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.....

# Xtra Oil Company

**RECEIVED**

1:24 pm, Jan 26, 2009

Alameda County  
Environmental Health

January 9, 2009

Mr. Steven Plunkett  
Alameda County Environmental Health Department  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

**SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING  
REPORT CERTIFICATION**  
County Case # RO 191  
Xtra Oil Company  
1701 Park Street  
Alameda, CA

Dear Mr. Plunkett:

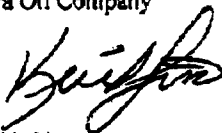
P&D Environmental, Inc. has prepared the following document:

- Quarterly Groundwater Monitoring and Sampling Report (September Through November 2008) dated January 9, 2009 (document 0058.R11).

I declare under penalty of perjury that the contents and conclusions in the document are true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to contact me at (510) 865-9506.

Sincerely,  
Xtra Oil Company

  
Keith Simas

0058.L30

.....

*Retail Fueling/Convenience Stores*

# **P&D ENVIRONMENTAL, INC.**

**55 Santa Clara Avenue, Suite 240**

**Oakland, CA 94610**

**(510) 658-6916**

January 9, 2009  
Report 0058.R11

Mr. Ted Simas  
Mr. Keith Simas  
Xtra Oil Company  
2307 Pacific Ave.  
Alameda, CA 94501

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT  
(SEPTEMBER THROUGH NOVEMBER 2008)  
County Case # RO 191  
Xtra Oil Company  
1701 Park Street  
Alameda, CA

Gentlemen:

P&D Environmental, Inc. (P&D) is pleased to present this report documenting the results of the most recent quarterly monitoring and sampling of the groundwater monitoring wells at the subject site. Field activities were performed on November 25, 2008. The monitoring and sampling was performed in conjunction with monitoring and sampling by Environmental Resolutions, Inc. (ERI) at the 1725 Park Street Exxon/Valero site. The reporting period is for September through November 2008. A Site Location Map (Figure 1) and Site Vicinity Map (Figure 2) are attached with this report.

## BACKGROUND

The subject site is presently used as a retail gasoline station. In April 1994, the Xtra Oil Company site was expanded onto the adjacent property at 2329 Buena Vista Avenue. Three gasoline underground storage tanks (USTs) and one diesel UST were removed from the property. The UST volumes and construction details are unknown. The USTs were replaced with two 10,000 gallon and one 7,000 gallon double walled USTs. One UST, which had been used to store heating oil, was removed from 2329 Buena Vista Avenue. At the time of the UST removals in April and May 1994, Alisto Engineering Group (Alisto) personnel collected 12 soil samples from the former UST pit and dispenser island excavations. Petroleum hydrocarbons were detected in the soil at the time of tank removal. According to Alisto's Additional Investigation Report dated December 19, 2001 documentation of the UST removal and associated sample results are provided in Alisto's Tank Closure Report dated July 5, 1994.

Alisto performed a subsurface investigation in November 1994 to assess the nature and extent of petroleum hydrocarbons in soil and groundwater at the site. Soil borings B1, B2 and B3 were drilled onsite to a total depth of 20 feet, and later converted into monitoring wells MW-1, MW-2 and MW-3, respectively.

Laboratory analytical results indicated the presence of petroleum hydrocarbons in the soil from between 7 and 8 feet below grade (fbg) at the locations of wells MW-1 and MW-2.

Total Petroleum Hydrocarbons as Gasoline (TPH-G) were detected at concentrations of up to 12,000 milligrams per kilogram (mg/kg), Total Petroleum Hydrocarbons as Diesel (TPH-D) were detected at concentrations of up to 6,700 mg/kg, and benzene was detected at concentrations of up to 70 mg/kg in the soil. According to Alisto's Additional Investigation Report dated December 19, 2001, documentation of the subsurface investigation and associated sample results are provided in Alisto's Preliminary Site Assessment Report dated January 13, 1995.

A quarterly groundwater monitoring and sampling program was initiated by Alisto in November of 1994. The groundwater flow direction has historically ranged from northeasterly to southeasterly. Free product was observed in well MW-2 from the initiation of quarterly monitoring until the July 2000 event with a maximum thickness of 0.21 feet detected in May 1997 and August 1999. From November 1994 to June 2004, the depth to water at the site ranged from 3.51 to 9.12 feet below grade (fbg). TPH-G has been detected in the wells at a maximum concentration of 100,000 micrograms per liter ( $\mu\text{g/l}$ ) in MW-1 (September 1997), TPH-D at a maximum concentration of 6,700,000  $\mu\text{g/l}$  in MW-2 (free product in May 1997), benzene at a maximum concentration of 22,000  $\mu\text{g/l}$  in MW-1 (November 1995), and MTBE at a maximum concentration of 19,000  $\mu\text{g/l}$  in MW-1 (June 1996).

In June 1996, Alisto performed a review of utility records at the County of Alameda Public Works Agency. A 10-inch diameter sanitary sewer was determined to be located in the center of Park Street at approximately 11 fbg. Due to groundwater depths of less than 11 fbg at the site, Alisto determined that the sanitary sewer trench may act as a preferential pathway for petroleum hydrocarbons migrating from the site toward Park Street. The report did not address site vicinity stratigraphy with respect to utility depths. According to Alisto's Additional Investigation Report dated December 19, 2001, documentation of the utility record review is provided in Alisto's Additional Investigation Report dated June 27, 1997.

Alisto performed an additional subsurface investigation in April 1997. The investigation included the installation of monitoring well MW-4 and the drilling of soil boring SB-1. The soil collected at the location of well MW-4 contained 5,300 mg/kg of TPH-G, 1,100 mg/kg of TPH-D and 15 mg/kg of methyl tertiary-butyl ether (MTBE). Total Organic Carbon (TOC) was detected in the soil at the location of boring SB-1 at a concentration of 830 mg/kg. According to Alisto's Additional Investigation Report dated December 19, 2001, documentation of the utility record review is provided in Alisto's Additional Investigation Report dated June 27, 1997.

In October 1999, Alisto prepared a Corrective Action Plan (CAP) to evaluate alternatives for site remediation and to develop a plan to address impacted soil and groundwater at the site. The CAP included a description of the soil types encountered during previous investigations at the site. Silty to gravelly clays predominate from the ground surface to approximately 8 fbg and are underlain by sandy silt and sandy clay to the total explored depth of 20 fbg. Alisto recommended a remediation plan that included air sparging and vapor extraction followed by thermal treatment of the extracted soil gas. Alisto also recommended performing vapor extraction and air sparging pilot tests to

confirm the feasibility of the recommended remedial methods. Details of the plan are presented in Alisto's October 14, 1999 Corrective Action Plan.

On April 5, 2000, Alisto installed air sparging wells ASP-1 through ASP-7 to depths of between 26 and 30 fbg. The air sparging well locations are shown on Figure 2. A soil vapor extraction test was performed on October 12, 2000 using a slotted horizontal vapor extraction pipe located at a depth of four feet in a trench at the site. Figure 2 shows that the trench surrounds the UST pit and dispenser islands on the northeast, southeast and southwest. The trench was installed at the time of site reconstruction in 1994. Vacuum pressure changes in monitoring wells MW-1, MW-2, and MW-4 were observed to determine the zone of influence during the test. An air sparging pilot test was performed on October 13, 2000 using wells MW-1 and MW-4 to monitor the influence of air injected air sparging wells on groundwater elevations and hydrocarbon concentrations in soil vapor and groundwater. Alisto concluded from the results of the tests that a combination of air sparging and vapor extraction can be effective in removing petroleum hydrocarbons from the subsurface materials. Documentation of the field activities and sample results are presented in Alisto's Remedial Investigation Report, dated February 8, 2001.

In November 2001, Alisto hand augered offsite borings TW-1, TW-2, and TW-3 to further assess the horizontal extent of petroleum hydrocarbon impact to soil and groundwater in the vicinity of the site. The locations of the borings are shown in Figure 2. Soil samples were collected at a depth of 7 fbg in each boring. The borings were subsequently converted into temporary groundwater monitoring wells and sampled. No TPH-G, TPH-D, benzene, toluene, ethylbenzene, xylenes, or MTBE were detected in any of the soil samples collected. Only MTBE at a concentration of 7.8 µg/l in TW-2 was detected in the groundwater samples. Based on the results of the soil and groundwater sampling, Alisto concluded that the extent of petroleum hydrocarbon impact is limited to within 80 feet of the property. Documentation of the field activities and sample results are presented in Alisto's Additional Investigation Report, dated December 19, 2001.

Petroleum hydrocarbon subsurface investigation and remediation have historically been performed at the former Exxon station (presently operated as a Valero station) at 1725 Park Street, located approximately 100 feet northeast of the subject site. ERI provided the results of their sensitive receptor and well survey in their Sensitive Receptor Survey Update Report for the Exxon/Valero site at 1725 Park Street, dated August 2, 2002. Eight utility vaults and two catch basins were identified adjacent to the site. For surface water bodies, a tidal canal was identified 1,000 feet away. Within 1,000 feet, three basements were identified upgradient from the site. No wells were located within 2,000 feet and no tunnels or subways were located within 1,000 feet.

