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Alameda County  
Environmental Health

**ConocoPhillips**

76 Broadway  
Sacramento, California 95818

January 16, 2009

Barbara Jakub  
Alameda County Health Agency  
1131 Harbor Bay parkway, Suite250  
Alameda, California 94502-577

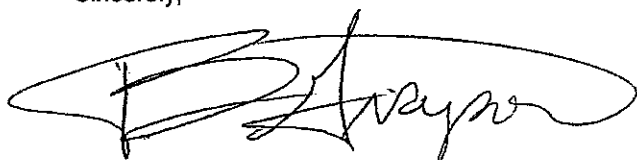
Re: **Quarterly Summary Report—Fourth Quarter 2008**  
**76 Service Station # 6129 RO # 058**  
**3420 35<sup>th</sup> Avenue**  
**Oakland, CA**

Dear Ms. Jakub:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,



Terry L. Grayson  
Site Manager  
Risk Management & Remediation

January 16, 2009

Ms. Barbara Jakub  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**Re: Quarterly Summary Report – Fourth Quarter 2008  
Fuel Leak Case No. R00000058**

Dear Ms. Jakub:

On behalf of ConocoPhillips Company (COP), Delta Consultants (Delta) is submitting the Quarterly Summary Report – Fourth Quarter 2008 and forwarding a copy of TRC Solutions, Inc. (TRC's) *Quarterly Monitoring Report, October through December 2008*, dated December 28, 2008, for the following location:



**Service Station**

**Location**

76 Service Station No. 6129

3420 35<sup>th</sup> Avenue  
Oakland, California

Sincerely,  
**DELTA CONSULTANTS**

Dennis S. Dettloff, P.G.  
Senior Project Manager  
California Registered Professional Geologist No. 7480



cc: Mr. Terry Grayson, ConocoPhillips (electronic copy)

**QUARTERLY SUMMARY REPORT**  
**Fourth Quarter 2008**  
**76 Service Station No. 6129**  
**3420 35<sup>th</sup> Avenue**  
**Oakland, California**

**SITE DESCRIPTION**

The site is currently an operating 76 Service Station that dispenses gasoline stored in two 12,000-gallon underground storage tanks (USTs) from two dispenser islands. An automotive repair facility is present at the site which contains three service bays. Additionally, there is one used-oil UST, three hydraulic lifts, and three groundwater monitoring wells (MW-1 through MW-3) present at the site. There was previously one used-oil UST, one clarifier beneath the central hydraulic lift, and two floor drains, all of which have been removed.

**PREVIOUS ASSESSMENT**

According to Kaprealian Engineering, Inc. (KEI), in 1989 two 10,000-gallon gasoline USTs and one 550-gallon waste oil UST were removed from the site. Analytical data from soil samples collected beneath the former gasoline USTs, used-oil UST, and product piping indicated low concentrations of petroleum hydrocarbons were present in each of the sampling areas. Three groundwater monitoring wells (MW-1 through MW-3) were installed in 1989 to depths of approximately 44 feet below ground surface (bgs).

In 1990, four soil borings (EB1 through EB4) were advanced at the site in the vicinity of MW-3 in an attempt to define the petroleum hydrocarbon impact to soil. Based on the analytical data from the soil sampling, approximately 230 cubic yards of soil were excavated from an area between the dispenser islands and around monitoring well MW-3 in 1991. The excavation was completed as to not destroy monitoring well MW-3. Analytical data from confirmation soil samples indicated the majority of the impacted soil had been removed.

On November 12 and 13, 2003, as part of a due diligence investigation, four soil borings (SB-1 and SB-3 through SB-5) were advanced to total depths of approximately 31.5 to 36.5 feet bgs. Proposed boring SB-2 was unable to be advanced due to the presence of subsurface utilities and/or structures. Groundwater was encountered in the borings at a depth of approximately 35 feet bgs. Methyl tertiary butyl ether (MTBE) was reported at concentrations ranging from 0.37 to 0.41 milligrams per kilogram (mg/kg) in the soil samples collected at depths ranging from 26 and 31 feet bgs. All other constituents were below the laboratory's indicated reporting limits for the soil samples analyzed. The three existing groundwater monitoring wells were sampled on November 13, 2003. Analytical data indicated MTBE was present at concentrations ranging from 240 and 3,700 micrograms per liter ( $\mu\text{g/L}$ ), with the most elevated concentrations found in monitoring wells MW-2 (2,100  $\mu\text{g/L}$ ) and MW-3 (3,700  $\mu\text{g/L}$ ).

On September 13, 2006, Delta observed the advancement of six boreholes by a licensed contractor using CPT technology. The CPT borings provided accurate continuous records of the subsurface lithology and stratigraphy and measured depth to

first groundwater. Groundwater and soil samples were not collected from the CPT borings.

On November 7 and 8, 2006, Delta observed the advancement of five soil borings (B-2, B-7, B-8, B-9, and B-14) by a licensed contractor using hollow stem auger technology. Four of these soil borings were advanced adjacent to the previously advanced CPT borings. On December 27, 2006, four soil borings (B-10, B-12, B-15, and B-16) were advanced using hollow stem auger technology. Soil samples were collected every five feet for lithologic descriptions, field hydrocarbon screening, and laboratory analysis. A description of this work is presented in the *Soil Boring Site Assessment Report* dated February 19, 2007.

### **SENSITIVE RECEPTORS**

2004 - A 1,000-foot radius well search was completed by the request of the Alameda County Public Works Agency (ACPWA). The search indicated that a six-inch diameter irrigation well was located at 3397 Arkansas Street, approximately 800 feet west-northwest of the site. The well was installed in August 1977 to a total depth of 62 feet bgs with depth to water reported at 18 feet bgs. Alameda County Health Care Services update of July 30, 1984 reported the well owner as Arthur Smith.

2006 - A survey entailing a visit to the State of California Department of Water Resources (DWR) office in Sacramento was conducted to examine well log records and to identify domestic wells within the survey area. The DWR survey indicated three potential receptors were located within one mile of the site; two irrigation wells located 0.5 mile and 0.8 mile north (up-gradient) of the site and one domestic/irrigation well located 0.8 mile northeast (up-gradient) of the site. Two additional potential receptors were identified although the specific addresses could not be located. Based on groundwater gradient information and distance to the receptors from the site, identified receptors do not appear to be at risk due to gasoline constituents in groundwater at the site.

### **MONITORING AND SAMPLING**

Groundwater monitoring and sampling activities were conducted at the site from January 1990 through May 1991. Sampling activities were re-initiated during the third quarter 2004. The monitoring well network is currently sampled on a quarterly basis. Samples collected from the monitoring wells are analyzed for total purgeable petroleum hydrocarbons (TPPH), benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and MTBE, di-isopropyl ether (DIPE), tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE), 1,2-dichloroethane (1,2-DCA), ethylene dibromide (EDB), and ethanol by Environmental Protection Agency (EPA) Method 8260. TRC has been retained to perform the monitoring and sampling. A copy of TRC's *Quarterly Monitoring Report-October through December 2008*, dated December 30, 2008, and has been forwarded with this report.

During the most recent groundwater monitoring event, conducted on November 25, 2008, the depth to groundwater ranged from 29.74 feet (MW-3) to 30.88 feet (MW-1) below top of casing (TOC). The groundwater flow direction was interpreted to be to the southwest with a gradient of 0.013 foot per foot (ft/ft). This is consistent with the previous quarterly sampling event when the groundwater flow direction was interpreted

to be to the southwest with a gradient of 0.013 ft/ft. Historic groundwater flow directions presented as a rose diagram included as Attachment A.

### **Contaminants of Concern:**

- **TPPH:** TPPH was above the laboratory's indicated reporting limits in the groundwater samples collected and submitted for analysis from monitoring wells MW-2 and MW-3 at concentrations of 500 µg/L and 380 µg/L, respectively during the current sampling event. However, the laboratory notes indicate that the TPPH in monitoring wells MW-2 and MW-3 does not exhibit a "gasoline" pattern. TPPH is entirely due to MTBE.
- **Benzene:** Benzene was below the laboratory's indicated reporting limit in each of the groundwater samples collected and submitted for analysis from the monitoring wells purged and sampled during the current sampling event.
- **MTBE:** MTBE was above the laboratory's indicated reporting limits in the groundwater samples collected and submitted for analysis from monitoring wells MW-1, MW-2, and MW-3 at concentrations of 5.8 µg/L, 1,500 µg/L, and 870 µg/L, respectively during the current sampling event.
- **DIPE:** DIPE was above the laboratory's indicated reporting limits in the groundwater sample collected and submitted for analysis from monitoring well MW-2 at a concentration of 19 µg/L during the current sampling event.

With the exception of the constituents listed above, all other constituents tested were below the laboratory's indicated reporting limits the groundwater samples collected and submitted for analysis from the three monitoring wells during the fourth quarter 2008 sampling event.

### **REMEDIATION STATUS**

Remediation has not been required by the lead regulatory agency for this site.

### **CHARACTERIZATION STATUS**

Recent site assessment data has been submitted to the agency for review. Groundwater monitoring is ongoing.

### **RECENT CORRESPONDENCE**

No correspondence was received or sent during the fourth quarter 2008..

### **WASTE DISPOSAL SUMMARY**

In 1991, based on the analytical results of soil samples from borings EB1 through EB4, approximately 230 cubic yards of soil were excavated from the area between the dispensers and the pump islands in the area around MW-3.

Thirty three (33) drums of non-hazardous soil and water produced during recent field activities were transported off-site for disposal on 10/19/06 and 12/29/06.

**THIS QUARTER ACTIVITIES (Fourth Quarter 2008)**

1. TRC conducted the quarterly monitoring and sampling event at the site.

**NEXT QUARTER ACTIVITIES (First Quarter 2009)**

1. TRC will conduct the quarterly groundwater monitoring and sampling event at the site.
2. If a response is received from the Alameda County Health Care Services Agency (ACHCSA) to the work plan submitted on September 10, 2008, Delta will proceed with the proposed work as requested.

