPD
MTBE	< 5.0	< 5.0	
В	160	150	6.45
T	< 5.0	< 5.0	
Е	< 5.0	< 5.0	
X	< 5.0	< 5.0	
TPHd	59	< 50	
TPHmo	<250	<250	
TPHg	360	420	15.38

• The overall RPD values are low indicating results from the sample and the duplicate analysis are in agreement.

## PRODUCT RECOVERY SYSTEM AT 2277 7<sup>TH</sup> STREET

Until April 16, 2003 the product recovery system at 2277 7<sup>th</sup> 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, and it was subsequently removed on May 22, 2000 because no measurable product appeared in the well. The passive skimmer was reinstalled in MW-1 after free product was detected in the well on September 6, 2000. The active and passive product recovery skimmers were subsequently removed from the wells in April 2003 due to activities related to the construction of the new HFC.



Third Quarter of 2005 Groundwater Monitoring and Product Monitoring Report 2277 Seventh Street, Oakland, California

The Port recently replaced the former free product recovery system with the installation of two new mitigation systems at the site. Overaa Construction (Overaa) completed the installation of a soil gas venting system beneath the new HFC's building slab. The system was completed in early 2005 and initial testing was performed in April 2005. Final "as built" drawings and an operation and maintenance manual have been prepared for the soil gas venting system. Beliveau Engineering Contractors, Inc., subcontracted to Dillard, completed a new product recovery system in November 2004 designed to recover the product floating on the groundwater beneath the site. Initial testing and calibration began during December 2004. The system is currently fully operational and free product is being removed from the surface of shallow groundwater. Further testing and calibration of the system will continue for a full year through the end of 2005 accounting for seasonal variations. Final "as built" drawings and an operation and maintenance manual have been prepared for the free product recovery system.

The free-phase petroleum product has been monitored in wells MW-1 and MW-3 on a quarterly basis in conjunction with the quarterly groundwater sampling event. During this third quarter monitoring event, free-phase petroleum product was measured at 0.67 feet and 1.40 feet in MW-1 and MW-3, respectively. 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.

<sup>\*</sup> Effective October 31, 2003, Foss Environmental Services, Inc. was acquired as a wholly owned subsidiary of National Response Corporation, Inc. (NRC)



Third Quarter of 2005 Groundwater Monitoring and Product Monitoring Report 2277 Seventh Street, Oakland, California

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.

Røgerio Leong Project Geologist

Rachel B. Hess Project Manager

Jeffred A. Hess, R.C. Senior Geologist

> Innovative Technical Solutions, Inc.

#### Attachments:

- Table 1 Groundwater Elevations Data, 2277 7<sup>th</sup> Street
- Table 2 Summary of Product Removal and Product Thickness, 2277 7<sup>th</sup> Street
- Table 3 Groundwater Sample Results, 2277 7<sup>th</sup> Street
- Table 4 Summary of Operation and Maintenance Activities
- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Groundwater Elevations, 2277 7<sup>th</sup> Street, September 29, 2005 Figure 4 Groundwater Sample Results, 2277 7<sup>th</sup> Street, September 29, 2005
- 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



### **TABLES**



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

Well ID	Elevation Top of Casing	Date Of Monitoring	Depth to Water	Groundwater Elevation
	(feet)	Č	(feet)	(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
		9/3/2004	NA	NA
		12/16/2004	NA	NA
		3/29/2005	NA	NA
		6/14/2005	NA	NA
		8/10/2005	NA	NA
		9/29/2005	NA	NA

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

Well ID	Elevation Top of Casing	Date Of Monitoring	Depth to Water	Groundwater Elevation	
12	(feet)	Wiemtering	(feet)	(feet)	
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	
		3/5/2004	9.75	7.46	
		6/2/2004	11.22	5.99	
		9/3/2004	11.62	5.59	
		12/16/2004	10.80	6.41	
		3/29/2005	9.67	7.54	
		6/14/2005	10.68	6.53	
		8/10/2005	11.05	6.16	
		9/29/2005	11.32	5.89	

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	
.,,,,,,,	13.10	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	
		9/3/2004	8.31	4.84	
		12/16/2004	7.96	5.19	
		3/29/2005	7.11	6.04	
		6/14/2005	7.90	5.25	
		8/10/2005	7.86	5.29	
		9/29/2005	8.00	5.15	

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

Well ID	Elevation Top of Casing	Date Of Monitoring	Depth to Water	Groundwater Elevation	
	(feet)	Tromvormg	(feet)	(feet)	
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	
		9/3/2004	6.61	6.88	
		12/16/2004	6.02	7.47	
		3/29/2005	5.25	8.24	
		6/14/2005	5.82	7.67	
		8/10/2005	6.00	7.49	
		9/29/2005	6.26	7.23	

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

Well	Elevation	and, 2277 7th Stre Date Of	Depth	Groundwater	
ID	Top of Casing	Monitoring	to Water	Elevation	
	(feet)		(feet)	(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	Monitorina	well was destroyed	

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

Well ID	Elevation Top of Casing	Date Of Monitoring	Depth to Water	Groundwater Elevation
ID	(feet)	Monitoring	(feet)	(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
		9/3/2004	8.16	4.78
		12/16/2004	7.62	5.32
		3/29/2005	6.63	6.31
		6/14/2005	7.60	5.34
		8/10/2005	7.50	5.44
		9/29/2005	7.76	5.18

<sup>&</sup>lt;sup>1</sup> 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.

NA = Not available

<sup>-</sup> 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.

<sup>-</sup> Monitoring MW-8 was abandoned on April 20, 2000 in order to construct a railroad track associated with the Port of Oakland's New Harbor Facility.

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 <sup>2</sup>
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 <sup>3</sup>	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	NA	passive skimmer
		3/8/2002 4/3/2002	8.3	9.2	0.90	NA 	passive skimmer
		4/3/2002	8.5	9.2 9.6	1.10		passive skimmer
		5/10/2002	8.3 8.7	9.6 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 <sup>2</sup>
MW-1	14.14	6/13/2002	8.7	10	1.30		passive skimmer
(Cont'd)		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
		9/3/2004	8.70	9.11	0.41		8
		12/16/2004	7.75	7.92	0.47		8
		3/29/2005	6.21	6.38	0.17		8
							8
		6/14/2005	7.41	7.61	0.20		8
		8/10/2005	8.05	8.55	0.50		8
		9/29/2005	8.28	8.95	0.67		o
MW-3	14.22	12/31/1997		_	_	30	active skimmer
11111 3	11.22	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
			-	-		$400^{2}$	active skimmer
		1/14/1999	-	-	-		
		2/3/1999	-	-	-	$400^{2}$	active skimmer
		2/26/1999	-	-	-	570 <sup>2</sup>	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 <sup>2</sup>
MW-3	14.22	3/19/1999	7.52	8.05	0.5	211	active skimmer
(Cont'd)		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
		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	0.70		active skimmer
		11/4/2002	8.75	9.99	1.24		active skimmer
		11/21/2002	8.59	11.29	2.70	150 <sup>6</sup>	active skimmer
		12/6/2002	8.56	9.3	0.74	150 <sup>6</sup>	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 <sup>2</sup>
MW-3	14.22	12/18/2002	7.35	8.43	1.08	25 <sup>6</sup>	active skimmer
(Cont'd)		12/30/2002	6.50	7.15	0.65	25 <sup>6</sup>	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 <sup>6</sup>	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 <sup>9</sup>	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		7
		9/3/2004	10.46	12.06	1.59		7
		12/16/2004	9.41	10.38	0.97		7
		3/29/2005	8.17	9.01	0.84		7
		6/14/2005	9.59	10.55	0.96		7
		8/10/2005	9.91	11.15	1.24		7
		9/29/2005	10.21	11.61	1.40		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
1		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	-