P&D submitted to the Alameda County Department of Environmental Health (ACDEH) a Subsurface Investigation Work Plan (document 0058.W1) dated September 1, 2006 for investigation of the horizontal extent of petroleum hydrocarbons in soil and groundwater in the vicinity of the subject site. In a letter dated September 22, 2006 titled, "Change In Consultant of Record" Xtra Oil Company identified P&D as the new consultant of record. Between November 3 and November 9, 2006, soil borings were drilled at five locations designated as B3 through B7 to evaluate stratigraphy and the subsurface distribution of petroleum hydrocarbons in the site vicinity. Documentation of the field activities and sample results are presented in P&D's Subsurface Investigation Report (B3 Through B7) dated March 6, 2007 (document 0058.R2).

On September 8, 2006 Alisto performed quarterly monitoring and sampling of the wells at the subject site. The monitoring and sampling was performed in conjunction with monitoring and sampling by ERI at the 1725 Park Street Exxon/Valero site. Documentation of the monitoring and sampling is provided in Alisto's Third Quarter 2006 Groundwater Monitoring and Sampling Report dated November 3, 2006 (uploaded to GeoTracker on November 27, 2006). The fourth quarterly monitoring and sampling event for 2006 was performed by P&D on November 6, 2006.

### FIELD ACTIVITIES

On November 25, 2008, P&D monitored wells MW1, MW2, MW3, and MW4 for depth to water to the nearest 0.01 foot using an electric water level indicator, and sampled wells MW1, MW2, MW3, and MW4. The monitoring and sampling was performed in conjunction with monitoring and sampling by ERI at the 1725 Park Street Exxon/Valero site. Historic monitoring and sampling data obtained by others for the subject site are attached with this report as Appendix A.

Following determination of depth to water, the wells were evaluated for the presence of free product or sheen by using a transparent bailer. No measurable free product was detected in any of the wells. Petroleum hydrocarbon odors were detected on the purge water from wells MW1, MW2 and MW4, and petroleum hydrocarbon sheen was detected on the purge water from wells MW1 and MW2. The purge water from well MW2 was noted as containing separate phase hydrocarbon droplets. Petroleum hydrocarbon odor and sheen were absent from the purge water from well MW3.

Prior to sampling, all of the wells were purged of a minimum of three casing volumes of water or until the well dewatered. During purging operations, the field parameters of pH, electrical conductivity and temperature were monitored. Once a minimum of three casing volumes had been purged or the well dewatered, water samples were collected using a new disposable polypropylene bailer for each well. The water samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials containing hydrochloric acid preservative and to one-liter amber glass bottles that were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to ensure that no air bubbles were present.

The sample containers were then transferred to a cooler with ice, and later were transported to McCampbell Analytical, Inc. in Pittsburg, California. McCampbell Analytical, Inc. is a State-accredited hazardous waste testing laboratory. Chain of custody documentation accompanied the samples to the laboratory. Records of the field parameters measured during well purging are attached with this report.

### HYDROGEOLOGY

Water levels in wells MW1, MW2, MW3, and MW4 were monitored once during the quarter. The measured depth to water on November 25, 2008 ranged from 7.61 to 8.21 feet. Since the previous monitoring and sampling event on August 27, 2008, groundwater elevations have increased in all of the wells by amounts ranging from 0.12 to 0.40 feet. Based on the measured depth to water in groundwater monitoring wells MW1, MW2, and MW3, the apparent groundwater flow direction at the site on November 25, 2008 was calculated to be to the east

with a gradient of 0.0060. During the previous monitoring event on August 27, 2008, the groundwater flow direction was calculated to be to the east-northeast with a gradient of 0.0044. Since the previous monitoring and sampling event, the calculated groundwater flow direction has shifted slightly to the east and the gradient has increased. The groundwater flow direction on November 25, 2008 was not consistent with the historic northeasterly groundwater flow direction obtained using the groundwater surface elevation information from the 1725 Park Street Exxon/Valero site in conjunction with groundwater surface elevation data from the subject site. Depth to water level measurements and calculated groundwater surface elevations are presented in Table 1. The calculated groundwater flow direction at the site on November 25, 2008 is shown on Figure 2. In addition, the approximate historic northeasterly groundwater flow direction obtained using the groundwater surface elevation information from the 1725 Park Street Exxon/Valero site in conjunction with groundwater surface elevation data from the subject site is shown in Figure 2.

### LABORATORY RESULTS

The groundwater samples collected from wells MW1, MW2, MW3, and MW4 at the subject site were analyzed for Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) and TPH-D using EPA Method 3510C in conjunction with EPA Method 8015C; TPH-G and methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, total xylenes (BTEX) using EPA Method 5030B in conjunction with modified EPA Method 8015C and EPA Method 8021B; and for Fuel Oxygenates and Lead Scavengers by EPA Method 5030B in conjunction with EPA Method 8260B.

None of the analytes were detected in well MW3. In the remaining wells, TPH-MO was detected in well MW2 at a concentration of 6,400 µg/L, and was not detected in wells MW1 and MW4. In wells MW1, MW2, and MW4, TPH-D was detected at concentrations of 2,400, 23,000, and 1,900 µg/L, respectively; and TPH-G was detected at concentrations of 20,000, 8,700, and 10,000 µg/L, respectively. In wells MW1, MW2 and MW4, MTBE was detected at concentrations of 1,900, 14, and 270 µg/L, respectively, benzene was detected at concentrations of 5,500, 740, and 630 µg/L, respectively, and the fuel oxygenate tert-Butyl alcohol (TBA) was detected at concentrations of 16,000, 11, and 190 µg/L, respectively. No other fuel oxygenates or lead scavengers were detected in any of the wells with the exception of MTBE reported above. Review of the laboratory analytical reports shows that the results reported as TPH-D for wells MW1 and MW4 are identified as gasoline-range compounds, and the results reported as TPH-D for well MW2 are identified as containing both gasoline and diesel-range compounds. The laboratory analytical results are summarized in Table 2. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

Since the previous sampling event on August 27, 2008, all analyte concentrations in well MW3 have remained not detected; all analyte concentrations in well MW4 increased or remained not detected; all analyte concentrations in well MW2 increased with the exceptions of TPH-G, benzene, and ethylbenzene, which decreased, and MTBE which remained not detected; and all analyte concentrations in well MW1 decreased or remained not detected, with the exceptions of MTBE and benzene, which increased.

## DISCUSSION AND RECOMMENDATIONS

The four groundwater monitoring wells at the subject site (MW1, MW2, MW3, and MW4) were monitored and sampled on November 25, 2008 in conjunction with the monitoring and sampling event performed by ERI for the Exxon/Valero facility located at 1725 Park Street. The measured depth to water at the subject site ranged from 7.61 to 8.21 feet. Groundwater elevations increased in all of the wells by amounts ranging from 0.12 to 0.40 feet since the last sampling event.

Since the previous monitoring and sampling event, the calculated groundwater flow direction has shifted slightly towards the east and the gradient has increased. The groundwater flow direction on November 25, 2008 was not consistent with the historic northeasterly groundwater flow direction obtained using the groundwater surface elevation information from the 1725 Park Street Exxon/Valero site in conjunction with groundwater surface elevation data from the subject site.

Petroleum hydrocarbon odors were detected on the purge water from wells MW1, MW2 and MW4, and petroleum hydrocarbon sheen was detected on the purge water from wells MW1 and MW2, with the purge water from well MW2 containing separate phase hydrocarbon droplets. The sample results showed that no analytes were detected in well MW3. Additional analysis for fuel oxygenates and lead scavengers was performed for the first time during this quarter, and the only fuel oxygenate or lead scavenger detected other than MTBE was TBA, with the highest concentration of 16,000 ug/L detected in well MW1. Review of the water quality data shows that TPH-D in groundwater appears to be limited to the vicinity of well MW2, and that the highest concentrations of TPH-G and associated compounds are encountered in the vicinity of MW1. Based on the results of the groundwater sample analysis, P&D recommends that the present quarterly monitoring and sampling program be continued.

The next monitoring and sampling event will be scheduled to be performed in conjunction the next ERI monitoring and sampling event for the Exxon/Valero facility located at 1725 Park Street. In accordance with recent communications with ACDEH, although future monitoring and sampling events will be performed in conjunction with ERI, the ERI results are not included in this current report and will not be included in future P&D reports because the information is readily available via the internet at both the county website and the GeoTracker website.

## DISTRIBUTION

A copy of this report will be uploaded to the ACDEH website, in accordance with ACDEH requirements. In addition, a copy of this report will be uploaded to the GeoTracker database.