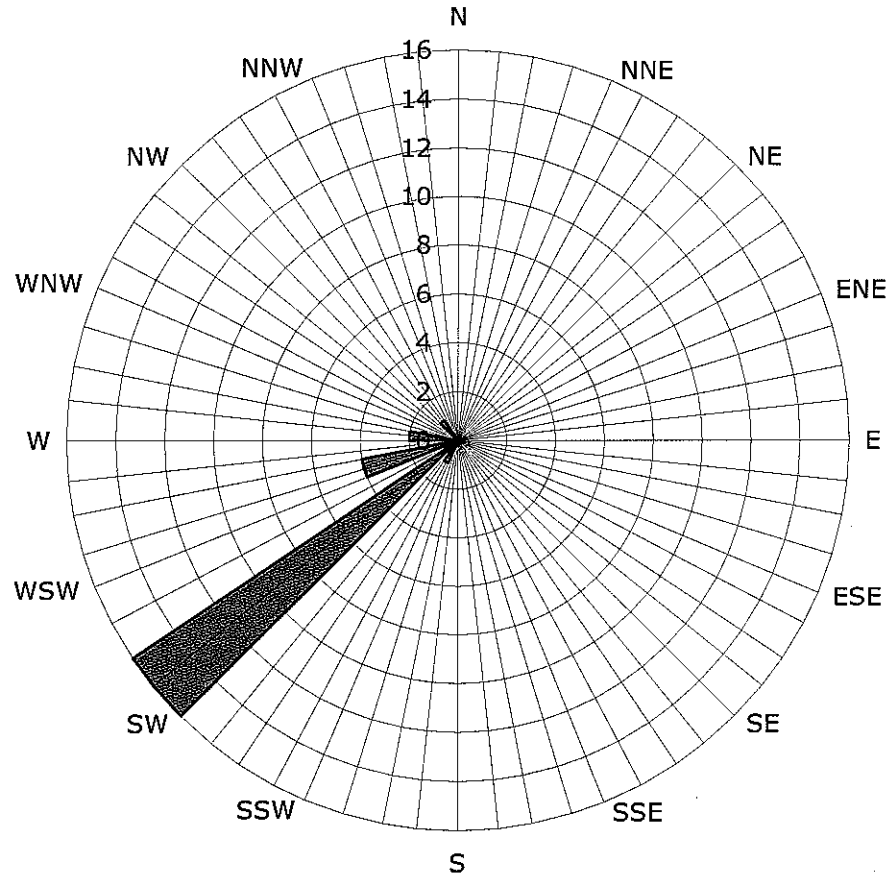
**CONSULTANT:** Delta Consultants

Attachment A – Historic Groundwater Flow Directions

**Attachment A**

***Historic Groundwater Flow Directions***

**Historic Groundwater Flow Directions**  
**ConocoPhillips Site No. 6129**  
3420 35th Avenue  
Oakland, California



Legend  
Concentric circles represent  
quarterly monitoring events  
First Quarter 1990 through  
Fourth Quarter 2008  
24 data points shown

■ Groundwater Flow Direction





21 Technology Drive  
Irvine, CA 92618

949.727.9336 PHONE  
949.727.7399 FAX

www.TRCSolutions.com

DATE: December 30, 2008

TO: ConocoPhillips Company  
76 Broadway  
Sacramento, CA 94563

ATTN: MR. TERRY GRAYSON

SITE: 76 STATION 6129  
3420 35<sup>TH</sup> AVENUE  
OAKLAND, CALIFORNIA

RE: QUARTERLY MONITORING REPORT  
OCTOBER THROUGH DECEMBER 2008

Dear Mr. Grayson,

Please find enclosed our Quarterly Monitoring Report for 76 Station 6129, located at 3420 35<sup>th</sup> Avenue, Oakland, California. If you have any questions regarding this report, please call us at (949) 727-9336.

Sincerely,

TRC

A handwritten signature in black ink, appearing to read "Anju Farfan".

Anju Farfan  
Groundwater Program Operations Manager

CC: Mr. Dennis Dettloff, Delta Consultants (1 copy)

Enclosures:  
20-0400/6129R21.QMS

**QUARTERLY MONITORING REPORT  
OCTOBER THROUGH DECEMBER 2008**

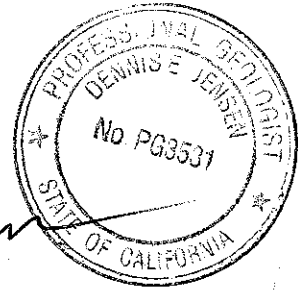
76 STATION 6129  
3420 35<sup>th</sup> Avenue  
Oakland, California

Prepared For:

Mr. Terry Grayson  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, CA 94563

By:

*Dennis E Jensen*



Senior Project Geologist, Irvine Operations

Date: 12/26/08



## LIST OF ATTACHMENTS

Summary Sheet	Summary of Gauging and Sampling Activities
Tables	Table Key Contents of Tables Table 1: Current Fluid Levels and Selected Analytical Results Table 1a: Additional Current Analytical Results Table 2: Historic Fluid Levels and Selected Analytical Results Table 2a: Additional Historic Analytical Results
Coordinated Event Data	<i>Former Exxon Mobil 7-0234 (Not Provided this Quarter)</i>
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPH-G (GC/MS) Concentration Map Figure 4: Dissolved-Phase Benzene Concentration Map Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time MTBE 8260B Concentrations vs. Time
Field Activities	General Field Procedures Field Monitoring Data Sheet - 11/25/08 Groundwater Sampling Field Notes - 11/25/08
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**October 2008 through December 2008**  
**76 Station 6129**  
**3420 35th Ave.**  
**Oakland, CA**

Project Coordinator: **Terry Grayson**  
Telephone: **916-558-7666**

Water Sampling Contractor: **TRC**  
Compiled by: **Christina Carrillo**

Date(s) of Gauging/Sampling Event: **11/25/08**

**Sample Points**

Groundwater wells: **3** onsite, **0** offsite      Points gauged: **3**      Points sampled: **3**  
Purging method: **Bailer/submersible pump**  
Purge water disposal: **Veolia/Rodeo Unit 100**  
Other Sample Points: **0**      Type: --

**Liquid Phase Hydrocarbons (LPH)**

Sample Points with LPH: **0**      Maximum thickness (feet): --  
LPH removal frequency: --      Method: --  
Treatment or disposal of water/LPH: --

**Hydrogeologic Parameters**

Depth to groundwater (below TOC):      Minimum: **29.74 feet**      Maximum: **30.88 feet**  
Average groundwater elevation (relative to available local datum): **71.10 feet**  
Average change in groundwater elevation since previous event: **0.15 feet**  
Interpreted groundwater gradient and flow direction:  
    Current event: **0.013 ft/ft, southwest**  
    Previous event: **0.013 ft/ft, southwest (09/11/08)**

**Selected Laboratory Results**

Sample Points with detected **Benzene**: **0**      Sample Points above MCL (1.0 µg/l): --  
    Maximum reported benzene concentration: --  
  
Sample Points with **TPH-G by GC/MS** **2**      Maximum: **500 µg/l (MW-2)**  
Sample Points with **MTBE 8260B** **3**      Maximum: **1,500 µg/l (MW-2)**

**Notes:**

# TABLES

## TABLE KEY

### STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
Trace	=	less than 0.01 foot of LPH in well
ug/l	=	micrograms per liter (approx e3equivalent to parts per billion, ppb)
mg/l	=	milligrams per liter (approx equivalent to parts per million, ppm)
ND<	=	not detected at or above laboratory detection limit
TOC	=	top of casing (surveyed reference elevation)

### ANALYTES

BTEX	=	benzene, toluene, ethylbenzene, and (total) xylenes
DIPE	=	di-isopropyl ether
EIBE	=	ethyl tertiary butyl ether
MTBE	=	methyl tertiary butyl ether
PCB	=	polychlorinated biphenyls
PCE	=	tetrachloroethene
TBA	=	tertiary butyl alcohol
TCA	=	trichloroethane
TCE	=	trichloroethene
IPH-G	=	total petroleum hydrocarbons with gasoline distinction
IPH-G (GC/MS)	=	total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B
IPH-D	=	total petroleum hydrocarbons with diesel distinction
IRPH	=	total recoverable petroleum hydrocarbons
IAME	=	tertiary amyl methyl ether
1,1-DCA	=	1,1-dichloroethane
1,2-DCA	=	1,2-dichloroethane (same as EDC, ethylene dichloride)
1,1-DCE	=	1,1-dichloroethene
1,2-DCE	=	1,2-dichloroethene (cis- and trans-)

### NOTES

1. Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
2. Groundwater elevations for wells with LPH are calculated as:  $\text{Surface Elevation} - \text{Measured Depth to Water} + (\text{Dp} \times \text{LPH Thickness})$ , where Dp is the density of the LPH, if known. A value of 0.75 is used for gasoline and when the density is not known. A value of 0.83 is used for diesel.
3. Wells with LPH are generally not sampled for laboratory analysis (see General Field Procedures).
4. Comments shown on tables are general. Additional explanations may be included in field notes and laboratory reports, both of which are included as part of this report.
5. A "J" flag indicates that a reported analytical result is an estimated concentration value between the method detection limit (MDL) and the practical quantification limit (PQL) specified by the laboratory.
6. Other laboratory flags (qualifiers) may have been reported. See the official laboratory report (attached) for a complete list of laboratory flags.
7. Concentration graphs based on tables (presented following Figures) show non-detect results prior to the Second Quarter 2000 plotted at fixed values for graphical display. Non-detect results reported since that time are plotted at reporting limits stated in the official laboratory report.
8. Groundwater vs. Time graphs may be corrected for apparent level changes due to re-survey.