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

Well	Elevation	Date Of	Depth	Depth	Product	Estimated	Product Removal
ID	of Top of	Monitoring	to Free	to Water	Thickness	Product	Method <sup>2</sup>
	Casing		Product	(feet)	(feet)	Removed	
	(feet)		(feet)			(gallons)	

- 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.
  - Free product in well is too viscous to allow product thickness or groundwater level measurements.
- Product removal totals for MW-3 are estimated from documentation of product removal from the treatment system performed by Performance Excavators, Inc.
- The passive skimmer was removed from MW-1 on 5/22/00.
- <sup>4</sup> The passive skimmer replaced MW-1 on 9/6/00.
- Removal total is the volume of both product and wastewater removed from the treatment system by Foss Environmental Services Company, Inc.
- <sup>6</sup> Product removed is based on volume measured in the 1,000-gallon holding poly-tank.
- <sup>7</sup> The active skimmer was removed from MW-3 on 04/16/2003
- Passive skimmer was removed from MW-1
- 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 area indicates 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/1)	TPHmo (µg/1)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene $(\mu g/l)$	Total Xylenes (µg/1)	MTBE (μg/1)
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 <sup>2</sup>	< 50	< 500	1.8	< 0.5	< 0.5	< 0.5	< 5.0
	12/12/02	< 50	< 50	<300	0.98	< 0.5	< 0.5	< 0.5	<2.0
	03/17/03	< 50	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
	06/18/03	< 50	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
	09/03/03	< 50	< 50	< 300	3.2	< 0.5	< 0.5	< 0.5	< 2.0
	11/26/03	< 50	< 50	<300	3.0	< 0.5	< 0.5	< 0.5	<2.0
	03/05/04	< 50	< 50	<300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
	06/02/04	< 50	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
	09/03/04	< 50	< 50	<300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
	12/16/04	< 50	96 <sup>6, 15</sup>	<300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
	03/29/05	< 50	< 50	<300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
	08/10/05	< 50	< 50	<250	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	09/29/05	<50	<50	<250	<0.5	< 0.5	<0.5	<0.5	<0.5

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

Monitoring	Date	TPHg	TPHd	TPHmo	Benzene		Ethylbenzene	-	MTBE
Well ID		(µg/l)	$(\mu g/1)$	(µg/1)	$(\mu g/l)$	(µg/l)	(µg/l)	$(\mu g/1)$	$(\mu g/1)$
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 <sup>2</sup>	< 50	<250	190	1.2	0.64	<1.0	NA
_	06/13/97	1,300	92 <sup>5</sup>	<250	500	5.5	3.4	2.8	NA
_	09/18/97	1,300	150	<250	550	4.9	2.1	2.00	NA
<u>-</u>	12/31/97	73 1.2.3	<47	<280	110 1	1.0 1	< 0.5	<1.0	NA
<u>-</u>	04/13/98	150 <sup>2.3</sup>	< 50	<300	520	2.9	<2.5	< 5.0	NA
_	11/06/98	< 50	< 50	<300	250	1.7	<1	<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 <sup>3,5</sup>	< 300	280	1.5	<1	<1	<4
_	11/12/99	330 <sup>3</sup>	840 <sup>2</sup>	< 300	740	< 2.5	<2.5	<2.5	42 9
_	02/11/00	200 <sup>2</sup>	< 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 <sup>2,3</sup>	< 50	< 300	190	0.93	0.6	0.57	< 0.5 10
	12/19/00	960 3,11	70 <sup>5</sup>	< 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 <sup>13</sup>	< 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 <sup>2</sup>	54 <sup>2</sup>	< 500	180	<2.5	<2.5	<2.5	<25
	06/13/02	830 <sup>2</sup>	< 50	< 500	250	< 5.0	< 5.0	< 5.0	< 50
Dup.	06/13/02	820 <sup>2</sup>	< 56	< 560	240	< 5.0	< 5.0	< 5.0	< 50
	09/26/02	390 <sup>2</sup>	57	< 500	150	2.1	<1.0	<1.0	<10
Dup.	09/26/02	500 <sup>2</sup>	<50 <sup>16</sup>	<500 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 <sup>15</sup>	< 50	< 300	320 <sup>17</sup>	< 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 <sup>14, 17</sup> , <0.5 <sup>1</sup>
Dup.	03/05/04	84 11	< 50	<300	180	0.81	< 0.5	< 0.5	$21^{14, 17}, <0.5^{1}$
-	06/02/04	620 13	< 50	<300	210	0.55 17	< 0.5	< 0.5	<2.0
Dup.	06/02/04	400 13	< 50	<300	130	< 0.5	< 0.5	< 0.5	<2.0
-	09/03/04	780 13, 15	< 50	<300	< 0.5	1.0 17	< 0.5	0.57	<2.0
Dup.	09/03/04	370 13, 15	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0

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

		1 01 0	or Cakia	mu, 2277	m Succi	, Caman	ı Camorma		
Monitoring Well ID	Date	TPHg (µg/l)	TPHd (µg/1)	TPHmo (μg/1)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene $(\mu g/l)$	Total Xylenes $(\mu g/1)$	MTBE (μg/1)
MW-4	12/16/04	840	< 50	<300	290	1.3 17	0.69	0.75	<2.0
Dup.	12/16/04	670	<50	<300	230	1.3 17	<0.5	< 0.5	<2.0
	03/29/05	440 13	<50	<300	140	0.57	<0.5	<0.5	<2.0
Dup.	03/29/05	540 <sup>13</sup>	<50	<300	170	0.72	<0.5	<0.5	<2.0
	08/10/05	500 18	<50	<250	180	<2.5	<2.5	<2.5	<2.5
-	09/29/05	360 <sup>18</sup>	59 <sup>20</sup>	<250	160	<5.0	<5.0	<5.0	<5.0
Dup.	09/29/05	420 18	<50	<250	150	<5.0	<5.0	<5.0	<5.0
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
<u>-</u>	11/12/99	< 50	110 <sup>2,6</sup>	< 300	< 0.5	< 0.5	< 0.5	< 0.5	5.5 <sup>9</sup>
	02/11/00	< 50	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2
-	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 09/26/02	<50 <50	<50 <50	<500 <500	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<5.0 <5.0
-	12/12/02	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
-	03/17/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5 10
	06/18/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
-	09/03/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
-	11/26/03	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	$4.1^{14}$ , $<0.5^{10}$
-	03/05/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	06/02/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
	09/03/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
-	12/16/04	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	$2.2^{14}$ , $< 0.5^{10}$
-	03/29/05	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<2.0
-									
MW ED	08/10/05	<50 <50 <sup>19</sup>	<50 <50 <sup>19</sup>	<250	<0.5	<0.5	<0.5	<0.5	<0.5
MW-5D	08/10/05			<250	<0.5	<0.5	<0.5	<0.5	<0.5
-	09/29/05	<50	<50	<250	<0.5	< 0.5	<0.5	<0.5	<0.5