## LIMITATIONS

This report was prepared solely for the use of Xtra Oil Company. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with the site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgment based on said information at the time of

preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

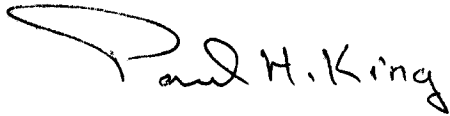
This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities, which are used in this report.

This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions or comments, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

P&D Environmental, Inc.



Paul H. King  
Professional Geologist #5901  
Expires 12/31/09



- Attachments:
- Table 1: Well Monitoring Data
  - Table 2: Summary of Laboratory Analytical Results
  - Figure 1: Site Location Map
  - Figure 2: Site Vicinity Map Showing Groundwater Surface Elevations
  - Groundwater Monitoring/Well Purging Data Sheets
  - Laboratory Analytical Reports and Chain of Custody Documentation
  - Historic Water Level and Water Quality Data for the Subject Site (Appendix A)

PHK/sjc  
0058.R11



# **TABLES**

<b>Table 1. Well Monitoring Data</b>				
Well Number	Date Monitored	Top of Casing Elevation (ft-msl.)	Depth to Water (ft)	Water Table Elevation (ft-msl.)
MW1	11/25/2008	19.60	7.91	11.69
	8/27/2008		8.03	11.57
	5/28/2008		7.28	12.32
	2/27/2008		6.15	13.45
	11/29/2007		7.82	11.78
	8/29/2007		8.29	11.31
	5/29/2007		7.44	12.16
	3/12/2007		6.34	13.26
	11/6/2006		7.99	11.61
	MW2		11/25/2008	20.31
8/27/2008		8.40	11.91	
5/28/2008		7.72	12.59	
2/27/2008		6.49	13.82	
11/29/2007		8.15	12.16	
8/29/2007		8.55	11.76	
5/29/2007		7.79	12.52	
3/12/2007		6.82	13.49	
11/6/2006		8.25	12.06	
MW3		11/25/2008	20.57	
	8/27/2008	8.23		12.34
	5/28/2008	7.36		13.21
	2/27/2008	5.75		14.82
	11/29/2007	7.88		12.69
	8/29/2007	8.31		12.26
	5/29/2007	7.26		13.31
	3/12/2007	6.03		14.54
	11/6/2006	8.09		12.48
	MW4	11/25/2008		19.69
8/27/2008		7.91	11.78	
5/28/2008		6.97	12.72	
2/27/2008		5.38	14.31	
11/29/2007		7.57	12.12	
8/29/2007		8.07	11.62	
5/29/2007		7.38	12.31	
3/12/2007		5.30	14.39	
11/6/2006		7.60	12.09	

**Abbreviations and Notes:**  
 ft-msl = feet above mean sea level  
 ft = feet

**Table 2. Summary of Laboratory Analytical Results**

Well Number	Sample Date	TPH-MO	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Fuel Oxygenates & Lead Scavengers
MW1	11/25/2008	ND<250	2,400, c	20,000	1,900	5,500	490	530	1,300	ND, except TBA = 16,000
	8/27/2008	ND<250	5,200, c	46,000	1,300	4,600	1,800	2,000	5,200	NA
	5/28/2008	290	6,100, c	40,000	1,600	4,200	2,600	1,700	5,900	NA
	2/27/2008	310	4,900, c	45,000	2,600	6,200	3,100	1,300	5,100	NA
	11/29/2007	ND<250	3,100, b, c	27,000	2,600	4,700	930	770	2,600	NA
	8/29/2007	470	3,900, b, c	26,000	3,200	5,400	1,400	810	3,000	NA
	5/30/2007	ND<250	3300, c	22,000	ND<750	400	380	1,100	3,600	NA
	3/12/2007	300	3,500, b, c	38,000	3,500	5,400	2,900	1,300	5,100	NA
11/6/2006	360	3,400,a,c	44,000,a	3,900	5,600	2,300	920	3,000	NA	
MW2	11/25/2008	6,400	23,000, a,c,d	8,700, a	14,e	740	15	90	27	ND, except TBA = 11
	8/27/2008	2,200	9,200, a,c,d	13,000, a	ND<200	990	14	93	19	NA
	5/28/2008	7,200	25,000a,c,d	12,000, a	ND<210	2,000	77	77	90	NA
	2/27/2008	6,800	21,000, a,c,d	11,000, a	ND<150	940	36	ND<10	22	NA
	11/29/2007	11,000	32,000, a,c,d	11,000, a	ND<50	1,000	28	120	31	NA
	8/29/2007	2,600	6,300, a, b, c	8,600, a	ND<100	1,300	36	48	48	NA
	5/30/2007	5,800	22,000, a,c,d	14,000, a	ND<210	2,200	51	100	99	NA
	3/12/2007	21,000	74,000, a, c,d	8,500, a	ND< 80	1,200	34	140	69	NA
11/6/2006	11,000	45,000, a,c	14,000,a	ND<120	1,400	27	200	37	NA	
MW3	11/25/2008	ND<250	ND<50	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND
	8/27/2008	ND<250	ND<50	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
	5/28/2008	ND<250	ND<50	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
	2/27/2008	ND<250	ND<50	ND<50	15	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
	11/29/2007	ND<250	ND<50	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
	8/29/2007	ND<250	ND<50	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
	5/30/2007	ND< 250	ND<50	ND<50	ND< 5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
	3/12/2007	ND< 250	ND< 50	ND< 50	ND< 5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
11/6/2006	ND<250	ND<50	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA	
MW4	11/25/2008	ND<250	1,900, c	10,000	270	630	130	390	1,500	ND, except TBA = 190
	8/27/2008	ND<250	830, c	9,300	ND<250	260	85	370	1,300	NA
	5/28/2008	ND<250	1,400, c	2,200	ND<30	16	38	100	320	NA
	2/27/2008	ND<250	1,900, c	8,000	ND<50	47	110	270	1,300	NA
	11/29/2007	ND<250	2,800, c	12,000	ND<180	260	230	580	2,500	NA
	8/29/2007	ND<250	560, c	12,000, a	660	910	200	750	2,200	NA
	5/30/2007	610	4,500, c	43,000	3,600	5,800	3,700	1,400	5,400	NA
	3/12/2007	ND< 250	3,100, c	19,000	370	560	450	1,100	4,400	NA
11/6/2006	850	4,300,c	23,000	ND<900	680	250	930	3,100	NA	

**Abbreviations and Notes:**

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil  
 TPH-D = Total Petroleum Hydrocarbons as Diesel  
 TPH-G = Total Petroleum Hydrocarbons as Gasoline  
 MTBE = Methyl tertiary-butyl ether  
 TBA = tert-Butyl alcohol.  
 ND = Not Detected.  
 NA = Not Analyzed.  
 a = Laboratory Note: lighter than water immiscible sheen/ product is present  
 b = Laboratory Note: diesel range compounds are significant; no recognizable pattern  
 c = Laboratory Note: gasoline range compounds are significant  
 d = Laboratory Note: unmodified or weakly modified diesel range compounds are significant  
 e = Analysis by EPA 8260B as part of fuel oxygenate analysis. All other results for MTBE and all results for BTEX are by EPA 8021B.  
 Results are in micrograms per liter (μg/L), unless otherwise noted.