### REFERENCE

TRC began groundwater monitoring and sampling 76 Station 6129 in August 2004

# Contents of Tables 1 and 2

## Site: 76 Station 6129

### Current Event

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
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Table 1a	Well/ Date	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME
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### Historic Data

Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
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Table 2a	Well/ Date	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME
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**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 25, 2008**  
**76 Station 6129**

Date Sampled	TOC Elevation  (feet)	Depth to Water  (feet)	LPH Thickness  (feet)	Ground- water Elevation  (feet)	Change in Elevation  (feet)	TPH-G	TPH-G	Benzene  (µg/l)	Toluene  (µg/l)	Ethyl- benzene  (µg/l)	Total Xylenes  (µg/l)	MTBE (8021B)  (µg/l)	MTBE (8260B)  (µg/l)	Comments
						(8015M)  (µg/l)	(GC/MS)  (µg/l)							
<b>MW-1</b>														
11/25/08	102.24	30.88	0.00	71.36	0.16	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.8	
<b>MW-2</b>														
11/25/08	102.16	30.48	0.00	71.68	0.14	--	500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1500	
<b>MW-3</b>														
11/25/08	100.00	29.74	0.00	70.26	0.15	--	380	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	870	



**Table 1 a**  
**ADDITIONAL CURRENT ANALYTICAL RESULTS**  
**76 Station 6129**

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-1</b>							
11/25/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-2</b>							
11/25/08	ND<10	ND<250	ND<0.50	ND<0.50	19	ND<0.50	ND<0.50
<b>MW-3</b>							
11/25/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**January 1990 Through November 2008**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-1</b>														
01/05/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
05/11/90	--	--	--	--	--	ND	--	ND	7.1	ND	ND	--	--	
08/09/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/14/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/91	--	--	--	--	--	ND	--	0.32	ND	ND	ND	--	--	
05/09/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/13/03	--	--	--	--	--	--	180	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	240	
08/27/04	102.24	30.65	0.00	71.59	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/23/04	102.24	29.35	0.00	72.89	1.30	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
02/09/05	102.24	26.89	0.00	75.35	2.46	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	9.3	
05/17/05	102.24	26.56	0.00	75.68	0.33	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.9	
07/27/05	102.24	27.33	0.00	74.91	-0.77	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/06/05	102.24	29.59	0.00	72.65	-2.26	--	ND<50	ND<0.50	0.93	ND<0.50	1.8	--	ND<0.50	
02/21/06	102.24	28.27	0.00	73.97	1.32	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.6	
06/08/06	102.24	26.07	0.00	76.17	2.20	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	11	
09/15/06	102.24	28.86	0.00	73.38	-2.79	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1.4	
12/14/06	102.24	29.49	0.00	72.75	-0.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	3.5	
03/28/07	102.24	27.24	0.00	75.00	2.25	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	0.64	
06/25/07	102.24	28.30	0.00	73.94	-1.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
09/22/07	102.24	30.61	0.00	71.63	-2.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	4.1	
12/14/07	102.24	30.30	0.00	71.94	0.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.65	
03/17/08	102.24	27.22	0.00	75.02	3.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	14	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**January 1990 Through November 2008**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-1 continued</b>														
06/20/08	102.24	30.10	0.00	72.14	-2.88	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	11	
09/11/08	102.24	31.04	0.00	71.20	-0.94	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.3	
11/25/08	102.24	30.88	0.00	71.36	0.16	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.8	
<b>MW-2</b>														
01/05/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
05/11/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/09/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/14/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/91	--	--	--	--	--	ND	--	ND	0.42	ND	0.51	--	--	
05/09/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/13/03	--	--	--	--	--	--	ND<2000	ND<20	ND<20	ND<20	ND<40	--	2100	
08/27/04	102.16	30.28	0.00	71.88	--	--	950	ND<5.0	ND<5.0	ND<5.0	ND<10	--	1400	
11/23/04	102.16	28.75	0.00	73.41	1.53	--	53	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.2	
02/09/05	102.16	26.08	0.00	76.08	2.67	--	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	400	
05/17/05	102.16	24.53	0.00	77.63	1.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	330	
07/27/05	102.16	27.51	0.00	74.65	-2.98	--	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<10	--	580	
12/06/05	102.16	29.13	0.00	73.03	-1.62	--	340	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	780	
02/21/06	102.16	29.23	0.00	72.93	-0.10	--	190	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	340	
06/08/06	102.16	25.76	0.00	76.40	3.47	--	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<10	--	440	
09/15/06	102.16	29.17	0.00	72.99	-3.41	--	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	570	
12/14/06	102.16	29.11	0.00	73.05	0.06	--	520	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	770	
03/28/07	102.16	26.68	0.00	75.48	2.43	--	290	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	460	
06/25/07	102.16	25.91	0.00	76.25	0.77	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1.2	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**January 1990 Through November 2008**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-2 continued</b>														
09/22/07	102.16	30.18	0.00	71.98	-4.27	--	400	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	530	
12/14/07	102.16	29.96	0.00	72.20	0.22	--	400	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	930	
03/17/08	102.16	26.74	0.00	75.42	3.22	--	570	ND<5.0	ND<5.0	ND<5.0	ND<10	--	630	
06/20/08	102.16	29.78	0.00	72.38	-3.04	--	580	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1200	
09/11/08	102.16	30.62	0.00	71.54	-0.84	--	220	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	29	
11/25/08	102.16	30.48	0.00	71.68	0.14	--	500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1500	
<b>MW-3</b>														
01/05/90	--	--	0.00	--	--	ND	--	ND	ND	ND	ND	--	--	
05/11/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/09/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/14/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
05/09/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/13/03	--	--	--	--	--	--	2600	ND<20	ND<20	ND<20	ND<40	--	3700	
08/27/04	100.00	29.61	0.00	70.39	--	--	1700	ND<10	ND<10	ND<10	ND<20	--	2600	
11/23/04	100.00	28.48	0.00	71.52	1.13	--	1500	ND<10	ND<10	ND<10	ND<20	--	1800	
02/09/05	100.00	26.45	0.00	73.55	2.03	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2100	
05/17/05	100.00	25.61	0.00	74.39	0.84	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1200	
07/27/05	100.00	27.35	0.00	72.65	-1.74	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1400	
12/06/05	100.00	28.78	0.00	71.22	-1.43	--	430	ND<0.50	1.6	ND<0.50	3.6	--	1800	
02/21/06	100.00	28.91	0.00	71.09	-0.13	--	420	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1100	
06/08/06	100.00	25.97	0.00	74.03	2.94	--	ND<1200	ND<12	ND<12	ND<12	ND<25	--	1000	
09/15/06	100.00	28.73	0.00	71.27	-2.76	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	1200	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**January 1990 Through November 2008**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-3 continued</b>														
12/14/06	100.00	28.62	0.00	71.38	0.11	--	ND<1000	ND<10	ND<10	ND<10	ND<10	--	1300	
03/28/07	100.00	26.69	0.00	73.31	1.93	--	500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	860	
06/25/07	100.00	26.74	0.00	73.26	-0.05	--	270	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	570	
09/22/07	100.00	29.57	0.00	70.43	-2.83	--	500	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	980	
12/14/07	100.00	29.30	0.00	70.70	0.27	--	270	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	570	
03/17/08	100.00	26.82	0.00	73.18	2.48	--	220	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	520	
06/20/08	100.00	29.10	0.00	70.90	-2.28	--	490	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1300	
09/11/08	100.00	29.89	0.00	70.11	-0.79	--	630	ND<5.0	ND<5.0	ND<5.0	ND<10	--	1200	
11/25/08	100.00	29.74	0.00	70.26	0.15	--	380	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	870	

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 6129**

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-1</b>							
11/13/03	ND<200	ND<1000	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0
08/27/04	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
11/23/04	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
02/09/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
05/17/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/27/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/06/05	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
02/21/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/08/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/15/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/14/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/28/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/25/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/22/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/14/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/17/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/20/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/11/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
11/25/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-2</b>							
11/13/03	ND<4000	ND<20000	ND<80	ND<80	ND<80	ND<80	ND<80
08/27/04	ND<50	ND<500	ND<5.0	ND<5.0	24	ND<5.0	ND<5.0
11/23/04	ND<5.0	ND<50	ND<0.50	ND<0.50	18	ND<0.50	ND<0.50
02/09/05	ND<50	ND<500	ND<5.0	ND<5.0	19	ND<5.0	ND<5.0
05/17/05	ND<5.0	ND<50	ND<0.50	ND<0.50	12	ND<0.50	ND<0.50

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 6129**

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-2 continued</b>							
07/27/05	140	ND<500	ND<5.0	ND<5.0	16	ND<5.0	ND<5.0
12/06/05	61	ND<250	ND<0.50	ND<0.50	15	ND<0.50	ND<0.50
02/21/06	ND<10	ND<250	ND<0.50	ND<0.50	18	ND<0.50	ND<0.50
06/08/06	ND<100	ND<2500	ND<5.0	ND<5.0	14	ND<5.0	ND<5.0
09/15/06	ND<100	ND<2500	ND<5.0	ND<5.0	17	ND<5.0	ND<5.0
12/14/06	27	ND<250	ND<0.50	ND<0.50	20	ND<0.50	ND<0.50
03/28/07	260	ND<250	ND<0.50	ND<0.50	23	ND<0.50	ND<0.50
06/25/07	ND<10	ND<250	ND<0.50	ND<0.50	23	ND<0.50	ND<0.50
09/22/07	ND<10	ND<250	ND<0.50	ND<0.50	35	ND<0.50	ND<0.50
12/14/07	48	ND<250	ND<0.50	ND<0.50	24	ND<0.50	ND<0.50
03/17/08	ND<100	ND<2500	ND<5.0	ND<5.0	18	ND<5.0	ND<5.0
06/20/08	ND<10	ND<250	ND<0.50	ND<0.50	16	ND<0.50	ND<0.50
09/11/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
11/25/08	ND<10	ND<250	ND<0.50	ND<0.50	19	ND<0.50	ND<0.50
<b>MW-3</b>							
11/13/03	ND<4000	ND<20000	ND<80	ND<80	ND<80	ND<80	ND<80
08/27/04	ND<100	ND<1000	ND<10	ND<10	ND<20	ND<10	ND<10
11/23/04	ND<100	ND<1000	ND<10	ND<10	ND<20	ND<10	ND<10
02/09/05	130	ND<1000	ND<10	ND<10	ND<10	ND<10	ND<10
05/17/05	ND<100	ND<1000	ND<10	ND<10	ND<10	ND<10	ND<10
07/27/05	360	ND<1000	ND<10	ND<10	ND<10	ND<10	ND<10
12/06/05	160	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
02/21/06	88	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.58
06/08/06	ND<250	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12
09/15/06	ND<250	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12