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

M i i	D-4-			·			Eth-ill-	T-4-1 V-1	MTDE
Monitoring	Date	TPHg	TPHd	TPHmo	Benzene		Ethylbenzene	•	MTBE
Well ID		(µg/l)	(µg/1)	(µg/1)	(µg/l)	(µg/l)	(µg/l)	$(\mu g/1)$	(μg/1)
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 <sup>7</sup>	18	< 0.5	1.0	< 0.5	54
	09/28/99	130 <sup>3,5</sup>	820	< 300	20	0.51	2.2	< 0.5	<2
	11/12/99	150	11,000 <sup>2,6</sup>	3,000 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 <sup>3,11</sup>	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 <sup>2</sup>	640 <sup>2</sup>	< 500	30	< 0.5	< 0.5	< 0.5	5.0 14
•	06/13/02	160 <sup>2</sup>	670 <sup>2</sup>	< 500	34	< 0.5	< 0.5	< 0.5	< 5.0
•	09/26/02	230 <sup>2</sup>	1400 <sup>2</sup>	< 500	40	0.64	0.8	< 0.5	<5.0
•	12/12/02	53	110	<300	43	< 0.5	< 0.5	< 0.5	<2.0
•			ng well was						
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 <sup>6</sup>	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 <sup>6</sup>	<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 <sup>10</sup>
ւր.	07/10/01	<50	51 <sup>2</sup>	<300	<0.5	<0.5	<0.5	<0.5	76 <sup>10</sup>
Dup.	07/10/01	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	75 <sup>10</sup>
ւրսի.	12/12/01	51	<50	<300	<0.5	<0.5	<0.5	<0.5	98 14
Dun.	12/12/01	64	52 13, 15	<300	<0.5	<0.5	<0.5	<0.5	96 <sup>14</sup>
Dup.	03/08/02	52 <sup>2</sup>	<50	<500	<0.5	<0.5	<0.5	<0.5	24 14
	06/13/02	87 <sup>2</sup>	54 <sup>2</sup>	<500	<0.5	<0.5	<0.5	<0.5	51
		83 2	842		<0.5	<0.5	<0.5	<0.5	75 <sup>10</sup>
	09/26/02			<500					58 <sup>14</sup>
	12/12/02	<50	<50 ng well was	<300	< 0.5	< 0.5	<0.5	<0.5	Jð
	12/10/02	MIOHHOIM	ng wen was	ucsnoyed					

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

Monitoring	Date	TPHg	TPHd	TPHmo	Benzene	Toluene	,	Total Xylenes	MTBE
Well ID		(µg/l)	(μg/1)	(µg/1)	(µg/l)	(µg/l)	(µg/l)	(µg/1)	(μg/1)
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 <sup>2</sup>	< 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 <sup>2</sup>	< 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 <sup>15</sup>	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
	03/17/03	< 50	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<0.5 10
	06/18/03	< 50	74 <sup>15</sup>	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
	09/03/03	< 50	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	$3.0^{14}$ , $< 0.5^{10}$
	11/26/03	< 50	94 <sup>15</sup>	< 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 <sup>15</sup>	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
_	09/03/04	< 50	86 <sup>15</sup>	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
_	12/16/04	< 50	160 <sup>6, 15</sup>	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
_	03/29/05	< 50	53	< 300	< 0.5	< 0.5	< 0.5	< 0.5	<2.0
_	08/10/05	<50 <sup>19</sup>	150 15, 19	<250	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
- -	09/29/05	< 50	66 <sup>21</sup>	<250	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

- Analyte found in the associated blank as well as in the sample.
- Hydrocarbons present do not match profile of laboratory standard.
- Low-boiling-point/lighter hydrocarbons are present in the sample.
- <sup>4</sup> Chromatographic pattern matches known laboratory contaminant.
- Hydrocarbons are present in the requested fuel quantification range,
  - but do not resemble pattern of available fuel standard. High-boiling-point/heavier hydrocarbons are present in sample.
- Sample did not pass laboratory QA/QC and may be biased low
- Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor or two.
- Trip blank contained MTBE at a concentration of 4.2µg/l
- MTBE detections confirmed by EPA Test Method 8260. 8260 results displayed.
- Sample exhibits unknown single peak or peaks
- EPA Method 8260 confirmation analyzed past holding time.
- Lighter hydrocarbons contributed to the quantitation
- MTBE results from EPA Test Method 8021B.
- Sample exhibits fuel pattern which does not resemble standard
- 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<sup>th</sup> Street, Oakland, CA, dated October 24, 1997, by Uribe and Associate

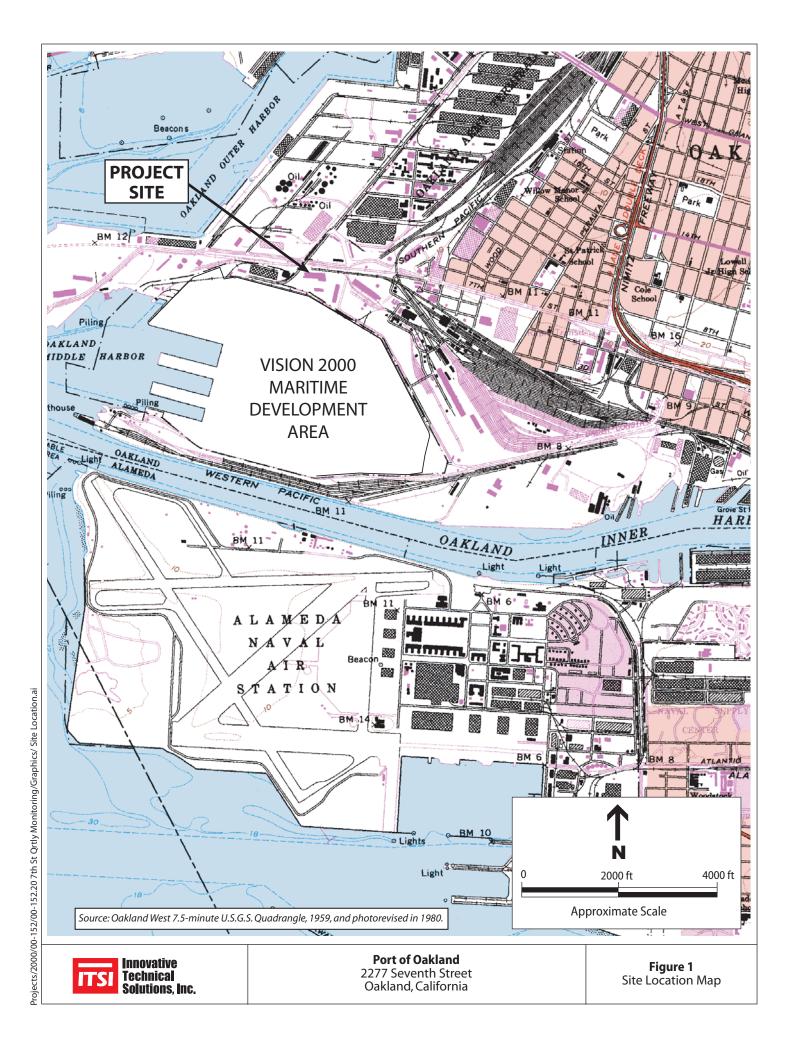
- Presence confirmed, but Relative Percent Difference (RPD) between columns exceeds 40% NA Not Analyzed.
- Unmodified or weakly modified gasoline is significant
- 19 Liquid Sample contains greater than ~1 vol.% sediment
- Gasoline compounds are significant
- Diesel range compounds are significant; no recognizable pattern