# FIGURES

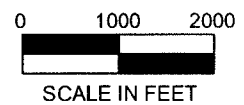


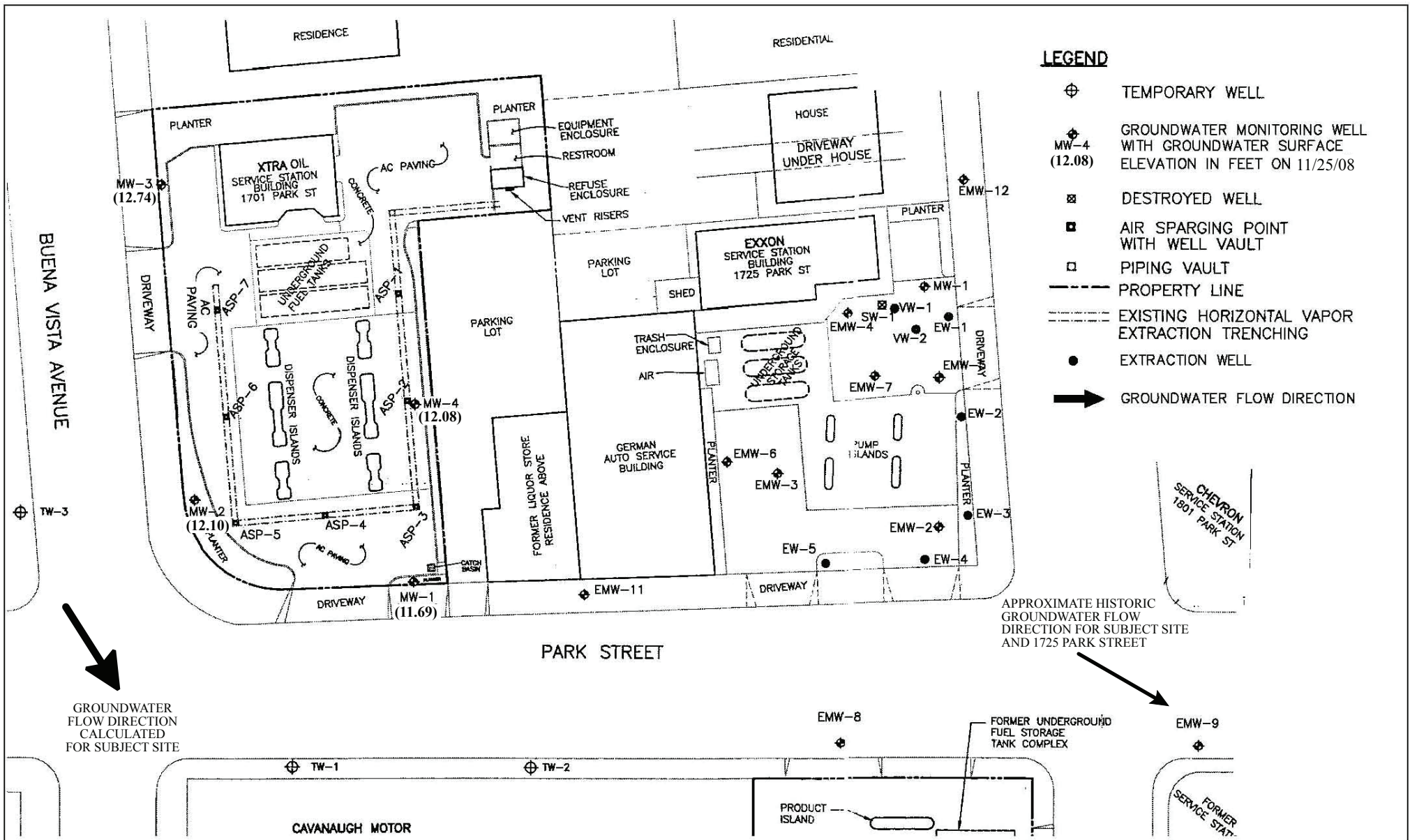
FIGURE 1  
 Site Location Map  
 1701 Park Street  
 Alameda, CA



Base Map From:  
 USGS Topographic Map, 7.5 minute series,  
 Oakland East, Calif. quadrangle, 1980

P&D Environmental, Inc.  
 55 Santa Clara Ave, Ste. 240  
 Oakland, CA 94610





**WELL MONITORING AND  
PURGE DATA SHEETS**

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name Xtra Oil / Park St, Alameda  
Job No. 0058  
TOC to Water (ft.) 7.91  
Well Depth (ft.) 19.2  
Well Diameter 2" (0.16)  
Gal./Casing Vol. 1.8

Well No. MW1  
Date 11/25/08  
Sheen yes  
Free Product Thickness Ø  
Sample Collection Method Disposable bailer

3 vol = 5.4

TIME	GAL. PURGED	DH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µs/cm
1416	0.6	6.22	20.5	711
1420	1.2	6.39	20.8	928
1422	1.8	6.46	21.2	1,003
1424	2.4	6.49	21.2	1,000
1426	3.0	6.54	21.3	998
1428	3.6	6.55	21.4	1,007
1430	4.2	6.57	21.6	<del>1,000</del> 1,081
1432	4.8	6.60	<del>21.6</del> 21.7	<del>1,000</del> 1,107
1434	5.4	6.60	21.9	1,143

NOTES: Sheen + Strong photo  
sample time = 14:50 hrs



(4)

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

(4)

Site Name Xtra Oil/Park St, Alameda  
Job No. 0058  
TOC to Water (ft.) 8.21  
Well Depth (ft.) 13.4  
Well Diameter 2" (0.16)  
Gal./Casing Vol. 0.9

Well No. MW 2  
Date 11/25/08  
Sheen yes  
Free Product Thickness Ø  
Sample Collection Method Disposable bailer

3 vol = 2.7

TIME	GAL. PURGED	DH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µS/cm
1513	0.3	6.45	21.0	618
1515	0.6	6.35	21.5	649
1517	0.9	6.37	21.6	697
1518	1.2	6.38	21.6	704
1520	1.5	6.39	<del>21.7</del> 21.7	722
1521	1.8	6.39	21.7	720
1522	2.1	6.40	21.8	723
1523	2.4	6.39	21.9	<del>736</del> 736
1525	2.7	6.39	21.9	740

NOTES: sheen; strong phc odors; sph droplets in H<sub>2</sub>O throughout & beginning of purge  
Sample time => 1530 hrs & on bailer

①

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name Xtra Oil / Park St., Alameda

Well No. MW3

Job No. 0058

Date 11/25/08

TOC to Water (ft.) 7.83

Sheen No

Well Depth (ft.) 19.3

Free Product Thickness 0

Well Diameter 2" (0.16)

Sample Collection Method

Gal./Casing Vol. 1.9

Disposable bailer

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY $\mu\text{s/cm}$
1328	0.6	6.44	19.9	418
1331	1.2	6.10	20.5	378
1333	1.9	5.97	20.7	380
1335	2.5	5.96	20.7	374
1337	3.1	5.94	20.7	<del>369</del> 371
1339	3.8	5.92	20.7	391
1341	4.4	5.90	<del>20.8</del> 20.7	412
1343	5.0	5.94	20.8	389
1345	5.7	5.93	20.8	392

NOTES: No sheen no odor  
Sample time  $\approx$  1400hrs

2

P&D ENVIRONMENTAL  
GROUNDWATER MONITORING/WELL PURGING  
DATA SHEET

Site Name XtraOil/Parkst., Alameda

Well No. MW4

Job No. 0058

Date 11/25/08

TOC to Water (ft.) 7.61

Sheen No

Well Depth (ft.) 10.9

Free Product Thickness Ø

Well Diameter 2" (0.16)

Sample Collection Method

Gal./Casing Vol. 0.6

Disposable bailer

3 Vol = 1.8

TIME	GAL. PURGED	pH	TEMPERATURE °C	ELECTRICAL CONDUCTIVITY µS/cm
<u>1404</u>	<u>0.2</u>	<u>6.40</u>	<u>18.2</u>	<u>229</u>
<u>1406</u>	<u>0.4</u>	<u>6.36</u>	<u>18.3</u>	<u>231</u>
<u>1407</u>	<u>0.6</u>	<u>6.25</u>	<u>18.4</u>	<u>227</u>
<u>1409</u>	<u>0.8</u>	<u>well dewatered @ 10.75 gallons</u>		
	<u>1.0</u>			
	<u>1.2</u>			
	<u>1.4</u>			
	<u>1.6</u>			
	<u>1.8</u>			

NOTES: No sheen; moderate phc odor  
sample time ≈ 150hrs

**LABORATORY REPORTS  
AND CHAIN OF CUSTODY  
DOCUMENTATION**



## **McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

P & D Environmental 55 Santa Clara, Ste.240 Oakland, CA 94610	Client Project ID: #0058; Xtra Oil/Park St. Alameda	Date Sampled: 11/25/08
		Date Received: 11/26/08
	Client Contact: Steve Carmack	Date Reported: 12/03/08
	Client P.O.:	Date Completed: 12/03/08

**WorkOrder: 0811827**

December 03, 2008

Dear Steve:

Enclosed within are:

- 1) The results of the **4** analyzed samples from your project: **#0058; Xtra Oil/Park St. Alameda,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

PROJECT NUMBER: <b>0058</b>		PROJECT NAME: <b>Xtra Oil / Park St. Alameda</b>		NUMBER OF CONTAINERS	ANALYSIS(ES): <b>TPH Multirun (G.P.M.) MBTEX by 8021B End Date: 06/25/08 82608</b>	PRESERVATIVE	REMARKS
SAMPLED BY: (PRINTED AND SIGNATURE) <b>Steve Carmack</b> <i>[Signature]</i>							
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION			
MW-1	11/25/08	1450	H <sub>2</sub> O		X	X	ICG Normal Turnaround Time
MW-2	↓	1530	↓		X	X	↓ ↓ ↓ ↓
MW-3	↓	1400	↓		X	X	
MW-4	↓	1500	↓		X	X	
					ICE / °C: <b>YES 3.9°C</b> GOOD CONDITION: <input checked="" type="checkbox"/> APPROPRIATE CONTAINERS: <input checked="" type="checkbox"/> HEAD SPACE ABSENT: <input checked="" type="checkbox"/> PRESERVED IN LAB: <input checked="" type="checkbox"/> DECONTAMINATED IN LAB: <input checked="" type="checkbox"/> VOAS (O & G METALS) OTHER: <input type="checkbox"/> PRESERVATION: <input type="checkbox"/>		
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE <b>11/26/08</b>	TIME <b>1100</b>	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>		TOTAL NO. OF SAMPLES (THIS SHEET) <b>4</b>	LABORATORY: <b>McCampbell Analytical</b>
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE <b>11/26/08</b>	TIME <b>415</b>	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>		TOTAL NO. OF CONTAINERS (THIS SHEET) <b>28</b>	LABORATORY CONTACT: <b>Angele Rydelins</b>
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)		LABORATORY PHONE NUMBER: <b>(877) 252-9262</b>	
				SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO			
Results and billing to: P&D Environmental, Inc. <a href="mailto:acc@xtraoil@sbcglobal.net">acc@xtraoil@sbcglobal.net</a> lab@pdenviro.com				REMARKS: <b>All bottles preserved w/ HCL</b>			