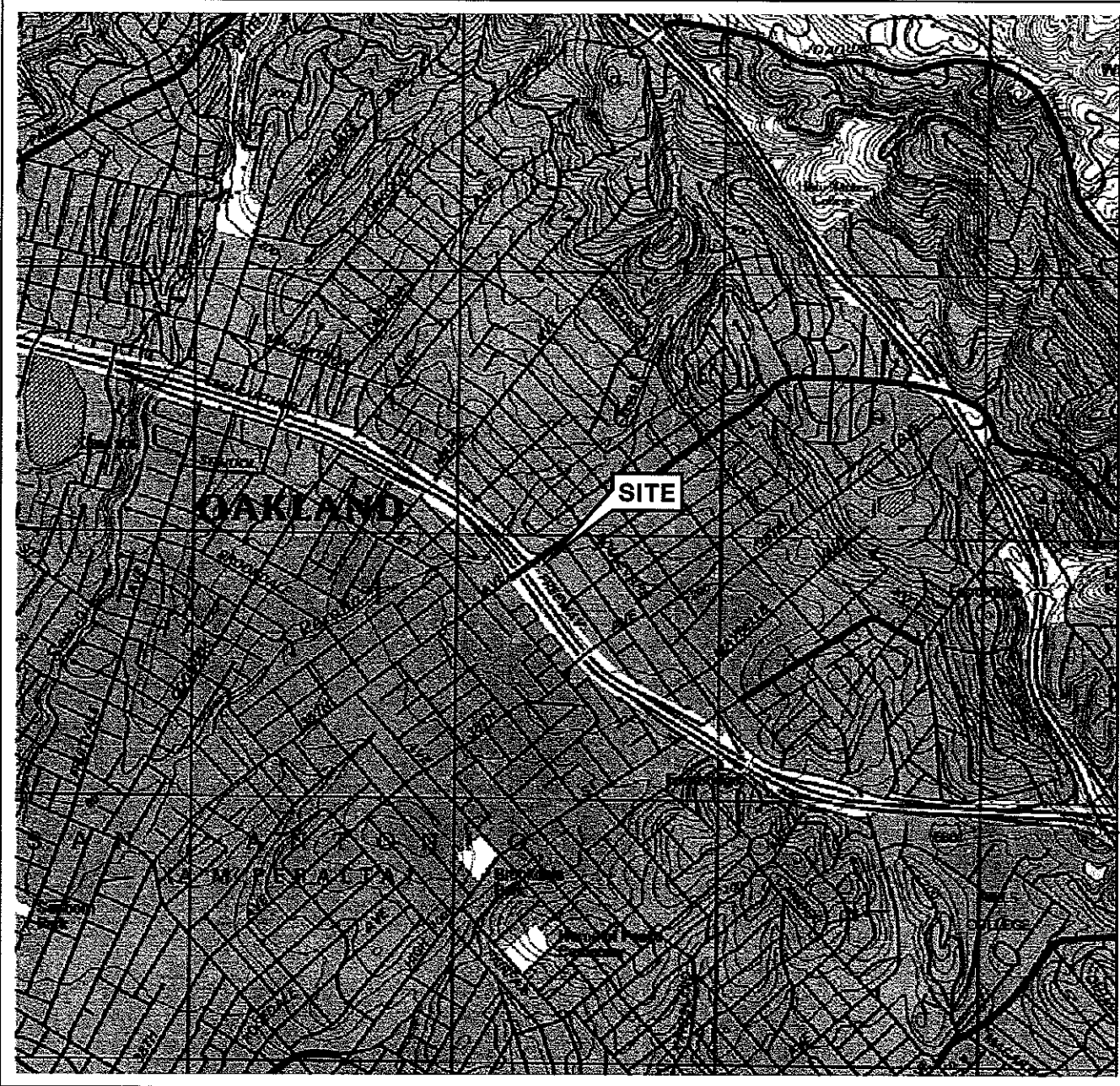
**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 6129**

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-3 continued</b>							
12/14/06	ND<200	ND<5000	ND<10	ND<10	ND<10	ND<10	ND<10
03/28/07	500	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
06/25/07	11	ND<250	ND<0.50	0.65	ND<0.50	ND<0.50	ND<0.50
09/22/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/14/07	26	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/17/08	ND<10	ND<250	ND<0.50	0.65	ND<0.50	ND<0.50	ND<0.50
06/20/08	49	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/11/08	ND<100	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
11/25/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50



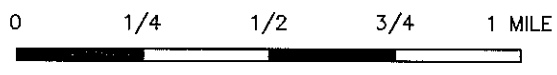
# FIGURES

PS=1:1 L:\QMS VICINITY MAP S\6129vm.dwg Dec 26, 2008 - 6:44am oakers



SOURCE:

United States Geological Survey  
7.5 Minute Topographic Map:  
Oakland East Quadrangle



SCALE 1:24,000






PROJECT: 154771

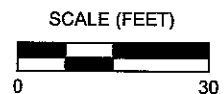
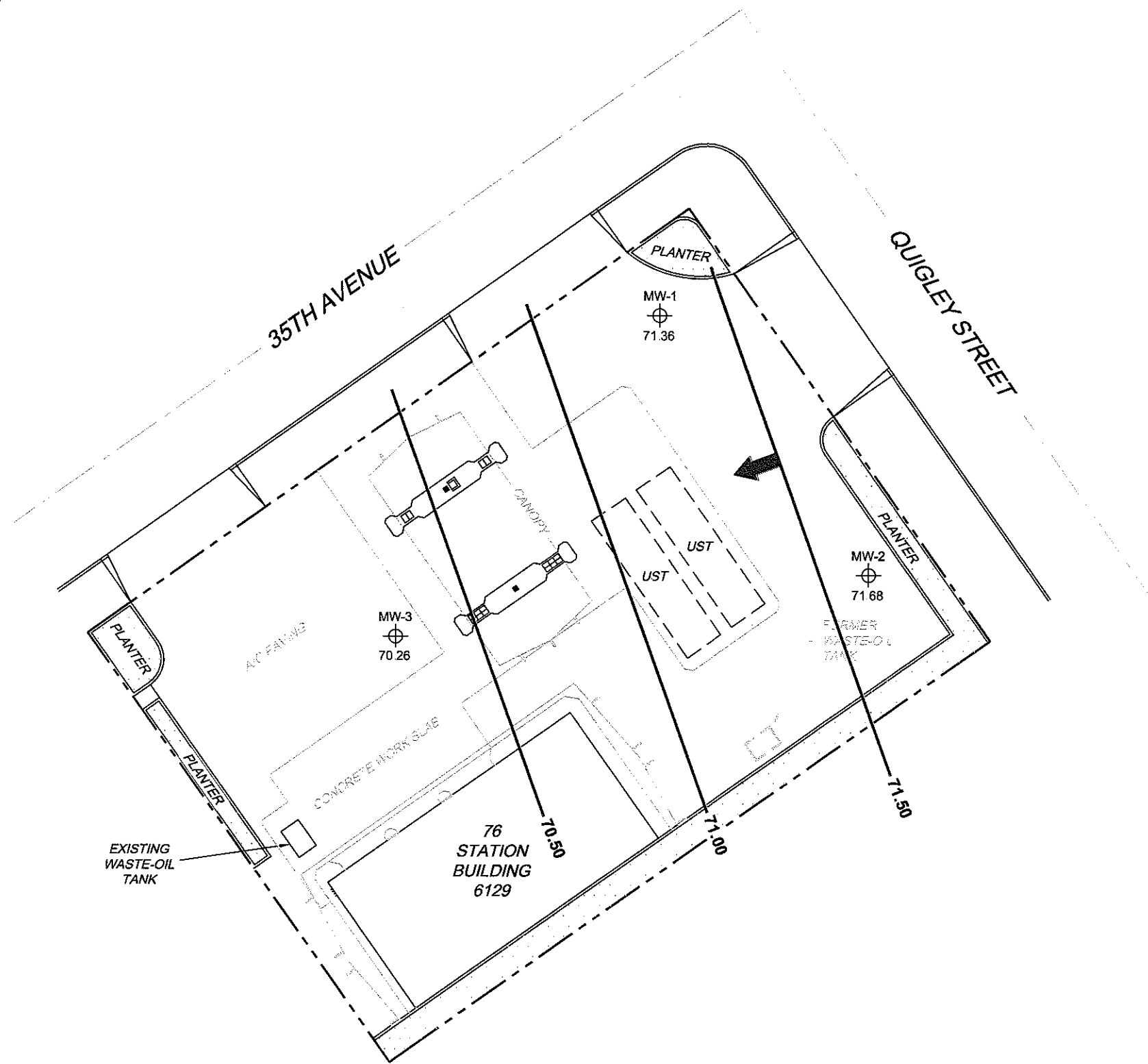
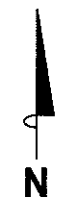
FACILITY:  
76 STATION 6129  
3420 35TH AVENUE  
OAKLAND, CALIFORNIA


VICINITY MAP

FIGURE 1

**LEGEND**

- MW-3  Monitoring Well with Groundwater Elevation (feet)
- 71.50  Groundwater Elevation Contour
-  General Direction of Groundwater Flow




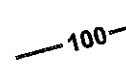
PROJECT:	154771
FACILITY:	76 STATION 6129 3420 35TH AVENUE OAKLAND, CALIFORNIA
<b>GROUNDWATER ELEVATION CONTOUR MAP</b> November 25, 2008	
	<b>FIGURE 2</b>