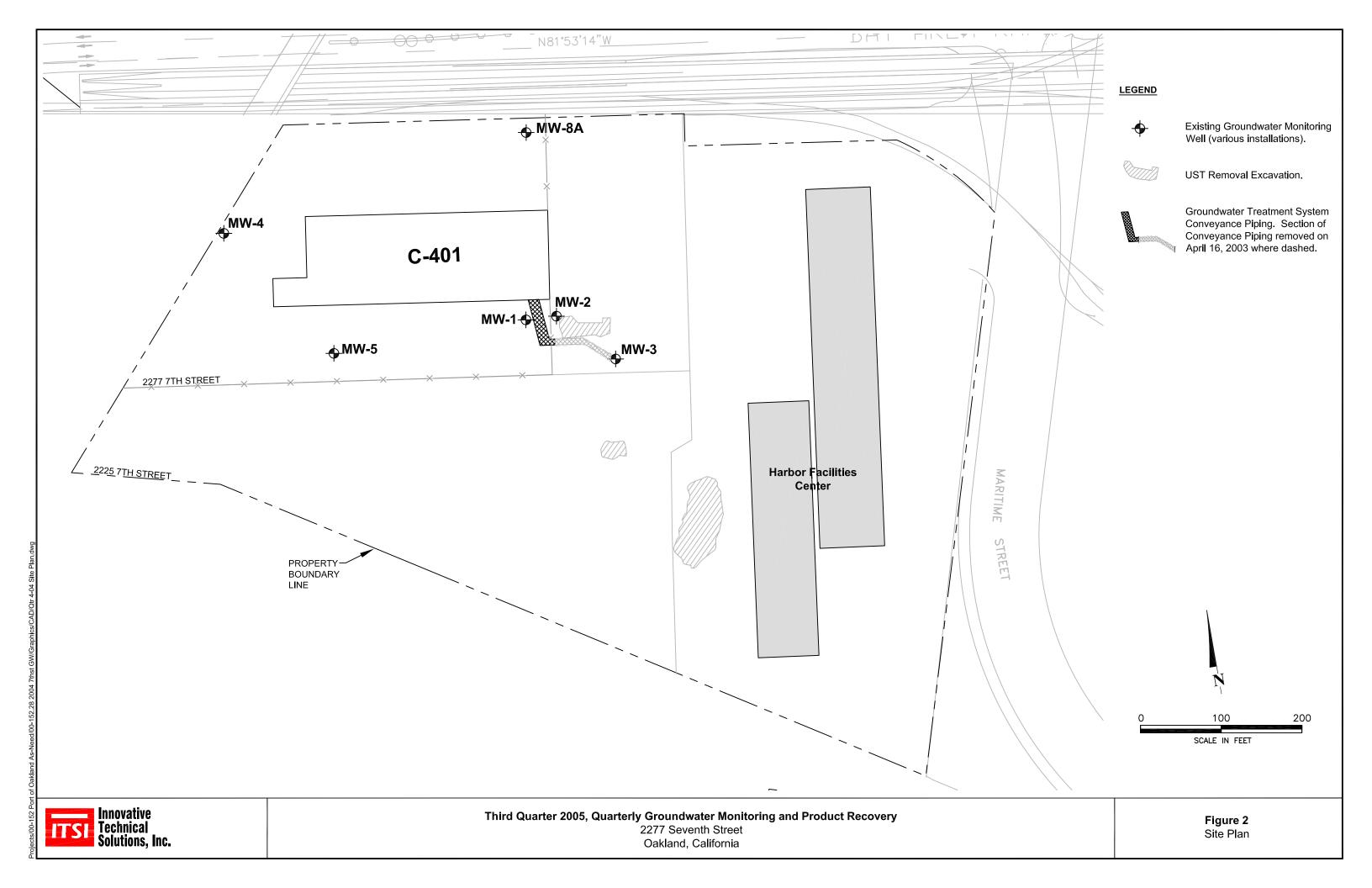
# Table 4 Summary of Operation and Maintenance Activities Port of Oakland, 2277 7th Street, Oakland, California

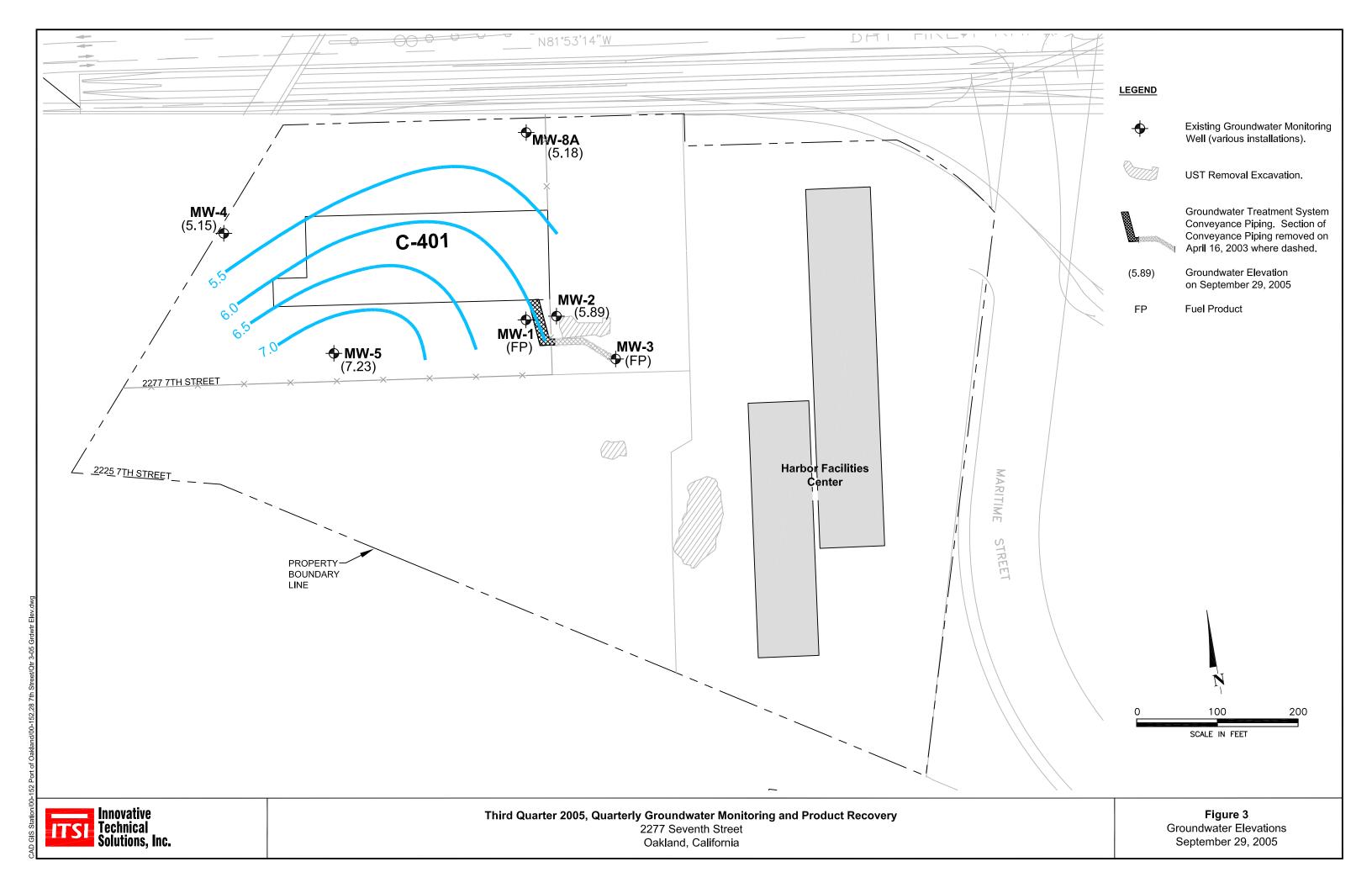
Date	System Status	Comments
7/5/2002	Off	System is turned off and is in the process of being moved to new location
7/19/2002	Off	System is moved to new location but is not hooked up to electricity
7/30/2002	Off	System is moved to new location but is not hooked up to electricity
8/14/2002	Off	System is 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-
1/3/2003	Off	System is turned off because no free product was detected in well MW-
1/14/2003	Off	System is turned off because only product sheen was detected in well MW-
1/30/2003	Off	System is turned off because only product sheen was detected in well MW-
2/18/2003	Off	System is turned off because only product sheen was detected in well MW-
2/26/2003	Off	System is turned off because only product sheen was detected in well MW-
3/13/2003	Off	System is kept off because of the expected rainfall during weeken
3/17/2003	On	System is tested to verify that only product is being recovered from well MW-
4/16/2003	Off	Product recovery line was removed due to Port's construction upgrades at the sit
6/18/2003	Off	Product recovery line was removed on 04/16/200.
9/3/2003	Off	Product recovery line was removed on 04/16/200.
11/26/2003	Off	Product recovery line was removed on 04/16/200.
3/5/2004	Off	Product recovery line was removed on 04/16/200.
6/2/2004	Off	Product recovery line was removed on 04/16/200.
9/3/2004	Off	Product recovery line was removed on 04/16/200.
12/16/2004	Off	Product recovery line was removed on 04/16/200.
3/29/2005	Off	Product recovery line was removed on 04/16/200.
6/14/2005	Removed	Replaced by a new system fully operational at the site