# McCampbell Analytical, Inc.



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0811827

ClientCode: PDEO

WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

Steve Carmack  
P & D Environmental  
55 Santa Clara, Ste.240  
Oakland, CA 94610  
(510) 658-6916    FAX 510-834-0152

Email: lab@pdenviro.com  
cc:  
PO:  
ProjectNo: #0058; Xtra Oil/Park St. Alameda

**Bill to:**

Accounts Payable  
Xtra Oil Company  
2307 Pacific Avenue  
Oakland, CA 94501

**Requested TAT: 5 days**

**Date Received: 11/26/2008**

**Date Printed: 11/26/2008**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0811827-001	MW-1	Water	11/25/2008 14:50	<input type="checkbox"/>	C	B	A									
0811827-002	MW-2	Water	11/25/2008 15:30	<input type="checkbox"/>	C	B	A									
0811827-003	MW-3	Water	11/25/2008 14:00	<input type="checkbox"/>	C	B	A									
0811827-004	MW-4	Water	11/25/2008 15:00	<input type="checkbox"/>	C	B	A									

**Test Legend:**

1	5-OXYS+PBSCV_W	2	G-MBTEX_W	3	TPH(DMO)_W	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Samantha Arbuckle**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



### Sample Receipt Checklist

Client Name: **P & D Environmental** Date and Time Received: **11/26/2008 4:46:25 PM**  
 Project Name: **#0058; Xtra Oil/Park St. Alameda** Checklist completed and reviewed by: **Samantha Arbuckle**  
 WorkOrder N°: **0811827** Matrix Water Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 3.9°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
 Sample labels checked for correct preservation? Yes  No   
 TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No   
 (Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted: Date contacted: Contacted by:

Comments:





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P & D Environmental  55 Santa Clara, Ste.240  Oakland, CA 94610	Client Project ID: #0058; Xtra Oil/Park St. Alameda	Date Sampled: 11/25/08
	Client Contact: Steve Carmack	Date Received: 11/26/08
	Client P.O.:	Date Analyzed: 12/02/08
		Date Extracted: 12/02/08

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0811827

Lab ID	0811827-001C	0811827-002C	0811827-003C	0811827-004C	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	200	3.3	1	10		

Compound	Concentration				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<100	ND<1.7	ND	ND<5.0	NA	0.5
t-Butyl alcohol (TBA)	16,000	11	ND	190	NA	2.0
1,2-Dibromoethane (EDB)	ND<100	ND<1.7	ND	ND<5.0	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<100	ND<1.7	ND	ND<5.0	NA	0.5
Diisopropyl ether (DIPE)	ND<100	ND<1.7	ND	ND<5.0	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<100	ND<1.7	ND	ND<5.0	NA	0.5
Methyl-t-butyl ether (MTBE)	1600	14	ND	250	NA	0.5

### Surrogate Recoveries (%)

%SS1:	91	88	96	96	
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### Comments

\* 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.







### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39927

WorkOrder 0811827

EPA Method SW8015B		Extraction SW3510C							Spiked Sample ID: N/A			
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	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	98.1	97	1.15	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	102	102	0	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 39927 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811827-001A	11/25/08 2:50 PM	11/26/08	12/02/08 1:11 AM	0811827-002A	11/25/08 3:30 PM	11/26/08	12/02/08 3:24 AM
0811827-003A	11/25/08 2:00 PM	11/26/08	12/02/08 2:17 AM	0811827-004A	11/25/08 3:00 PM	11/26/08	12/02/08 5:37 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.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39946

WorkOrder 0811827

Analyte	Extraction SW5030B			Spiked Sample ID: 0811827-003C								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
tert-Amyl methyl ether (TAME)	ND	10	108	116	6.84	120	116	4.14	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	97.4	96.9	0.571	100	96	4.33	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	121	123	1.49	128	122	4.23	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	115	117	1.32	119	115	2.82	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	106	108	2.29	110	108	2.53	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	121	122	0.873	126	122	3.22	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	108	108	0	110	107	2.91	70 - 130	30	70 - 130	30
%SS1:	96	25	96	98	1.49	97	97	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 39946 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811827-001C	11/25/08 2:50 PM	12/02/08	12/02/08 5:10 PM	0811827-002C	11/25/08 3:30 PM	12/02/08	12/02/08 5:53 PM
0811827-003C	11/25/08 2:00 PM	12/02/08	12/02/08 6:31 AM	0811827-004C	11/25/08 3:00 PM	12/02/08	12/02/08 7:13 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.



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39943

WorkOrder: 0811827

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B						Spiked Sample ID: 0811819-002A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	95.1	87.7	8.08	90.2	97.9	8.28	70 - 130	20	70 - 130	20
MTBE	ND	10	103	92.8	10.0	98.8	92.5	6.51	70 - 130	20	70 - 130	20
Benzene	ND	10	98.8	92.5	6.51	94	95.2	1.27	70 - 130	20	70 - 130	20
Toluene	ND	10	98.6	92.5	6.42	93.7	94.8	1.12	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	103	96.3	6.82	97.8	99.3	1.52	70 - 130	20	70 - 130	20
Xylenes	ND	30	114	106	6.69	108	110	1.29	70 - 130	20	70 - 130	20
%SS:	97	10	92	93	0.745	93	93	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 39943 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811827-001B	11/25/08 2:50 PM	11/27/08	11/27/08 12:29 PM	0811827-002B	11/25/08 3:30 PM	12/02/08	12/02/08 4:52 AM
0811827-003B	11/25/08 2:00 PM	11/27/08	11/27/08 1:27 AM	0811827-004B	11/25/08 3:00 PM	11/27/08	11/27/08 1:21 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.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.