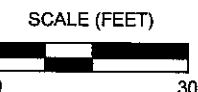
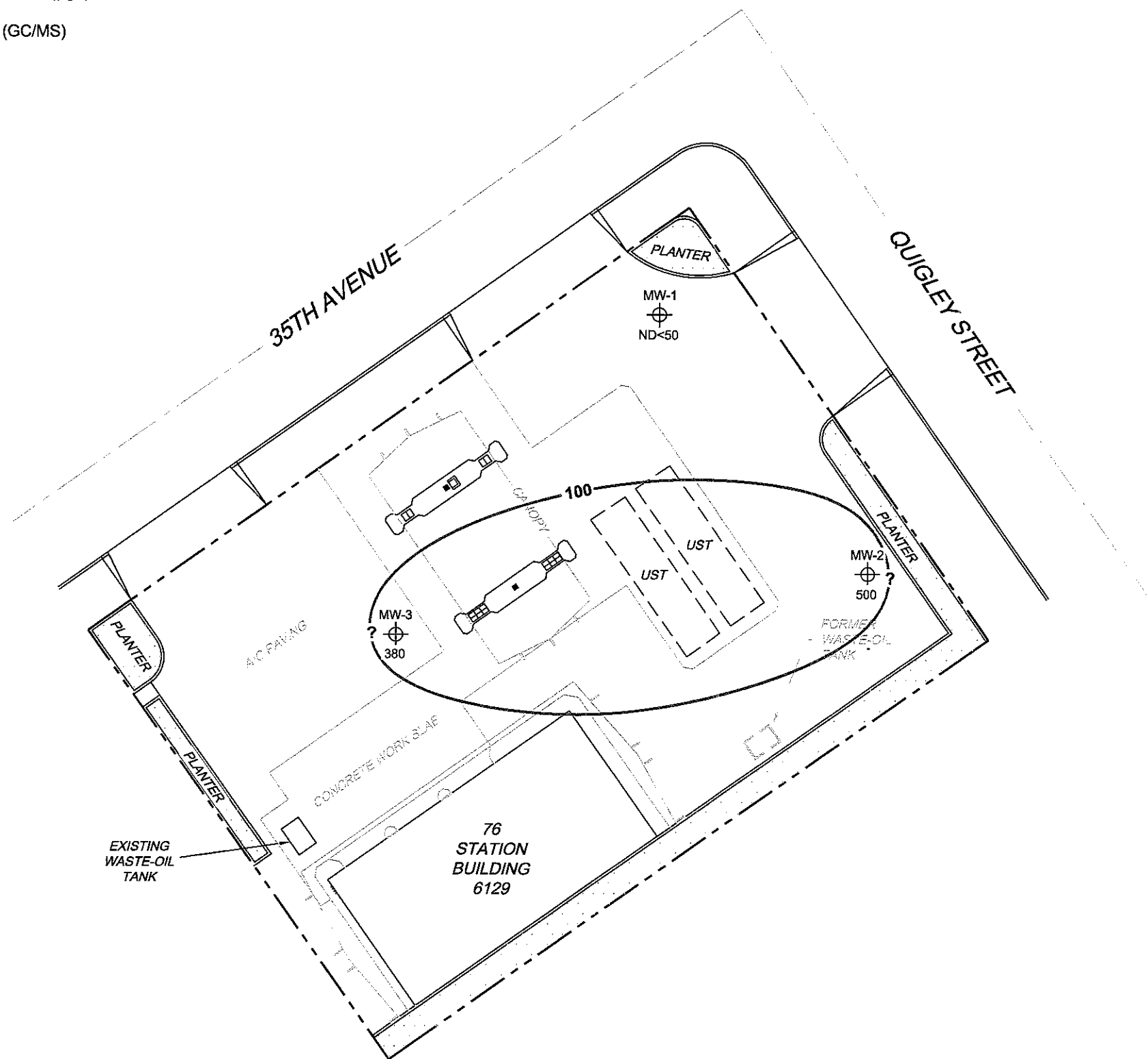
**NOTES:**


Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank.

**LEGEND**

MW-3  Monitoring Well with Dissolved-Phase TPH-G (GC/MS) Concentration (µg/l)

 100 Dissolved-Phase TPH-G (GC/MS) Contour (µg/l)




PROJECT:	154771
FACILITY:	76 STATION 6129 3420 35TH AVENUE OAKLAND, CALIFORNIA
<b>DISSOLVED-PHASE TPH-G (GC/MS) CONCENTRATION MAP November 25, 2008</b>	
	<b>FIGURE 3</b>

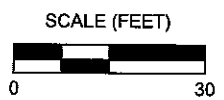
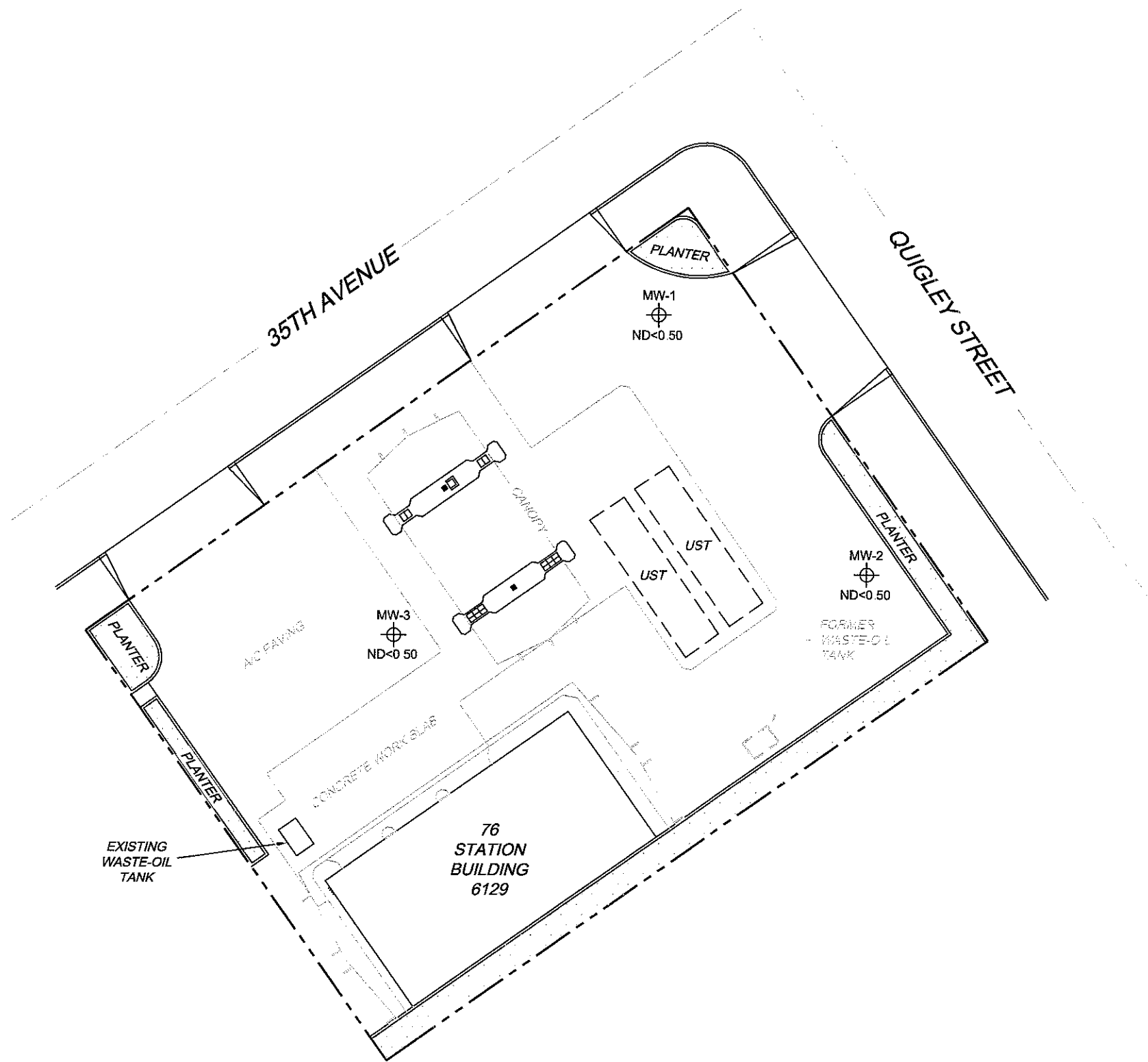
**NOTES:**


Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
 TPH-G (GC/MS) = total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 UST = underground storage tank.

MS=1:1 6129-003 L:\Graphics\GMS NORTH-SOUTH\154771-6000\6129-003.dwg Dec 19, 2008 - 2:34pm akers

**LEGEND**

MW-3  Monitoring Well with Dissolved-Phase Benzene Concentration (µg/l)




PROJECT:	154771
FACILITY:	76 STATION 6129 3420 35TH AVENUE OAKLAND, CALIFORNIA
<b>DISSOLVED-PHASE BENZENE CONCENTRATION MAP November 25, 2008</b>	
	<b>FIGURE 4</b>

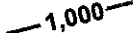
**NOTES:**

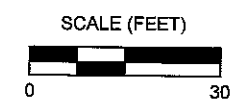
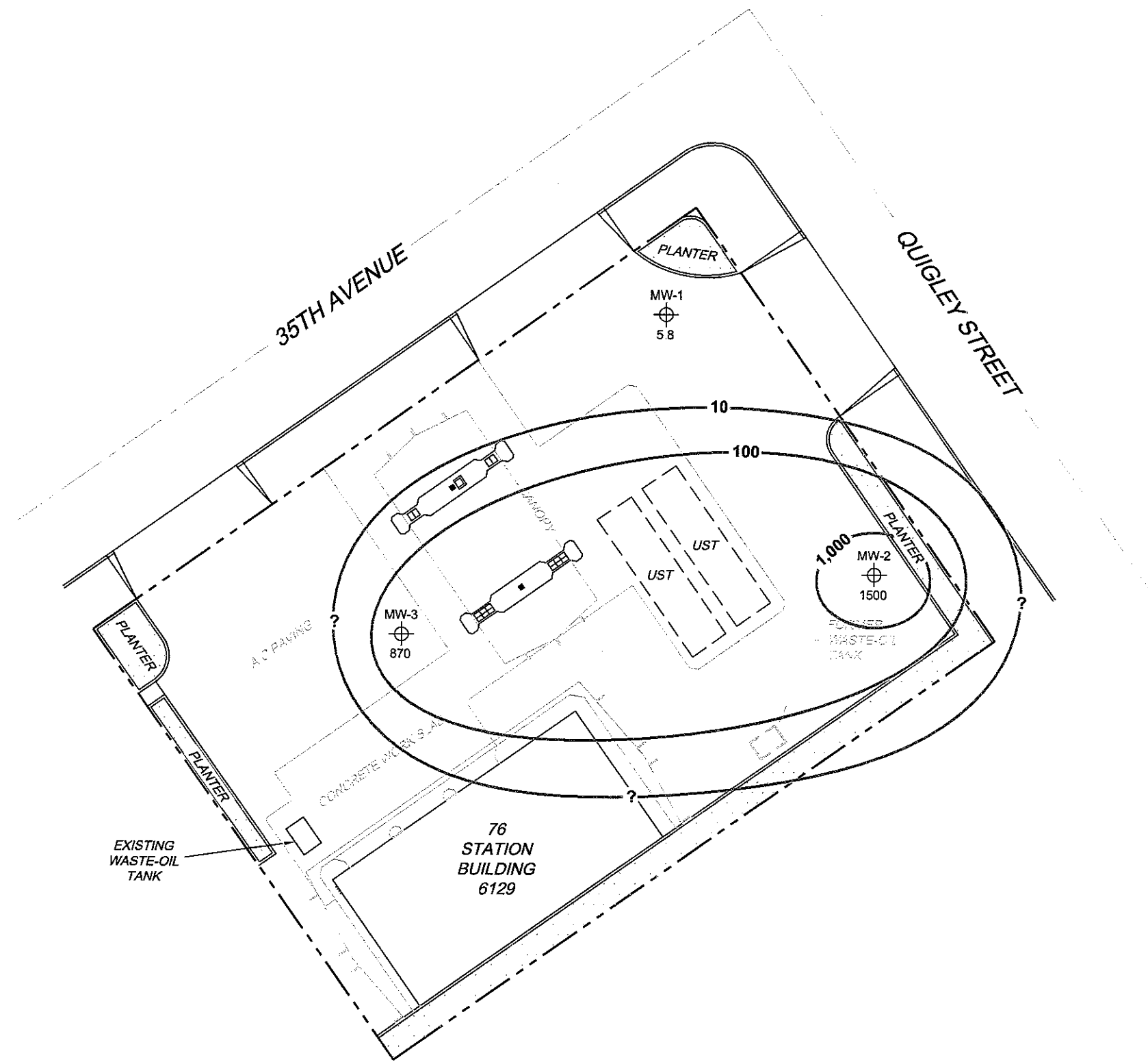
µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report  
UST = underground storage tank.