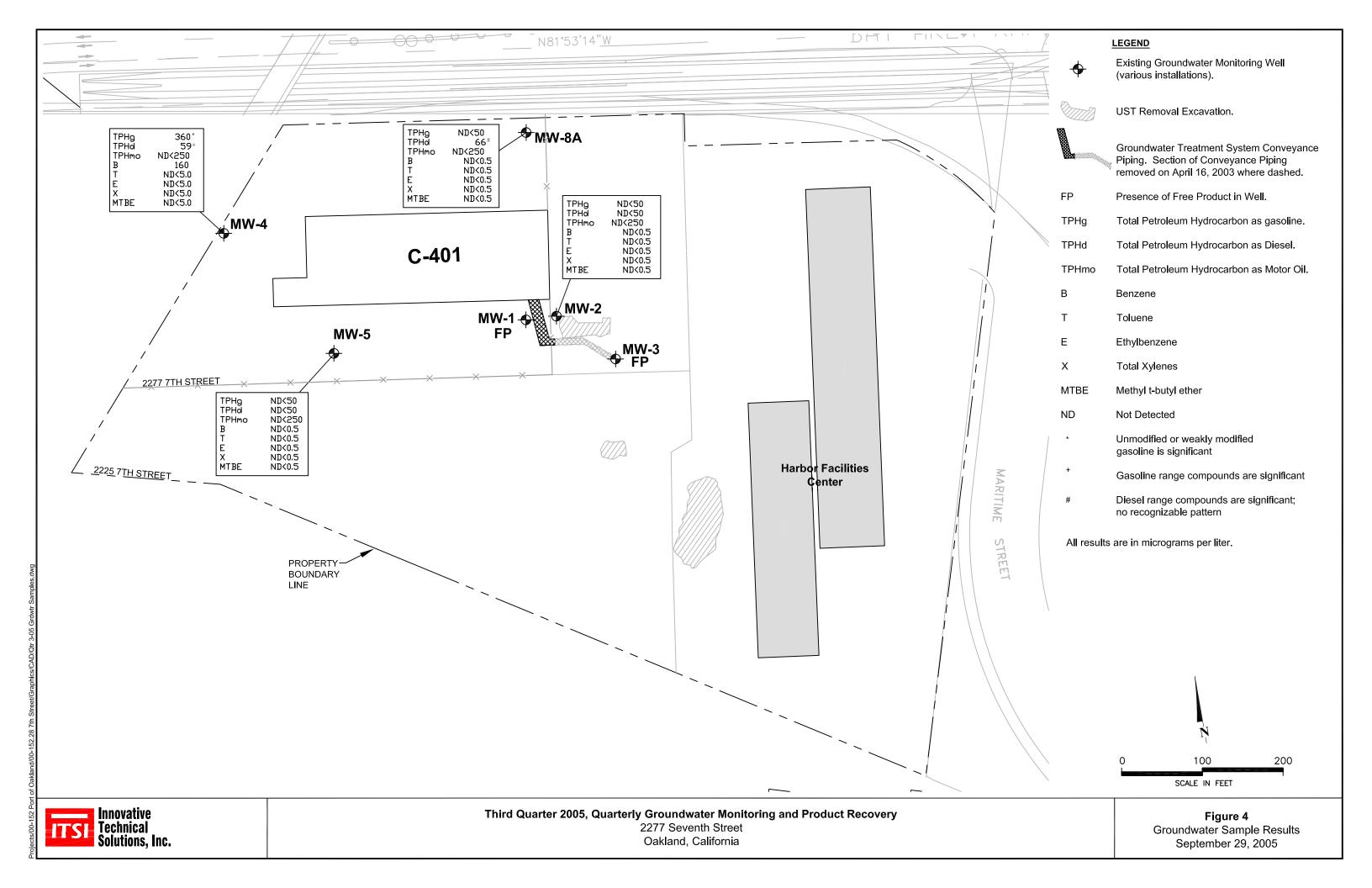
## **FIGURES**











### **APPENDIX A**

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





## MONITORING WELL WATER LEVEL MEASUREMENT FORM

PROJECT NAME: 2277 7<sup>th</sup> Street PROJECT NO.: 00-152.28

MEASURED BY: ROGERIO EONE DATE: 09/29/2005

Monitoring Well I.D.	Depth to Water (feet)	Total Well Depth (feet)	Time
MW-2	11.32	17.45	11:24
MW-4	8.0	18.70	10:00
MW-5	6.26	16.50	10:35
MW-6	Well was	destroyed on December	r 18, 2002
MW-7	Well was	destroyed on December	r 18, 2002
MW-8A	9. 7.76	20.40	9:25
Monitoring Well I.D.	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)
MW-1	8.28	8.95	0.67
MW-3	10.21	11.61	1.40

C:/Documents and Settings/ricong/Desktop/My Project Staff/Miscellancous/MONITORING WELL PURGE AND SAMPLE FORM doc



# MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAI	ME:	POR'	TOF C	AKLAND -	2277 7 <sup>th</sup> STR	EET ]	PROJECT NO	D.:00	0-152.28	
WELL NO.:	MW-	-2		TESTED	BY: RL	EONG_	DATI	E: 09/29	12002	<u>-</u>
				W	ELL PURC	GING				=
Measuring Poir	nt Descr	iption:	-	Top of Casing	g (TOC)	Static Wat	er Level (ft.):	11.3	2	_
Total Well Dep	th (ft.):			17.45		Purge Met	hod:	Disposable	Bailer	_
Water Level Me	easuren	ent Me	ethod:	Solins	st W. L.	Purge Rate	e (gpm):	~0.5		_
Time Start Purg	ge: _		1:25	5	,	Time End F	urge:	11:31		
Comments:										
Well Volume Calculation (fill in before purging)	Total (f	t)		Depth to Water (ft)	Water Column (fi		tiplier for Cas Diameter (in) 4 0.64 1	V	Casing olume (gal)	The second secon
Time		11:2	26	11:27	11:28	11:29	11:30	11:31		7
Cumulative Vol Purged (gals)	lume	0.		1	1.5	2	25	3.0	-	1
Cumulative Nur of Casing Volur		0.	5	1	1.5	2	2.5	3		
Temperature (F	(C°)	20	8.	20.8	20.6	20.7	20.8	20.7	-	1
pН		7.3	32	7.30	7.31	7.27	7.26	7.22		
Specific Conduc (mS/cm)	ctivity	1.8	38	1.90	1.90	1.90	1.90	1.90	*	
Turbidity (NTU	)	3		Ģ	9	6	4	3		]
				WE	LL SAMP	LING		,		
Sampling Time:		1	1:40	<u> </u>	<u>.</u>	Sampling Met	hod: <u>Disp</u> e	osable Bailer		
Duplicate Samp	le & Tii	me:		JONE						
Sample ID	)	Vo	lume/	Container	Analysis I	Requested	Preser	vatives	Lab	]
NW-2		يرا	2(1 L .	Amber)	TPHd,	ГРНто	⊸ <del>no</del>	no Hel	- <del>C&amp;T -</del>	Jan Jan
Mu1-7		į	- 15 v	oas	трно мт	BE BTEX	Н	~T.	-C&T.	1



# MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NA	ME:	PORTO	OAKLAND -	2277 7 <sup>th</sup> STRI	EET I	PROJECT NO	D.: <u>00</u>	)-152.28			
WELL NO.:	MW	-4	TESTED	ву: <u>RU</u>	EONEL	DATI	E: 09/2	9/2005			
WELL PURGING											
Measuring Poir	nt Descr	iption:	Top of Casing	g (TOC)	Static Wat	er Level (ft.):	6.8				
Total Well Depth (ft.): 18.70 Purge Method: Disposable Bailer											
Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): ~ 0.425											
Time Start Purge: 10:03 Time End Purge: 0:15											
Comments:											
Well Volume Calculation (fill in before purging)	Calculation (ft) Water (ft) Column (ft) Diameter (in) Volume (gal) (fill in before $  \mathcal{L}   \mathcal{L}  $										
							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Time		10:09	0:07	10:09	10:11	10:13	10:15				
Cumulative Vol Purged (gals)	lume	0.85	1.7	2.55	3.40	4.25	5.10				
Cumulative Num of Casing Volum		0.5	1.0	1.5	2.0	2.5	3, O				
Temperature (F	·(C·)	22.3	22.4	22.5							
рН		7.13	7.09	7.05	7.04	7.03	7.03				
Specific Condu (mS/cm)	ctivity	1.\$3	1.53	1.53	1.54	1.54	1.56				
Turbidity (NTU	J)	113	100	92	146.	150	152				
	WELL SAMPLING										
Sampling Time:		0:20		S	Sampling Met	hod: <u>Disp</u>	osable Bailer				
Duplicate Samp	Duplicate Sample & Time: Uw-4D (a) 10:30										

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab	
MW4 14W49	2 (1 L Amber)	TPHd, TPHmo	H-cl -none-	-C&T-	MAI
UW-4 FUW-4D	8 5 voas	TPHg, MTBE, BTEX	HCLITCE	_C&T-	IAM[



# MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NA	PROJECT NAME: PORTOF OAKLAND - 2277 7th STREET PROJECT NO.: 00-152.28											
WELL NO.:	MW	-5		TESTED	ву: <u> </u>	60NG	DAT	E: 09/20	1/2005			
WELL PURGING												
Measuring Poir	ıt Descr	iption:	_	Top of Casing	g (TOC)	Static Wat	er Level (ft.):	6.20	o			
Total Well Dep	th (ft.):			16.50	<u> </u>	Purge Met	hod:	Disposable	Bailer			
Water Level Measurement Method: Solinst W. L. Purge Rate (gpm): ~0.40												
Time Start Purg	ge:		į	10:40		Time End F	urge:	10.52				
Comments:												
Well Volume Calculation (ft)  (fill in before purging)  Depth to Water (ft)  Depth to Water (ft)  Occumn (ft)  Water Column (ft)  Water Column (ft)  Water Column (ft)  Occumn (ft)  Volume (gal)  Occumn (ft)  Occum												
			<u> </u>				<i>)</i>					
Time		10:4	42	10:44	10:46	10:48	10:50	10:52				
Cumulative Vol Purged (gals)	ume	0.8	ζυ	1.6	2.4	3.0	3.8	14.6				
Cumulative Nur of Casing Volu		0.5	<u> </u>	1	1.5	2	2.5	3				
Temperature (F	·(C)	21	.8	22.0	22.4	22.5	22.5	22.5				
pН		7.2	27	7,12.	6.99	6.96	6.90	6.89				
Specific Conduction (mS/cm)	ctivity	1.9	9_	2.01	2.03	2.04	2.06	2.06	-			
Turbidity (NTU	)	26	4	207	169	237	387	419				
				WE	ELL SAMP	LING						
Sampling Time:	Pervana	11.0	O			Sampling Met	hod: <u>Disp</u>	osable Bailer	. a.			
Duplicate Samp	le & Tii	me:	Non	1E		··········	MMM are an					
	- 1											

Sample ID	Volume/ Container	Analysis Requested	Preservatives	Lab	
NW-5	1,2(1 L Amber)	TPHd, TPHmo	-none-Hd	<del>C&amp;T</del>	MAI
NW-5	4.8 voas	TPHg, MTBE, BTEX	HCL	-C&T-	MAI



## MONITORING WELL PURGING AND SAMPLING FORM

PROJECT NAME:	PORTOF O	AKLAND -	2277 7 <sup>th</sup> STRI	EET I	PROJECT NO	D.: 00	0-152.28				
WELL NO.: <u>MW</u>	-8A_	TESTED	ву: <u>RL60</u>	NE	DATI	E: 09 2	29/2005				
WELL PURGING											
Measuring Point Description: Top of Casing (TOC) Static Water Level (ft.):											
Total Well Depth (ft.): 20.40 Purge Method: Disposable Bailer											
Water Level Measurem	nent Method:	Solins	t W. L.	Purge Rate	(gpm):	0.591	2W				
Time Start Purge:	9:	32		Time End P	urge:	م بار	14				
Comments:											
Calculation (f		Depth to Water (ft) 7.76	Water Column (fi		tiplier for Cas Diameter (in) 4 0.64	_ V	Casing olume (gal)				
				1 4.10	0.04   1	44					
Time	9:34	9:36	9:38	9:40	9:42	9:44					
Cumulative Volume Purged (gals)	1	2	3	4	5	· 6					
Cumulative Number of Casing Volumes	0.5	1	1.5	2.0	2.5	3.0					
Temperature (F°C°)	21.3	21.2	21.1	21.1	21.0	21.0					
pН	6.51	6.77	6.98	1.10	7.15	7.18					
Specific Conductivity (mS/cm)	2.52	2.54	2.55	2.54	2.55	2.55					
Turbidity (NTU)	534	831	>999	7999	7999	7999					
		WE	LL SAMP	LING		•					
Sampling Time:	9:50	With the second	S	ampling Met	hod: <u>Disp</u> e	osable Bailer					
Duplicate Sample & Ti	me: <u></u>	NE					<del></del>				
Sample ID	Volume/	Container	Analysis I	Requested	Preserv	vatives	Lab				