# **APPENDIX A**

TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
 XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/SAMPLING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	OTHER SVOCs (ug/l)	NAPHTHALENE (ug/l)	BENZO-PYRENE (ug/l)	DO (ppm)	LAB
MW-1	11/04/94	19.60	8.6	---	10.96	60000	6400	13000	4900	1300	5500	---	---	---	---	---	MCC
QC-1 (c)	11/04/94	---	---	---	---	54000	---	12000	4500	1200	5200	---	---	---	---	---	MCC
MW-1	01/11/95	19.60	6.10	---	13.50	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	02/24/95	19.60	6.57	---	13.03	56000	4400	13000	7000	1400	5100	---	---	---	---	---	MCC
QC-1 (c)	02/24/95	---	---	---	---	43000	---	8900	4600	970	3300	---	---	---	---	---	MCC
MW-1	05/25/95	19.60	6.54	---	13.06	53000	4700	11000	5700	1200	4000	---	---	---	---	---	MCC
QC-1 (c)	05/25/95	---	---	---	---	48000	---	11000	5300	1200	3800	---	---	---	---	---	4.3
MW-1	08/30/95	19.60	8.15	---	11.45	14000	3700	5000	1100	3900	103	---	---	---	---	---	MCC
QC-1 (c)	08/30/95	---	---	---	---	57000	---	17000	7000	1500	5200	---	---	---	---	---	2.8
MW-1	11/18/95	19.60	8.79	---	10.81	100000	5900	22000	17000	2100	8500	---	---	---	---	---	MCC
QC-1 (c)	11/18/95	---	---	---	---	95000	---	20000	15000	1800	7800	---	---	---	---	---	MCC
MW-1	03/20/96	19.60	6.45	---	13.15	46000	3300	10000	6200	1100	3200	---	---	---	---	---	MCC
QC-1 (c)	03/20/96	---	---	---	---	42000	---	8800	5800	970	3000	---	---	---	---	---	MCC
MW-1	06/13/96	19.60	7.14	---	12.46	44000	5400	9500	5500	1100	4000	---	---	---	---	---	MCC
QC-1 (c)	06/13/96	---	---	---	---	45000	---	8500	5300	1000	3800	---	---	---	---	---	MCC
MW-1	09/23/96	19.60	7.56	---	12.04	76000	14000	14000	11000	1600	7100	---	---	---	---	---	6.1
MW-1	12/19/96	19.60	7.08	---	12.52	46000	---	12000	5500	1200	4100	---	---	---	---	---	MCC
MW-1	05/09/97	19.60	7.39	---	12.21	80000	7500	14000	12000	1700	7600	---	ND	280	ND<2	2.7	MCC/CHR
MW-1	09/11/97	19.60	7.50	---	12.10	100000	7700	19000	19000	2400	11000	---	---	---	---	---	7.2
MW-1	12/15/97	19.60	7.61	---	11.99	45000	3500	11000	5300	1500	5200	---	---	---	---	---	6.8
QC-1 (c)	12/15/97	---	---	---	---	45000	---	11000	5400	1400	5100	---	---	---	---	---	MCC
MW-1	03/11/98	19.60	6.35	---	14.25	40000	3800	5900	3500	1300	4900	---	---	---	---	---	6
QC-1 (c)	03/11/98	---	---	---	---	43000	---	7200	5000	1400	5300	---	---	---	---	---	MCC
MW-1	06/23/98	19.60	5.63	---	12.97	44000	3700	5900	6200	1800	6200	---	---	---	---	---	6.2
QC-1 (c)	06/23/98	---	---	---	---	47000	---	6000	6400	1800	6300	---	---	---	---	---	MCC
MW-1	12/01/98	19.60	6.48	---	13.12	57000	---	7400	12000	2100	8200	---	---	---	---	---	2.4
QC-1 (c)	12/01/98	---	---	---	---	57000	---	6800	11000	1900	7500	---	---	---	---	---	MCC
MW-1	03/30/99	19.60	5.74	---	13.86	67000	6500	5700	9400	2500	9400	---	---	---	---	---	2.1
QC-1 (c)	03/30/99	---	---	---	---	64000	6400	5500	9000	2400	9100	---	---	---	---	---	MCC
MW-1	08/16/99	19.60	7.02	---	12.58	63000	---	3800	9100	2800	11000	---	---	---	---	---	1.3
QC-1 (c)	08/16/99	---	---	---	---	64000	---	3700	8800	2800	11000	---	---	---	---	---	MCC
MW-1	12/31/99	19.60	7.45	---	12.15	62000	5100	2900	9400	2700	11000	---	---	---	---	---	8.3
QC-1 (c)	12/31/99	---	---	---	---	67000	4900	2900	9700	2800	12000	---	---	---	---	---	MCC
MW-1	03/31/00	19.60	5.85	---	13.75	48000	490	3200	5500	2000	6700	---	---	---	---	---	7.9
QC-1 (c)	03/31/00	---	---	---	---	54000	3300	3500	6000	2300	7300	---	---	---	---	---	MCC
MW-1	07/14/00	19.60	7.00	---	12.60	79000	5700	5600	4900	2300	9500	---	---	---	---	---	3.2
QC-1 (c)	07/14/00	---	---	---	---	72000	---	4900	14000	2100	9200	---	---	---	---	---	MCC
MW-1	10/04/00	19.60	7.60	---	12.00	65000	2900	3800	11000	2400	8200	---	---	---	---	---	1.4
QC-1 (c)	10/04/00	---	---	---	---	68000	---	3900	13000	2400	9300	---	---	---	---	---	MCC
MW-1	12/21/00	19.60	6.91	---	12.99	74000	2500	3800	17000	3400	15000	---	---	---	---	---	1.3
QC-1 (c)	12/21/00	---	---	---	---	69000	---	2700	12000	2400	11000	---	---	---	---	---	MCC
MW-1	04/13/01	19.60	6.06	---	13.54	55000	2400	2900	7800	2400	9400	---	---	---	---	---	0.8
QC-1 (c)	04/13/01	---	---	---	---	51000	---	2300	8000	2900	7900	---	---	---	---	---	MCC
MW-1	06/27/01	19.60	6.54	---	13.06	80000	3600	2800	13000	2300	10000	---	---	---	---	---	1.1
QC-1 (c)	06/27/01	---	---	---	---	76000	---	3100	13000	2300	10000	---	---	---	---	---	MCC
MW-1	09/20/01	19.60	7.08	---	12.52	74000	6600	1600	7700	2500	10000	---	---	---	---	---	0.8
QC-1 (c)	09/20/01	---	---	---	---	67000	---	1600	7800	2600	10000	---	---	---	---	---	MCC
MW-1	12/21/01	19.60	5.71	---	13.89	58000	5500	2100	11000	2400	10000	---	---	---	---	---	1.4
QC-1 (c)	12/21/01	---	---	---	---	56000	---	2100	11000	2300	10000	---	---	---	---	---	MCC
MW-1	02/04/02	19.60	5.01	---	14.59	6500	1800	74	100	230	1500	---	---	---	---	---	4.1
QC-1 (c)	02/04/02	---	---	---	---	8000	---	90	130	270	1800	---	---	---	---	---	MCC
MW-1	05/07/02	19.60	6.10	---	13.50	41000	7900	1300	5200	1700	6300	---	---	---	---	---	4.3
QC-1 (c)	05/07/02	---	---	---	---	40000	---	1300	5200	1700	6400	---	---	---	---	---	MCC
MW-1	09/22/02	19.60	6.91	---	12.89	42000	4800	1100	6300	1900	7900	---	---	---	---	---	4.9
QC-1 (c)	09/22/02	---	---	---	---	40000	---	1000	6100	1800	7500	---	---	---	---	---	MCC
MW-1	11/08/02	19.60	6.46	---	13.14	39000	6800	770	4600	1600	6600	---	---	---	---	---	MCC
QC-1 (c)	11/08/02	---	---	---	---	49000	---	880	4800	1800	6700	---	---	---	---	---	MCC
MW-1	02/07/03	19.60	5.80	---	13.80	43000	3700	1600	5100	2100	9700	---	---	---	---	---	1.1
MW-1	05/02/03	19.60	5.60	---	14.00	48000	4600	1100	5900	1800	7300	---	---	---	---	---	MCC
QC-1 (c)	05/02/03	---	---	---	---	---	---	1200	5800	1800	7100	---	---	---	---	---	MCC
MW-1	08/14/03	19.60	6.81	---	12.79	42000	3800	1000	4700	2000	8100	---	---	---	---	---	1.3
QC-1 (c)	08/14/03	---	---	---	---	43000	---	1000	4600	2000	7900	---	---	---	---	---	MCC
MW-1	11/14/03	19.60	6.71	---	12.88	40000	3000	610	4900	1900	7600	---	---	---	---	---	MCC
MW-1	03/01/04	19.60	5.22	---	14.38	20000	3000	540	2500	720	2900	---	---	---	---	---	0.8
MW-1	06/30/04	19.60	6.38	---	13.22	38000	3000	570	2900	2100	8200	---	---	---	---	---	MCC
QC-1 (c)	06/30/04	---	---	---	---	---	---	6800	550	3200	2100	---	---	---	---	---	MCC
MW-1	10/26/04	19.60	6.00	---	13.60	35000	4400	510	2900	1900	5700	---	---	---	---	---	2.7
QC-1 (c)	10/26/04	---	---	---	---	---	---	450	2700	1600	5500	---	---	---	---	---	MCC
MW-1	03/24/05	19.60	5.04	---	14.56	29000	3300	1300	5500	1200	4900	---	---	---	---	---	2.7
QC-1 (c)	03/24/05	---	---	---	---	31000	---	830	3800	1900	4500	---	---	---	---	---	MCC
MW-1	06/14/05	19.60	5.45	---	14.15	23000	4300	1300	2700	810	2700	---	---	---	---	---	2.9
QC-1 (c)	06/14/05	---	---	---	---	---	---	1400	3100	810	2900	---	---	---	---	---	MCC
MW-1	09/12/05	19.60	7.89	---	11.71	60000	4600	4900	8200	1900	7300	---	---	---	---	---	2.6
QC-1 (c)	09/12/05	---	---	---	---	58000	---	5000	8500	1900	7300	---	---	---	---	---	MCC
MW-1	01/04/06	19.60	6.09	---	13.51	54000	2900	8800	3500	970	3700	---	---	---	---	---	MCC
QC-1 (c)	01/04/06	---	---	---	---	46000	---	8500	3500	970	3700	---	---	---	---	---	MCC
MW-1	04/04/06	19.60	5.71	<0.01	13.89	31000	2500	6700	2800	1600	6600	---	---	---	---	---	MCC
QC-1 (c)	04/04/06	---	---	---	---	31000	---	6900	2900	1000	2800	---	---	---	---	---	MCC
MW-1	06/12/06	19.60	6.66	sheen	12.94	31000	3100	4800	2200	910	2600	---	---	---	---	---	MCC
QC-1 (c)	06/12/06	---	---	---	---	31000	---	5700	2300	850	2400	---	---	---	---	---	MCC
MW-1	09/08/06	19.60	7.78	sheen	11.82	34000	3000	7900	1800	780	2300	---	---	---	---	---	MCC
QC-1 (c)	09/08/06	---	---	---	---	39000	---	6300	1600	680	2000	---	---	---	---	---	MCC



TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
 XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/SAMPLING	CASING ELEVATION (Feet)	DEPTH TO WATER (a) (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	OTHER SVOCs (ug/l)	NAPHTHALENE (ug/l)	BENZO-PYRENE (ug/l)	DO (ppm)	LAB	
MW-2	11/04/84	20.31	9.12	0.16	11.31	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	01/11/95	20.31	6.75	—	13.56	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	02/24/95	20.31	7.11	0.18	13.34	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	05/25/95	20.31	7.01	0.01	13.31	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	08/30/95	20.31	6.58	0.12	11.82	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	11/16/95	20.31	6.07	0.01	11.26	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	03/20/96	20.31	6.79	0.01	13.53	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	06/13/96	20.31	7.41	0.01	12.91	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2	09/23/96	20.31	7.83	0.01	12.49	30000	19000	4600	180	1500	4100	2600	—	—	—	5.5	MCC	
QC-1 (c)	09/23/96	—	—	—	—	33000	—	4700	170	1600	3900	2400	—	—	—	—	MCC	
MW-2	12/19/96	20.31	7.37	0.01	12.95	29000	—	1800	240	1400	5400	(d)	—	—	ND<10	—	MCC	
QC-1 (c)	12/19/96	—	—	—	—	29000	—	580	210	1300	5100	—	—	—	—	—	MCC	
MW-2	05/09/97	20.31	6.11	0.21	14.36	34000	6700000	4600	260	1500	4300	1600	—	—	—	3.7	MCC	
MW-2	09/11/97	20.31	7.70	0.03	12.63	44000	1200000	3900	250	2400	7400	ND<610	—	—	—	6.5	MCC	
QC-1 (c)	09/11/97	—	—	—	—	47000	1100000	4000	420	2700	8300	920	—	—	—	—	MCC	
MW-2	12/15/97	20.31	7.87	0.03	12.46	32000	68000	4600	130	2200	5400	ND<470	—	—	—	6	MCC	
MW-2	03/11/98	20.31	5.61	0.18	14.84	44000	3800	5200	220	2000	5000	1100	—	—	—	6.2	MCC	
MW-2	06/23/98	20.31	6.74	0.02	13.59	75000	570000	5900	390	3100	8300	8400	—	—	—	6.3	MCC	
MW-2	12/01/98	20.31	7.30	—	13.01	36000	—	3800	73	1500	3900	2000	—	—	—	1.9	MCC	
MW-2	03/30/99	20.31	6.51	0.13	13.90	23000	23000	5000	100	610	870	21000	—	—	—	1.7	MCC	
MW-2	08/16/99	20.31	8.04	0.21	12.43	30000	—	5200	67	1100	1800	6000	—	—	—	2.6	MCC	
MW-2	12/31/99	20.31	8.20	0.01	12.12	43000	340000	7600	97	1400	2500	4300	—	—	—	9.0	MCC	
MW-2	03/31/00	20.31	6.29	0.01	14.03	26000	200000	4000	58	1100	1500	13000	—	—	—	8.1	MCC	
MW-2	07/14/00	20.31	8.02	—	12.29	35000	170000	5000	76	1100	2500	4900	—	—	—	3.9	MCC	
MW-2	10/04/00	20.31	8.62	—	11.89	22000	67000	4700	97	1300	1000	1900	—	—	—	1.8	MCC	
MW-2	12/21/00	20.31	7.70	—	12.61	23000	16000	3700	85	770	490	8600	—	220	ND<10	0.6	MCC	
MW-2	04/13/01	20.31	7.05	—	13.26	25000	21000	6400	79	790	670	8300	—	—	—	1.1	MCC	
MW-2	06/27/01	20.31	7.50	—	12.81	34000	10000	5400	100	520	370	6800	—	—	—	0.7	MCC	
MW-2	09/20/01	20.31	8.10	—	12.21	28000	64000	4600	78	670	500	2000	—	—	—	0.4	MCC	
MW-2	12/21/01	20.31	6.66	—	13.65	30000	18000	3000	52	1700	970	ND<100	—	—	—	0.9	MCC	
MW-2	02/04/02	20.31	6.75	—	13.56	17000	35000	3600	ND<50	960	500	1200	—	—	—	1.3	MCC	
MW-2	05/07/02	20.31	7.20	—	13.11	16000	59000	3500	43	520	220	3100	—	—	—	1.0	MCC	
MW-2	08/22/02	20.31	7.98	—	12.35	15000	60000	2700	30	460	220	700	—	—	—	4.2	MCC	
MW-2	11/08/02	20.31	7.66	—	12.62	15000	100000	2100	60	1100	150	ND<250	—	—	—	—	MCC	
MW-2	02/07/03	20.31	6.52	—	13.79	11000	—	4400	24	ND<12	77	1900	—	—	—	0.7	MCC	
MW-2	05/02/03	20.31	6.40	—	13.91	16000	79000	1800	23	860	210	ND<350	—	—	—	—	MCC	
MW-2	08/14/03	20.31	7.77	—	12.54	13000	4300	1600	21	450	80	ND<400	—	—	—	0.9	MCC	
MW-2	11/14/03	20.31	7.85	—	12.46	12000	13000	1700	29	600	100	ND<600	—	—	—	0.7	MCC	
MW-2	03/01/04	20.31	6.10	—	14.21	17000	43000	3900	100	670	430	1800	—	—	—	0.42	MCC	
MW-2	06/30/04	20.31	7.61	—	12.70	14000	12000	3800	33	390	72	1900	—	—	—	—	MCC	
MW-2	10/20/04	20.31	7.12	—	13.19	14000	7900	3700	47	300	100	1700	—	—	—	—	MCC	
MW-2	03/24/05	20.31	5.78	—	14.63	15000	57000	3000	ND<25	400	58	ND<900	—	—	—	—	MCC	
MW-2	06/14/05	20.31	6.92	—	13.39	15000	53000	2100	31	310	49	530	—	—	—	0.8	MCC	
MW-2	09/12/05	20.31	8.25	0.01	12.06	10000	11000	2600	30	200	ND<10	660	—	—	—	2.6	MCC	
MW-2	01/04/06	(g)	20.31	6.45	<0.01	13.86	7300	14000	1500	18	180	47	ND<250	—	—	—	—	MCC
MW-2	04/04/06	(h)	20.31	6.14	—	14.17	9500	130000	2200	35	170	52	ND<250	—	—	—	—	MCC
MW-2	06/12/06	20.31	7.15	0.01	13.16	10000	29000	2200	46	74	59	460	—	—	—	—	—	MCC
MW-2	09/08/06	20.31	8.22	sheen	12.09	12000	7400	1800	25	130	38	ND<300	—	—	—	—	—	MCC
MW-3	11/04/84	20.57	8.92	—	11.65	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	—	—	MCC
MW-3	01/11/95	20.57	5.67	—	14.90	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-3	02/24/95	20.57	6.11	—	14.46	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	—	—	MCC
MW-3	05/25/95	20.57	6.24	—	14.33	91	ND<50	28.0	12.0	2.1	6.5	—	—	—	—	—	—	MCC
MW-3	08/30/95	20.57	8.27	—	12.30	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	—	4.6	MCC
MW-3	11/16/95	20.57	8.82	—	11.75	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	—	—	MCC
MW-3	03/20/96	20.57	5.44	—	15.13	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	—	—	MCC
MW-3	06/13/96	20.57	6.17	—	14.40	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	09/23/96	20.57	6.57	—	14.00	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	12/19/96	20.57	6.59	—	13.98	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	—	MCC
MW-3	05/09/97	20.57	7.00	—	13.57	ND<50	59	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	09/11/97	20.57	6.92	—	13.95	ND<50	82	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	12/15/97	20.57	7.03	—	13.54	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	03/11/98	20.57	4.71	—	15.86	ND<50	ND<50	ND<0.5	1.8	0.6	3.1	ND<5.0	—	—	—	—	—	MCC
MW-3	06/23/98	20.57	6.33	—	14.24	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	12/01/98	20.57	6.74	—	13.83	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	03/30/99	20.57	5.68	—	14.89	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	08/16/99	20.57	7.67	—	12.90	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	12/31/99	20.57	8.07	—	12.50	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	03/31/00	20.57	5.99	—	14.98	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	07/14/00	20.57	7.84	—	12.93	68	ND<50	0.89	1.7	2.1	9.5	ND<5.0	—	—	—	—	—	MCC
MW-3	10/04/00	20.57	8.34	—	12.23	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	12/21/00	20.57	7.00	—	13.57	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	04/13/01	20.57	6.38	—	14.19	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	06/27/01	20.57	7.37	—	13.20	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	09/20/01	20.57	8.25	—	12.52	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	12/21/01	20.57	5.72	—	14.85	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—	—	—	MCC
MW-3	02/04/02	20.57	5.85	—	14.72	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	—	—	—			

TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
XTRA OIL COMPANY SERVICE STATION  
1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

WELL ID	DATE OF MONITORING/SAMPLING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet) (a)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	OTHER SVOCs (ug/l)	NAPHTHALENE (ug/l)	BENZO-PYRENE (ug/l)	DO (ppm)	LAB
MW-3	02/07/03	20.57	5.85	---	14.52	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	2.8	MCC
MW-3	05/02/03	20.57	5.75	---	14.82	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	---	MCC
MW-3	08/14/03	20.57	7.74	---	12.83	ND<50	ND<50	1.6	0.82	3.2	ND<5.0	---	---	---	---	2.1	MCC
MW-3	11/14/03	20.57	7.75	---	12.82	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	0.8	MCC
MW-3	03/01/04	20.57	5.17	---	15.40	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	0.92	MCC
MW-3	06/30/04	(e) 20.57	7.48	---	13.09	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	0.92	MCC
MW-3	10/26/04	20.57	6.47	---	14.10	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	3.0	MCC
MW-3	03/24/05	20.57	4.70	---	15.87	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	3.0	MCC
MW-3	06/14/05	20.57	5.99	---	14.58	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	2.7	MCC
MW-3	09/12/05	20.57	7.89	---	12.68	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	3.3	MCC
MW-3	01/04/06	(g) 20.57	5.10	---	15.47	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	---	MCC
MW-3	04/04/06	(h) 20.57	4.93	---	15.64	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	---	MCC
MW-3	06/12/06	20.57	6.20	---	14.37	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	---	MCC
MW-3	09/08/06	20.57	7.81	---	12.76	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	---	---	---	---	MCC
MW-4	05/09/97	19.69	7.17	---	12.52	31000	15000	540	1300	1000	4500	1900	ND	2.1	ND<2	3.1	MCC/CHR
MW-4	09/11/97	19.69	7.71	---	11.98	40000	6500	2000	3100	1700	7700	3400	---	---	---	6.4	MCC
MW-4	12/15/97	19.69	7.87	---	11.82	14000	2100	910	690	390	2700	1700	---	---	---	5.5	MCC
MW-4	03/11/98	19.69	3.51	---	16.18	2800	780	68	94	72	430	140	---	---	---	6	MCC
MW-4	06/23/98	19.69	5.21	---	14.48	15000	2800	240	630	720	2700	370	---	---	---	5.4	MCC
MW-4	12/01/98	19.69	6.45	---	13.24	21000	---	580	1000	530	3600	1700	---	---	---	4.4	MCC
MW-4	03/30/99	19.69	5.41	---	14.28	41000	3600	3100	3400	1700	6700	5700	---	---	---	4.6	MCC
MW-4	08/16/99	19.69	7.35	---	12.34	24000	---	4600	940	1200	2700	9700	---	---	---	3.4	MCC
MW-4	12/31/99	19.69	7.71	---	11.98	14000	2000	510	630	600	3100	3500	---	---	---	10.1	MCC
MW-4	03/31/00	19.69	5.22	---	14.47	14000	1400	470	480	580	2200	2000	---	---	---	6.8	MCC
MW-4	07/14/00	19.69	7.31	---	12.38	37000	4300	770	1500	1800	7200	1700	---	---	---	3.3	MCC
MW-4	10/04/00	19.69	7.11	---	12.58	47000	3200	870	2000	2600	9800	ND<1500	---	---	---	1.7	MCC
MW-4	12/21/00	19.69	6.66	---	12.83	13000	1800	370	410	460	1500	---	---	88	ND<10	0.6	MCC
MW-4	04/13/01	19.69	6.02	---	13.67	20000	2800	710	640	620	2900	2300	---	---	---	1.0	MCC
MW-4	06/27/01	19.69	6.72	---	12.97	23000	2100	510	1100	1100	4300	1400	---	---	---	1.0	MCC
MW-4	09/20/01	19.69	7.30	---	12.39	36000	4400	460	1300	1700	6700	1000	---	---	---	2.0	MCC
MW-4	12/21/01	19.69	4.55	---	15.14	11000	5600	130	250	480	2400	ND<320	---	---	---	1.6	MCC
MW-4	02/04/02	19.69	5.82	---	13.87	50000	12000	3000	8100	1900	7600	ND<500	---	---	---	2.0	MCC
MW-4	05/07/02	19.69	6.08	---	13.61	17000	3200	270	820	870	3700	ND<500	---	---	---	2.6	MCC
MW-4	08/22/02	19.69	7.45	---	12.24	26000	3800	720	920	1500	6500	2100	---	---	---	4.6	MCC
MW-4	11/08/02	19.69	6.74	---	12.95	20000	3600	290	630	1200	5100	670	---	---	---	---	MCC
MW-4	02/07/03	19.69	4.86	---	14.83	13000	---	520	1300	ND<25	3600	420	---	---	---	2.1	MCC
QC-1 (c)	02/07/03	---	---	---	---	13000	---	510	1200	83	3100	420	---	---	---	---	MCC
MW-4	05/02/03	19.69	5.45	---	14.24	18000	3800	280	550	810	3600	470	---	---	---	---	MCC
MW-4	08/14/03	19.69	7.20	---	12.49	31000	4100	720	810	1300	6400	1100	---	---	---	1.2	MCC
MW-4	11/14/03	19.69	6.92	---	12.77	18000	3300	450	320	1000	4500	ND<1000	---	---	---	0.7	MCC
QC-1 (e)	11/14/03	---	---	---	---	---	---	440	310	1100	4500	---	---	---	---	---	MCC
MW-4	03/01/04	19.69	5.10	---	14.59	15000	2500	110	210	580	2700	240	---	---	---	0.61	MCC
QC-1 (e)	03/01/04	---	---	---	---	15000	---	110	220	610	2800	250	---	---	---	---	MCC
MW-4	06/30/04	(e) 19.69	6.70	---	12.99	23000	5800	330	550	1300	5200	ND<900	---	---	---	0.61	MCC
MW-4	10/26/04	19.69	6.05	---	13.64	19000	3800	150	380	950	3800	ND<300	---	---	---	2.0	MCC
MW-4	03/24/05	19.69	4.23	---	15.46	6600	1900	62	28	190	950	ND<120	---	---	---	2.0	MCC
MW-4	06/14/05	19.69	5.58	---	14.11	23000	5600	160	510	1200	4000	ND<500	---	---	---	2.1	MCC
MW-4	09/12/05	19.69	7.84	---	11.95	24000	4000	1400	640	1400	3900	1400	---	---	---	2.2	MCC
MW-4	01/04/06	(g) 19.69	4.65	---	15.04	20000	2800	740	350	930	2900	1100	---	---	---	---	MCC
MW-4	04/04/06	(h) 19.69	4.62	---	15.07	8100	2000	300	64	490	1200	530	---	---	---	---	MCC
MW-4	06/12/06	19.69	6.07	sheen	13.62	24000	4500	270	390	1300	3600	340	---	---	---	---	MCC
MW-4	09/08/06	(i) 19.69	7.42	sheen	12.27	20000	3100	1700	240	930	2000	1800	---	---	---	---	MCC
QC-2 (f)	11/04/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (f)	02/24/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (f)	05/25/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (f)	08/30/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (f)	11/16/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (f)	03/20/96	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC
QC-2 (f)	06/13/96	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	MCC

**ABBREVIATIONS:**  
TPH-G Total petroleum hydrocarbons as gasoline using EPA Methods 5030/8015  
TPH-D Total petroleum hydrocarbons as diesel using EPA Methods 3510/8015  
B Benzene using EPA Methods 5030/8020  
T Toluene using EPA Methods 5030/8020  
E Ethylbenzene using EPA Methods 5030/8020  
X Total xylenes using EPA Methods 5030/8020  
MTBE Methyl tert butyl ether using EPA Methods 5030/8020  
SVOCs Semivolatile organic compounds using EPA Method 8270  
DO Dissolved oxygen  
ug/l Micrograms per liter  
ppm Parts per million  
--- Not analyzed/applicable/measurable  
ND Not detected above reported detection limit  
MCC McCampbell Analytical, Inc.  
CHR Chromatlab, Inc.

**NOTES:**  
(a) Top of casing surveyed relative to mean sea level.  
(b) Groundwater elevations expressed in feet above mean sea level, and adjusted assuming a specific gravity of 0.75 for free product.  
(c) Blind duplicate.  
(d) Other SVOCs detected at concentrations of 200 ug/l 2-methylnaphthalene and 14 ug/l phenanthrene  
(e) Wells monitored 6/15/04  
(f) Travel blank.  
(g) 4th Quarter 2005 sampling  
(h) 1st Quarter 2006 sampling  
(i) Well recharge was exceeding slow; not to be used in prepaying contours