MS=1:1 6129-003 L:\Graphical\GIS\NORTH-SOUTH\6129-000\6129-0129-CIMS.dwg Dec 19, 2008 - 2:35pm aakers

**LEGEND**

MW-3  Monitoring Well with Dissolved-Phase MTBE Concentration (µg/l)

 1,000 Dissolved-Phase MTBE Contour (µg/l)



PROJECT:	154771
FACILITY:	76 STATION 6129 3420 35TH AVENUE OAKLAND, CALIFORNIA
<b>DISSOLVED-PHASE MTBE CONCENTRATION MAP November 25, 2008</b>	



**FIGURE 5**

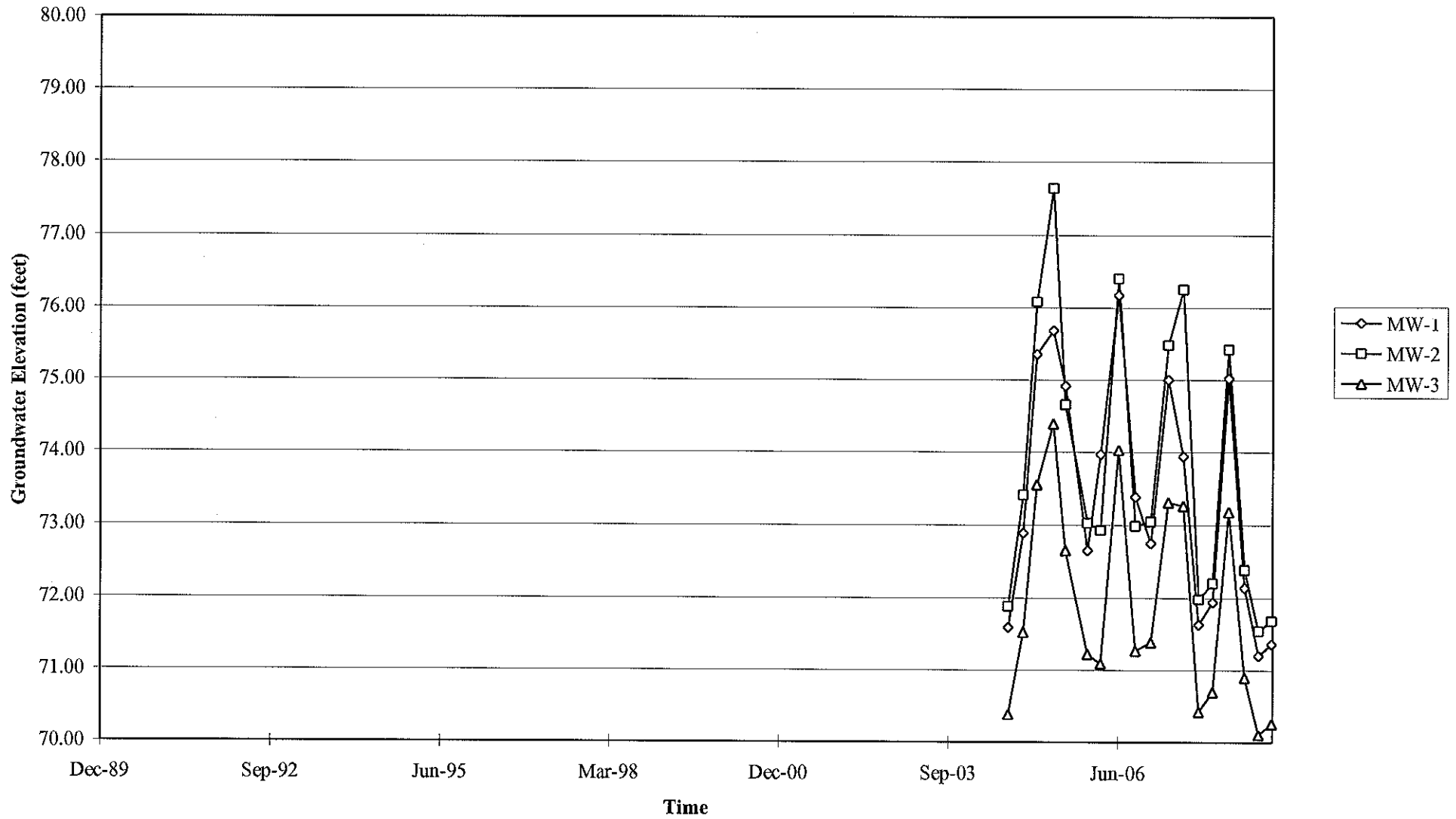
**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
 MTBE = methyl tertiary butyl ether. µg/l = micrograms per liter. UST = underground storage tank.  
 Results obtained using EPA Method 8260B

MS-1:1 6129-003 L:\Graphics\CMS NORTH-SOUTH\6129-6000\6129-6129\_CMS.dwg Dec 19, 2008 - 2:56pm aekers

# GRAPHS

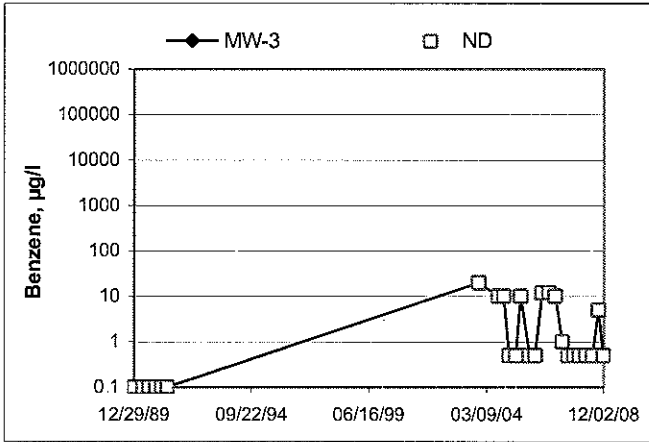
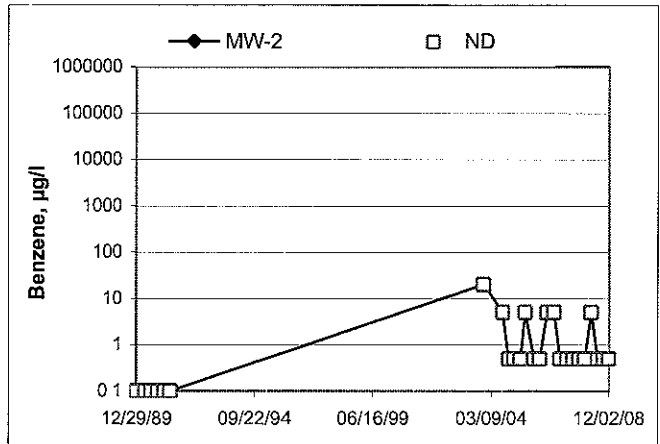
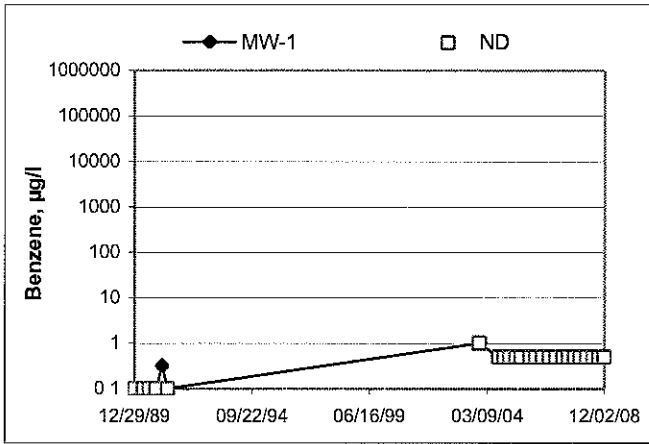
Groundwater Elevations vs. Time  
76 Station 6129