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

MAI

# APPENDIX B

**LABORATORY REPORTS** 



## RECEIVED



### McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

ITSI	,	Date Sampled: 09/29/05
2730 Shadelands Drive Suite 100	Oakland	Date Received: 09/29/05
Walnut Creek, CA 94598	Client Contact: Rachel Hess	Date Reported: 10/05/05
	Client P.O.:	Date Completed: 10/05/05

WorkOrder: 0509653

October 05, 2005

#### Dear Rachel:

#### Enclosed are:

- 1). the results of 6 analyzed samples from your #00-152.28; Port of Oakland project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Angela Rydelius, Lab Manager



110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 Website: www.mccampbell.com E-mail: main@mccampbell.com

ITSI			Client Project ID: #00-152.28; Port of Oakland	Date Sampled: 0	9/29/0	5	
2730 Shadela	nds Drive Suite 100		Cakiand	Date Received: 0	9/29/0	5	
Walnut Craek	CA 04508		Client Contact: Rachel Hess	Date Extracted: 1	0/03/0	5-10/6	04/05
wamut Creek	SI 30 Shadelands Drive Suite 100  alnut Creek, CA 94598  Gasoline R  ction method: SW5030B  Lab ID Client ID Ma  002A MW-2 V  003A MW-4 V  004A MW-4D V  005A MW-5 V		Client P.O.:	Date Analyzed: 1	10/03/05-10/04/05		
Extraction method:		line Rar	ige (C6-C12) Volatile Hydrocarbons as  Analytical methods: SW8015Cm	Gasoline*	Work	Order	0509653
	THE CONTRACTOR OF THE CONTRACT	Matri	- <u> </u>			DF	% SS
002A	MW-2	w	ND			1	99
003A	MW-4	w	360,a			1	98
004A	MW-4D	W	420,a			1	94
005A	MW-5	w	ND			1	116
006A	MW-8A	W	ND			1	102
				WALLES AND A STATE OF THE STATE			
	,						
Reporting	g Limit for DF =1;	W	50			111	g/L
ND mean	s not detected at or he reporting limit	S	NA				IA

<sup>\*</sup> water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.



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ITSI	,	Date Sampled: 09/29/05
2730 Shadelands Drive Suite 100	Oakland	Date Received: 09/29/05
Walnut Creek, CA 94598	Client Contact Rachel Hess	Date Extracted: 09/29/05
Wallut Cicca, CA 94396	Client P.O.	Date Analyzed: 10/02/05-10/04/05

#### Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons with Silica Gel Clean-Up\*

extraction method: SW	3510C		Analytical methods: SW8015C	•	Work O	Work Order: 0509653	
Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS	
0509653-002A	MW-2	w	ND	ND	1	115	
0509653-003A	MW-4	w	59,d	ND	1	103	
0509653-004A	MW-4D	w	ND	ND	1	107	
0509653-005A	MW-5	w	ND	ND	1	107	
0509653-006A MW-8A	w	66,b	ND	1	93		
	nit for DF =1; t detected at or	W	50	250	μ	g/L	
	porting limit	S	NA	NA	mg	/Kg	

<sup>\*</sup> water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel (asphalt); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



<sup>#)</sup> cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract; &) low or no surrogate due to matrix interference.



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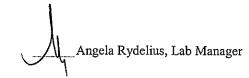
ITSI	Client Project ID: #00-152.28; Port of	Date Sampled: 09/29/05
2730 Shadelands Drive Suite 100	Oakland	Date Received: 09/29/05
Walnut Creek, CA 94598	Client Contact Rachel Hess	Date Extracted: 09/30/05-10/03/05
	Client P.O.	Date Analyzed: 09/30/05-10/03/05
··		

#### MTBE and BTEX by GC/MS\*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0509653

Extraction Method: SW5030B	An	alytical Method: SW 826	DB .		Work Order: 0509653			
Lab ID	0509653-001A	0509653-002B	0509653-003B	0509653-004B				
Client ID	Trip Blank MW-2 MW-4 MW-4D		MW-4D	Reporting Limit for				
Matrix	W	DF =1						
DF	1	1	10	10	S	w		
Compound		Conce		ug/kg	μg/L			
Benzene	ND	ND	160	150	NA	0.5		
Ethylbenzene	ND	ND	ND<5.0	ND<5.0	NA	0.5		
Methyl-t-butyl ether (MTBE)	ND	ND	ND<5.0	ND<5.0	NA	0.5		
Toluene	ND	ND	ND<5.0	ND<5.0	NA	0.5		
Xylenes	ND	ND	ND<5.0	ND<5.0	NA	0.5		
	Surre	ogate Recoveries	s (%)			,		
%SS1:	106	104	103	96				
%SS2:	99	99	98	96				
%SS3:	107	107	94	95				
Comments				<u> </u>				
4	47 **** 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		·					

<sup>\*</sup> water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.



ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

<sup>#</sup> surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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ITSI		Client Project ID: #00-152.28; Port of Oakland			Date Sampled:	09/29/05		
2730 Shadelands Drive Suite 100		Oakland			Date Received: 09/29/05			
Walnut Creek, CA 94598		Client Co	ontact Rachel He	Date Extracted:	Date Extracted: 09/30/05-10/03/05			
Wallut Cleek, CA 94398		Client P.	O.		Date Analyzed:	09/30/05-	10/03/05	
Extraction Method: SW5030B			E and BTEX by			Work Ord	Work Order: 0509653	
Lab ID	05096	53-005B	0509653-006B					
Client ID	M	[W-5	MW-8A			Reporting	Limit for	
Matrix		W	W				=1	
DF		1	1			S	W	
Compound			Conce		ug/kg	μg/L		
Benzene		ND	ND			NA	0.5	
Ethylbenzene		ND	ND			NA	0.5	
Methyl-t-butyl ether (MTBE)		ND	ND			NA	0.5	
Toluene		ND	ND			NA	0.5	
Xylenes		ND	ND			NA	0.5	
		Surro	gate Recoveries	(%)			'	
%SS1:	<del></del> , <del></del>	106	105					
%SS2:		99	97					
%SS3:		109	108					
Comments		7						

<sup>\*</sup> water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0509653

EPA Method: SW8015Cm Extraction: SW5030B					BatchID: 18294			Spiked Sample ID: 0509641-031A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
	µg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>£</sup>	ND	60	108	107	0.890	108	111	2.80	70 - 130	70 - 130
МТВЕ	ND	10	111	112	1.09	105	101	3.44	70 - 130	70 - 130
Benzene	ND	10	96	96.1	0.0776	108	112	3.43	70 - 130	70 - 130
Toluene	ND	10	94.9	98.5	3.68	102	105	2.53	70 - 130	70 - 130
Ethylbenzene	ND	10	96.7	98.5	1.82	107	110	2.54	70 - 130	70 - 130
Xylenes	ND	30	99.3	100	0.669	96.3	100	3.74	70 - 130	70 - 130
%SS:	97	10	96	95	1.01	107	110	2.90	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 18294 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0509653-002A	9/29/05 11:40 AM	10/04/05	0/04/05 12:10 AM	0509653-003A	9/29/05 10:20 AM	10/04/05	10/04/05 1:49 AM
0509653-004A	9/29/05 10:30 AM	10/03/05	10/03/05 1:58 AM	0509653-005A	9/29/05 11:00 AM	10/04/05	10/04/05 5:33 PM
0509653-006A	9/29/05 9:50 AM	10/03/05	10/03/05 2:57 AM				e de la companya de l

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons; a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due toghigh matrix or analyte content.