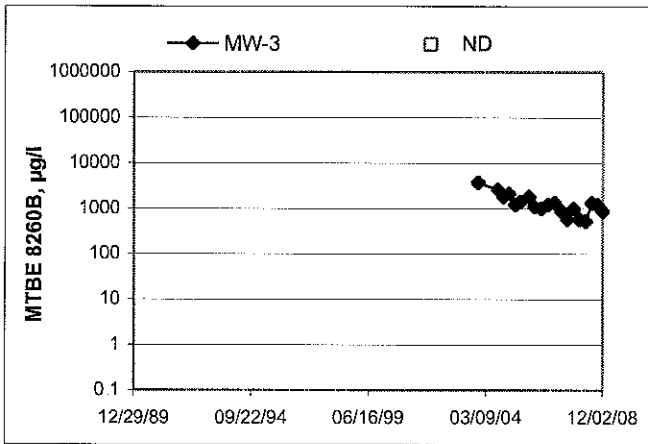
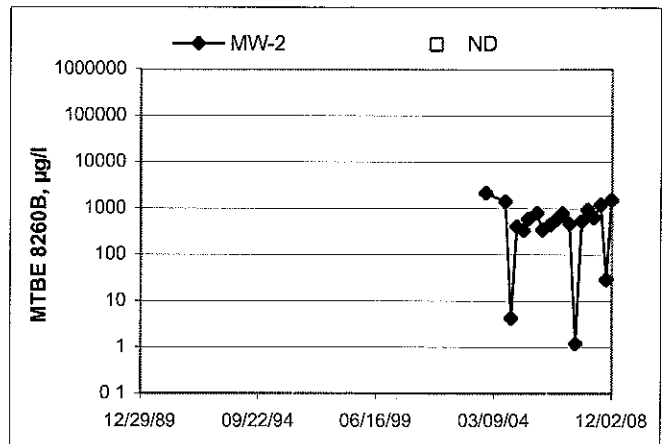
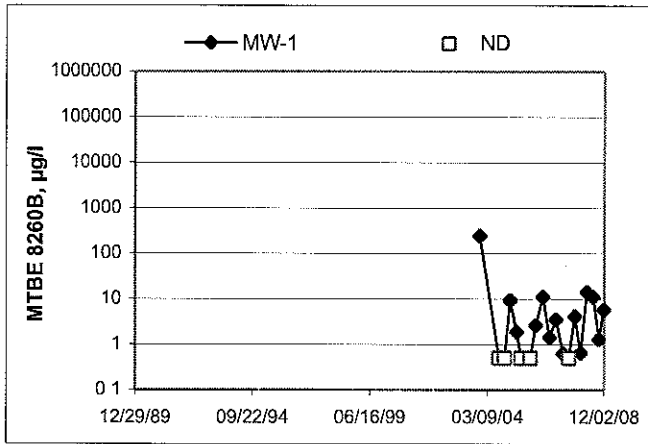
Elevations may have been corrected for apparent changes due to resurvey



### Benzene Concentrations vs Time 76 Station 6129



MTBE 8260B Concentrations vs Time  
76 Station 6129



# GENERAL FIELD PROCEDURES

## **Groundwater Monitoring and Sampling Assignments**

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater monitoring and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

## **Fluid Level Measurements**

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Wells that are found to contain LPH are not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed. Bailed fluids are placed in a container separate from normal purge water, and properly disposed.

## **Purging and Groundwater Parameter Measurement**

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurements are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously until they become stable in general accordance with EPA guidelines.

Purge water is generally collected in labeled drums for disposal. Drums may be left on site for disposal by others, or transported to a collection location for eventual transfer to a licensed treatment or recycling facility. In some cases, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.

## **Groundwater Sample Collection**

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

Samples are collected by lowering a new, disposable, ½-inch to 4-inch polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

After filling, all containers are labeled with project number (or site number), well designation, sample date, sample time, and the sampler's initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

## **Sequence of Gauging, Purging and Sampling**

The sequence in which monitoring activities are conducted is specified on the TSR. In general, wells are gauged beginning with the least affected well and ending with the well that has the highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected to the most-affected well.

## **Decontamination**

In order to reduce the possibility of cross contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging, and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liqui-nox and water and rinsing twice. The final rinse is in deionized water.

## **Exceptions**

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, and noted on the site TSR, are documented in field notes on the following pages

# FIELD MONITORING DATA SHEET

Technician: JOE

Job #/Task #: 154771/FA20

Date: 11-25-08

Site # 6129

Project Manager A. Collins

Page 1 of 1

Well #	TOC	Time Gauged	Total Depth	Depth to Water	Depth to Product	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-1	X	0859	43.47	30.88	—	—	1025	2"
MW-2	X	0904	43.56	30.48	—	—	0951	2"
MW-3	X	0911	39.43	29.74	—	—	1053	2"

FIELD DATA COMPLETE	QA/QC	COC	WELL BOX CONDITION SHEETS
MANIFEST	DRUM INVENTORY	TRAFFIC CONTROL	



## GROUNDWATER SAMPLING FIELD NOTES

Technician: JOE

Site: 6129

Project No.: 154771

Date: 11-25-08

Well No. MW-1

Purge Method: SUB

Depth to Water (feet): 30.88

Depth to Product (feet):           

Total Depth (feet): 43.47

LPH & Water Recovered (gallons):           

Water Column (feet): 12.59

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 33.39

1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. °C)	pH	D.O. (mg/L)	ORP	Turbidity
<u>1004</u>			<u>3</u>	<u>821.2</u>	<u>18.6</u>	<u>7.22</u>			
			<u>6</u>	<u>845.4</u>	<u>19.2</u>	<u>6.87</u>			
	<u>1010</u>		<u>9</u>	<u>836.2</u>	<u>19.4</u>	<u>6.56</u>			
Static at Time Sampled			Total Gallons Purged			Sample Time			
<u>33.39</u>			<u>9</u>			<u>1025</u>			
Comments:									

Well No. MW-2

Purge Method: J-SUB HB

Depth to Water (feet): 30.48

Depth to Product (feet):           

Total Depth (feet): 43.56

LPH & Water Recovered (gallons):           

Water Column (feet): 13.08

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 33.89

1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. °C)	pH	D.O. (mg/L)	ORP	Turbidity
<u>0931</u>			<u>3</u>	<u>717.7</u>	<u>18.3</u>	<u>7.45</u>			
			<u>6</u>	<u>839.3</u>	<u>18.4</u>	<u>6.90</u>			
	<u>0947</u>		<u>9</u>	<u>825.6</u>	<u>18.6</u>	<u>6.80</u>			
Static at Time Sampled			Total Gallons Purged			Sample Time			
<u>32.31</u>			<u>9</u>			<u>0951</u>			
Comments:									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: JOE

Site: 6129  
MW-3 JL

Project No.: 154771

Date: 11-25-08

Well No. MW-3

Purge Method: JL HB SUB

Depth to Water (feet): 29.74

Depth to Product (feet):           

Total Depth (feet): 39.43

LPH & Water Recovered (gallons):           

Water Column (feet): 9.69

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 31.67

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<u>1035</u>			<u>2</u>	<u>612.3</u>	<u>18.3</u>	<u>7.60</u>			
			<u>4</u>	<u>728.2</u>	<u>19.0</u>	<u>7.20</u>			
	<u>1039</u>		<u>6</u>	<u>769.3</u>	<u>19.0</u>	<u>7.05</u>			
Static at Time Sampled			Total Gallons Purged		Sample Time				
<u>31.67</u>			<u>6</u>		<u>1053</u>				
<b>Comments:</b>									

Well No. \_\_\_\_\_

Purge Method: \_\_\_\_\_

Depth to Water (feet): \_\_\_\_\_

Depth to Product (feet): \_\_\_\_\_

Total Depth (feet) \_\_\_\_\_

LPH & Water Recovered (gallons): \_\_\_\_\_

Water Column (feet): \_\_\_\_\_

Casing Diameter (Inches): \_\_\_\_\_

80% Recharge Depth(feet): \_\_\_\_\_

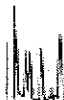
1 Well Volume (gallons): \_\_\_\_\_

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
Static at Time Sampled			Total Gallons Purged		Sample Time				
<b>Comments:</b>									



**Laboratories, Inc.**

Environmental Testing Laboratory Since 1949



Date of Report: 12/08/2008

Anju Farfan

TRC

21 Technology Drive  
Irvine, CA 92618

RE: 6129  
BC Work Order: 0815643  
Invoice ID: B054115

Enclosed are the results of analyses for samples received by the laboratory on 11/25/2008. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers  
Client Service Rep

Authorized Signature





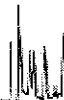
TRC  
21 Technology Drive  
Irvine, CA 92618

Project: 6129  
Project Number: Inone1  
Project Manager: Anu Farfan

Reported: 12/08/2008 11:30

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			Receive Date:	Sampling Date:	Sample Depth:	Sample Matrix:	Delivery Work Order:	Global ID:	Location ID (FieldPoint):	Matrix:	Sample QC Type (SACode):	Cooler ID:
0815643-01	COC Number:	---		11/25/2008 21:20	11/25/2008 10:25	---	Water		T0600101465	MW-1	W	CS	
	Project Number:	6129											
	Sampling Location:	---											
	Sampling Point:	MW-1											
	Sampled By:	TRCI											
0815643-02	COC Number:	---		11/25/2008 21:20	11/25/2008 09:51	---	Water		T0600101465	MW-2	W	CS	
	Project Number:	6129											
	Sampling Location:	---											
	Sampling Point:	MW-2											
	Sampled By:	TRCI											
0815643-03	COC Number:	---		11/25/2008 21:20	11/25/2008 10:53	---	Water		T0600101465	MW-3	W	CS	
	Project Number:	6129											
	Sampling Location:	---											
	Sampling Point:	MW-3											
	Sampled By:	TRCI											



TRC  
21 Technology Drive  
Irvine, CA 92618

Project: 6129  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 12/08/2008 11:30

### Volatile Organic Analysis (EPA Method 8260)

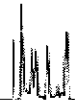
BCL Sample ID: 0815643-01		Client Sample Name: 6129, MW-1, 11/25/2008 10:25:00AM											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru- ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	1	BRL0323	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	1	BRL0323	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	1	BRL0323	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Methyl t-butyl ether	5.8	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Toluene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Ethanol	ND	ug/L	250		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	i	BRL0323	ND	
1,2-Dichloroethane-d4 (Surrogate)	97.6	%	76 - 114 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	1	BRL0323		
Toluene-d8 (Surrogate)	95.7	%	88 - 110 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	1	BRL0323		
4-Bromofluorobenzene (Surrogate)	100	%	86 - 115 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 08:36	SDU	MS-V10	1	BRL0323		

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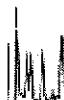
Project: 6129  
Project Number: Inone1  
Project Manager: Anju Farfan

Reported: 12/08/2008 11:30

### Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0815643-02		Client Sample Name: 6129, MW-2, 11/25/2008 9:51:00AM											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	i	BRL0323	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	i	BRL0323	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	
Methyl t-butyl ether	1500	ug/L	12		EPA-8260	12/03/08	12/05/08 00:13	SDU	MS-V10	25	BRL0323	ND	A01
Toluene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	i	BRL0323	ND	
Diisopropyl ether	19	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	i	BRL0323	ND	
Ethanol	ND	ug/L	250		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	i	BRL0323	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	
Total Purgeable Petroleum Hydrocarbons	500	ug/L	50		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323	ND	A90
1,2-Dichloroethane-d4 (Surrogate)	96.9	%	76 - 114 (LCL - UCL)		EPA-8260	12/03/08	12/05/08 00:13	SDU	MS-V10	25	BRL0323		
1,2-Dichloroethane-d4 (Surrogate)	99.0	%	76 - 114 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323		
Toluene-d8 (Surrogate)	97.8	%	88 - 110 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	1	BRL0323		
Toluene-d8 (Surrogate)	96.2	%	88 - 110 (LCL - UCL)		EPA-8260	12/03/08	12/05/08 00:13	SDU	MS-V10	25	BRL0323		
4-Bromofluorobenzene (Surrogate)	102	%	86 - 115 (LCL - UCL)		EPA-8260	12/03/08	12/05/08 00:13	SDU	MS-V10	25	BRL0323		
4-Bromofluorobenzene (Surrogate)	102	%	86 - 115 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 08:54	SDU	MS-V10	i	BRL0323		

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TRC  
21 Technology Drive  
Irvine, CA 92618

Project: 6129  
Project Number: Inone1  
Project Manager: Anju Fartan

Reported: 12/08/2008 11:30

### Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0815643-03		Client Sample Name: 6129, MW-3, 11/25/2008 10:53:00AM											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
Methyl t-butyl ether	870	ug/L	6.2		EPA-8260	12/03/08	12/03/08 22:36	SDU	MS-V10	12.500	BRL0323	ND	A01
Toluene	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
Ethanol	ND	ug/L	250		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	1	BRL0323	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	i	BRL0323	ND	
Total Purgeable Petroleum Hydrocarbons	380	ug/L	50		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	i	BRL0323	ND	A90
1,2-Dichloroethane-d4 (Surrogate)	96.3	%	76 - 114 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	i	BRL0323		
1,2-Dichloroethane-d4 (Surrogate)	96.0	%	76 - 114 (LCL - UCL)		EPA-8260	12/03/08	12/03/08 22:36	SDU	MS-V10	12.500	BRL0323		
Toluene-d8 (Surrogate)	93.9	%	88 - 110 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	i	BRL0323		
Toluene-d8 (Surrogate)	95.4	%	88 - 110 (LCL - UCL)		EPA-8260	12/03/08	12/03/08 22:36	SDU	MS-V10	12.500	BRL0323		
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)		EPA-8260	12/03/08	12/03/08 22:36	SDU	MS-V10	12.500	BRL0323		
4-Bromofluorobenzene (Surrogate)	102	%	86 - 115 (LCL - UCL)		EPA-8260	12/03/08	12/04/08 21:07	SDU	MS-V10	i	BRL0323		

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TRC  
21 Technology Drive  
Irvine, CA 92618

Project: 6129  
Project Number: [none]  
Project Manager: Anju Farfan

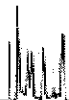
Reported: 12/08/2008 11:30

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
										RPD	Percent Recovery	
Benzene	BRL0323	Matrix Spike	0815616-01	0	24.060	25.000	ug/L		96.2		70 - 130	
		Matrix Spike Duplicate	0815616-01	0	27.020	25.000	ug/L	11.6	108	20	70 - 130	
Toluene	BRL0323	Matrix Spike	0815616-01	0.12000	23.650	25.000	ug/L		94.1		70 - 130	
		Matrix Spike Duplicate	0815616-01	0.12000	27.720	25.000	ug/L	15.6	110	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BRL0323	Matrix Spike	0815616-01	ND	9.5700	10.000	ug/L		95.7		76 - 114	
		Matrix Spike Duplicate	0815616-01	ND	9.3300	10.000	ug/L		93.3		76 - 114	
Toluene-d8 (Surrogate)	BRL0323	Matrix Spike	0815616-01	ND	9.7100	10.000	ug/L		97.1		88 - 110	
		Matrix Spike Duplicate	0815616-01	ND	9.9000	10.000	ug/L		99.0		88 - 110	
4-Bromofluorobenzene (Surrogate)	BRL0323	Matrix Spike	0815616-01	ND	10.050	10.000	ug/L		100		86 - 115	
		Matrix Spike Duplicate	0815616-01	ND	10.000	10.000	ug/L		100		86 - 115	

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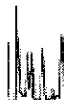
Project: 6129  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 12/08/2008 11:30

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits		Lab Quals
										Percent Recovery	RPD	
Benzene	BRL0323	BRL0323-BS1	LCS	23.690	25.000	0.50	ug/L	94.8		70 - 130		
Toluene	BRL0323	BRL0323-BS1	LCS	23.860	25.000	0.50	ug/L	95.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BRL0323	BRL0323-BS1	LCS	9.3300	10.000		ug/L	93.3		76 - 114		
Toluene-d8 (Surrogate)	BRL0323	BRL0323-BS1	LCS	9.8200	10.000		ug/L	98.2		88 - 110		
4-Bromofluorobenzene (Surrogate)	BRL0323	BRL0323-BS1	LCS	10.330	10.000		ug/L	103		86 - 115		



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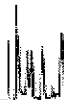
Reported: 12/08/2008 11:30

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
Ethylbenzene	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
Toluene	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
Total Xylenes	BRL0323	BRL0323-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BRL0323	BRL0323-BLK1	ND	ug/L	10		
Diisopropyl ether	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
Ethanol	BRL0323	BRL0323-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BRL0323	BRL0323-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BRL0323	BRL0323-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BRL0323	BRL0323-BLK1	98.3	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BRL0323	BRL0323-BLK1	95.9	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BRL0323	BRL0323-BLK1	104	%	86 - 115 (LCL - UCL)		

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Irvine, CA 92618

Project: 6129  
Project Number: [none]  
Project Manager: Anju Fartan

Reported: 12/08/2008 11:30

**Notes And Definitions**

- MDL Method Detection Limit
- ND Analyte Not Detected at or above the reporting limit
- PQL Practical Quantitation Limit
- RPD Relative Percent Difference
- A01 PQL's and MDL's are raised due to sample dilution.
- A90 TPPH does not exhibit a "gasoline" pattern. TPPH is entirely due to MTBE.



Submission #: 0815043

**SHIPPING INFORMATION**  
 Federal Express  UPS  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

**SHIPPING CONTAINER**  
 Ice Chest  None   
 Box  Other  (Specify) \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

**COC Received**  
 YES  NO

Emissivity: .98 Container: USA Thermometer ID: TH163  
 Temperature: A 4.3 °C / C 4.2 °C

Date/Time: 11-25-08  
 Analyst Init: ALW

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PTA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A3	A3	A3							
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: AMB Date/Time: 11/26/08-1000

A = Actual / C = Corrected

UNID BY DISTRIBUTION  
SUB-OUT

DO BOD MBAS C  
Cr+ NO<sub>2</sub> NO<sub>3</sub> OP SS  
SHORT HOLDING TIME  
CHAIN OF CUSTODY

AMP  
1/2/08

BC LABORATORIES, INC.

4100 Atlas Court Bakersfield, CA 93308  
(661) 327-4911 FAX (661) 327-1918

Analysis Requested

Bill to: Conoco Phillips/ TRC	Consultant Firm: TRC	MATRIX (GW)	BTEX/MTBE by 8021B, Gas by 8015	Turnaround Time Requested
Address: 3420 35TH AVE	21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan	Ground-water (S)	TPH GAS by 8015M	
City: Oakland	4-digit site#: 6129	Soil (WW)	TPH DIESEL by 8015	
State: CA Zip:	Workorder # 04583-4509118531	Waste-water (SL)	8260 full list w/ oxygenates	
Conoco Phillips Mgr: Terry Grayson	Project #: 154771	Sludge	BTEX/MTBE/OXYS BY 8260B, EOB/EOC by 8260B	
	Sampler Name: JOE L.		ETHANOL by 8260B	
			TPH - G by GC/MS	

Lab#	Sample Description	Field Point Name	Date & Time Sampled							
-1		MW-1	11-25-08 1025	GW						STD
-2		MW-2	↓ 0951	↓						↓
-3		MW-3	↓ 1053	↓						↓

Comments:  GLOBAL ID: 70600101465	Relinquished by: (Signature) <i>Joe D. Lewis</i>	Received by: refrigerator	Date & Time 11-25-08 1535
	Relinquished by: (Signature) <i>[Signature]</i>	Received by: Koss Wiskoy	Date & Time 11/25/08 1535
	Relinquished by: (Signature) <i>Koss Wiskoy 11/25/08</i>	Received by: Refrigerator	Date & Time 11-25-08 1800

Refrigerator 11-25-08 2120  
Refrigerator 11-25-08 2120

## **STATEMENTS**

### **Purge Water Disposal**

Non-hazardous groundwater produced during purging and sampling of monitoring was accumulated at TRC's groundwater monitoring facility at Concord, California, for transportation by a licensed carrier, to the ConocoPhillips Refinery at Rodeo, California. Disposal at the Rodeo facility was authorized by ConocoPhillips in accordance with "ESD Standard Operating Procedures – Water Quality and Compliance", as revised on February 7, 2003. Documentation of compliance with ConocoPhillips requirements is provided by an ESD Form R-149, which is on file at TRC's Concord Office. Purge water suspected of containing potentially hazardous material, such as liquid-phase hydrocarbons, was accumulated separately in a drum for transportation and disposal by others.

### **Limitations**

The fluid level monitoring and groundwater sampling activities summarized in this report have been performed under the responsible charge of a California Registered Geologist or Registered Civil Engineer and have been conducted in accordance with current practice and the standard of care exercised by geologists and engineers performing similar tasks in this area. No warranty, express or implied, is made regarding the conclusions and professional opinions presented in this report. The conclusions are based solely upon an analysis of the observed conditions. If actual conditions differ from those described in this report, our office should be notified.