<sup>%</sup> Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

<sup>£</sup> TPH(btex) = sum of BTEX areas from the FID.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.



110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 Website: www.nccampbell.com E-mail: main@nccampbell.com

### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0509653

EPA Method: SW8015C	C Extraction: SW3510C					hID: 18304	ļ	Spiked Sample ID: N/A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Analyte	μg/L	µg/L µg/L		% Rec. % Rec.		% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	94.5	95.6	1.12	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	108	109	0.907	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 18304 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0509653-006A	9/29/05 9:50 AM	9/29/05	10/04/05 4:56 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons; a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



NONE

### McCampbell Analytical, Inc.

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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0509653

EPA Method: SW8015C	: SW3510	С	Batch	nID: 18207	•	Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Analyte	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	110	109	0.683	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	88	89	0.794	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

#### BATCH 18207 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0509653-002A	9/29/05 11:40 AM	9/29/05	10/02/05 1:56 PM	0509653-003A	9/29/05 10:20 AM	9/29/05	0/04/05 12:40 AM
0509653-004A	9/29/05 10:30 AM	9/29/05	10/04/05 1:45 AM	0509653-005A	9/29/05 11:00 AM	9/29/05	10/04/05 2:51 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0509653

EPA Method: SW8260B	E	xtraction	: SW5030	В	Batc	hID: 18296	5	Spiked Sample ID: 0509641-031B			
Analyte	Sample Spiked		MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)		
rinarya	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD	
Benzene	ND	10	115	111	3.56	113	117	3.80	70 - 130	70 - 130	
Methyl-t-butyl ether (MTBE)	ND	10	116	114	2.40	117	119	1.82	70 - 130	70 - 130	
Toluene	ND	10	101	101	0	99.7	103	3.42	70 - 130	70 - 130	
%SS1:	94	10	101	99	2.72	103	105	1.61	70 - 130	70 - 130	
%SS2:	96	10	87	85	2.39	89	89	0	70 - 130	70 - 130	
%SS3:	93	10	83	80	3.33	81	80	1.02	70 - 130	70 - 130	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 18296 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0509653-001A	9/29/05 7:00 AM	9/30/05	9/30/05 11:51 PM	0509653-002B	9/29/05 11:40 AM	10/01/05	0/01/05 12:34 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons; a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

\_\_\_\_QA/QC Officer

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 Website: www.mccampbell.com E-mail: main@nccampbell.com

### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0509653

EPA Method: SW8260B	E	xtraction	: <b>SW</b> 5030	В	Batcl	hID: 18303		Spiked Sample ID: 0509659-010C			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	: Criteria (%)	
7 mary to	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD	
Benzene	ND	10	113	114	0.526	114	114	0	70 - 130	70 - 130	
Methyl-t-butyl ether (MTBE)	ND	10	115	118	2.21	116	118	1.21	70 - 130	70 - 130	
Toluene	ND	10	97.7	99.5	1.76	102	103	0.363	70 - 130	70 - 130	
%SS1:	108	10	105	105	0	106	104	1.71	70 - 130	70 - 130	
%SS2:	100	10	87	87	0	91	91	0	70 - 130	70 - 130	
%SS3:	94	10	76	80	5.35	81	81	0	70 - 130	70 - 130	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 18303 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0509653-003B	9/29/05 10:20 AM	10/03/05	10/03/05 1:09 PM	0509653-004B	9/29/05 10:30 AM	10/03/05	10/03/05 1:52 PM
0509653-005B	9/29/05 11:00 AM	10/01/05	10/01/05 2:43 AM	0509653-006B	9/29/05 9:50 AM	10/01/05	10/01/05 3:26 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

Innovative 2730 Shadelands Drive, Suite 1 Walnut Creek, California 94598 Solutions, Inc. (925) 946-3100 – (925) 256-89			Local Ado	lress:	227 Jelau	7 S	even H. Cal f	st. orcuin		Cha	in-	-01	f-Cust	tod	у .
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Project Manager: Kachel 'Hees'		Ad-	dress: 🏒	) Se	ienc	1 Auc		Contact Nan	1e: Au	jela c	Kydi	leci	Page:	of _	(
Site Location: 7th Street Site	<del></del>	<del></del>	-Eu	cheer	i Ca	- 94	533	Phone:	125	7981	620	)	-		
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110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0509653

ClientID: ITSI

EDF: NO

Report to:

ITSI

Rachel Hess

TEL:

(510) 719-6858

(925) 256-8998

2730 Shadelands Drive Suite 100 Walnut Creek, CA 94598

FAX: ProjectNo: #00-152.28; Port of Oakland

PO:

Bill to:

Jeff Rubin

Port of Stockton

Requested TAT:

5 days

P.O. Box 2089 Date Received: Stockton, CA 95201-2089

09/29/2005

Date Printed: 09/29/2005

****		******							***								· ·	7127120	005
										Reques	ted Tes	ts (See I	egend b	elow)					
Sample ID	ClientSamplD	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0509653-001	Trip Blank	Water	9/29/05 7:00:00 AM			Α		1			1		<u> </u>	Т			1		
0509653-002	MW-2	Water	9/29/05 11:40:00		Α	В		-								<u> </u>			+
0509653-003	MW-4	Water	9/29/05 10:20:00	171	Α	В			1				<u> </u>	-				<del> </del>	-
0509653-004	MW-4D	Water	9/29/05 10:30:00	╅╗┪	A	В			+	-									
0509653-005	MW-5	Water	9/29/05 11:00:00	171	Α	В				<del>                                     </del>					-			-	
0509653-006	MW-8A	Water	9/29/05 9:50:00 AM		A	В		-	+	<del> </del>		+			-			<del></del>	+

#### Test Legend:

1	G-MBTEX_W
6	
11	

2	MBTEX-8260B_W
7	
12	

3	
8	
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4	
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14	

5	
10	
15	

Prepared by: Melissa Valles

#### Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

# APPENDIX C

**DAILY FIELD ACTIVITY REPORT** 





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

PROJECT NAME (1967 of Oak and	DATE: 09 29 2005
PROJECT NUMBER: 00-182.28 DAILY ACTIVITY REPORT	PAGE OF
SITE LOCATION: 2271 Seventh Street, Oakland, California	
DESCRIPTION OF FIELD ACTIVITIES AND EVENTS	S
8:00 Get Ice + Sampling Van at Alameda trailer	
9:00 Arrive at site. Tennants gate closed.	
9:15 Tement arrives at site	
1113 Emmary William and Str	
9:20 Set up at NW-8A	
9:50 Sample NW-8A	
accept an about	
9:55 Set up et MW-4	
10:20 Sample NW-4	
70:20 2000	
10:30 Set up at NW-5	
11:00 Sample MW-5	
11:20 Sample MW-2	
11:20 Sampa MW-2	
11:40 Sample NW-2	
12:00 Measure product at NW-1: 0.67	
12:40 Measure product at NW-3: 1.40'	
13:00 Transler all purged water into 55-gal o	drum (1 fill drum
13:00 Transfer all turged water into 55-gal and leave it ousite.	201 come 12 port con and
13:40 Lelease C.O.C. and samples at McCamp	stell in tacheo
14:00 Februar Wahr meter at EQUIPCO.	
DEED DAY A DESTINATION DAY	
PREPARED BY: REVIEWED BY: DATE: O9 22 2005 DATE:	
PREPARERS SIGNATURE: REVIEWERS SIGNATURE:	

<sup>\*</sup> Not appropriate for a field activity report when only one responsible person is in the field.