

R058



6602 Owens Dr. Suite 100  
Pleasanton, California 94588  
[www.atc-enviro.com](http://www.atc-enviro.com)  
925.460.5300  
Fax 925.463.2559

April 29, 2005

Mr. Donald Hwang  
Alameda County Department of Public Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**Re: Quarterly Summary Report – First Quarter 2005**  
76 Service Station No. 6129 / WNO 4583  
3420 35<sup>th</sup> Avenue  
Oakland, CA

RECEIVED  
MAY 10 2005  
11:30 AM

Dear Mr. Hwang:

On behalf of ConocoPhillips Company, ATC Associates Inc. is forwarding the quarterly summary report for the above referenced facility.

Sincerely,  
**ATC ASSOCIATES INC.**

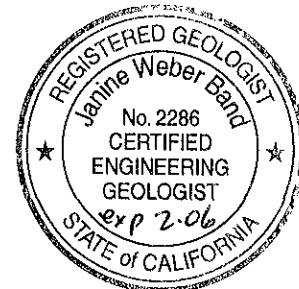
A handwritten signature in black ink, appearing to read 'D. Evans'.

David A. Evans  
Senior Project Manager

A handwritten signature in black ink, appearing to read 'Janine Weber-Band'.

Janine Weber-Band, PhD, CEG #2286  
Principal Geologist

Attachment: Site Plan  
Site Monitoring Report, prepared by TRC



Cc: Mr. Thomas Kosel – ConocoPhillips

**QUARTERLY SUMMARY REPORT  
First Quarter 2005**

76 Service Station No. 6129 / WNO 4583  
3420 35<sup>th</sup> Avenue  
Oakland, CA

City/County ID#            Case No. RO# 000058  
County:                      Alameda

Alameda County  
L-11 L-2 2005  
Eval

**PREVIOUS SITE ACTIVITY**

1989 - Two 10,000-gallon gasoline underground storage tanks (USTs) and one 550-gallon used-oil UST were removed from the site.

1989 - Three groundwater monitor wells (MW-1 through MW-3) were installed.

1990 - Four soil borings (EB-1 through EB4) were drilled at the site in the vicinity of MW-3 in an attempt to define the extent of hydrocarbon impacted soil. Subsequently, approximately 230 cubic yards (cy) of soil were excavated from the site. Following excavation activities, analytical results from soil samples indicated that the majority of the impacted soil had been removed from the subsurface.

November 12 and 13, 2003 - As part of a due diligence investigation, four soil borings (SB-1, SB-3, SB-4, and SB-5) were completed. MtBE in soil was reported at concentrations ranging from 0.37 to 0.41 mg/kg.

January 2005 -- ATC became the new lead consultant for the site.

**SENSITIVE RECEPTORS**

A 1,000 foot radius well search was completed as requested on September 28, 2004 by the Alameda County Public Works Agency (ACPWA). The results indicated a 6-inch diameter irrigation well located at 3397 Arkansas St, 800 feet west-northwest of the site drilled in August 1977 to a total depth of 62 feet (water level at 18 feet) owned by Arthur Smith as reported by the Alameda Co. Health Care Services updated July 30, 1984.

**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 scheduled to be sampled on a quarterly basis. During the most recent groundwater monitor event, conducted on February 9, 2005, depth to groundwater ranged from 26.08 feet (MW-2) to 26.89 feet (MW-1) below top of casing (TOC). The groundwater flow direction was toward the southwest at a gradient of 0.020 ft/ft, consistent with historic events. During the February 2005 sampling event, maximum detectable hydrocarbon concentrations were as follows: TPH (<1,000 ug/l in MW-3), benzene (<0.50 ug/L in all wells), and MtBE (2,100 ug/l in MW-3).

## **REMEDIATION STATUS**

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

## **CHARACTERIZATION STATUS**

Hydrocarbon concentrations in the soil and groundwater have not been delineated. MtBE in soil and groundwater are above MCLs. Additional assessment activity is proposed to delineate both the vertical and horizontal extent (up and down gradient) of the MtBE plumes.

## **RECENT CORRESPONDENCE**

There was no correspondence during the reporting period.

## **THIS QUARTER ACTIVITIES (First Quarter 2005)**

1. TRC performed the quarterly monitoring and sampling event at the site.
2. ATC was selected as the oversight consultant for the site.

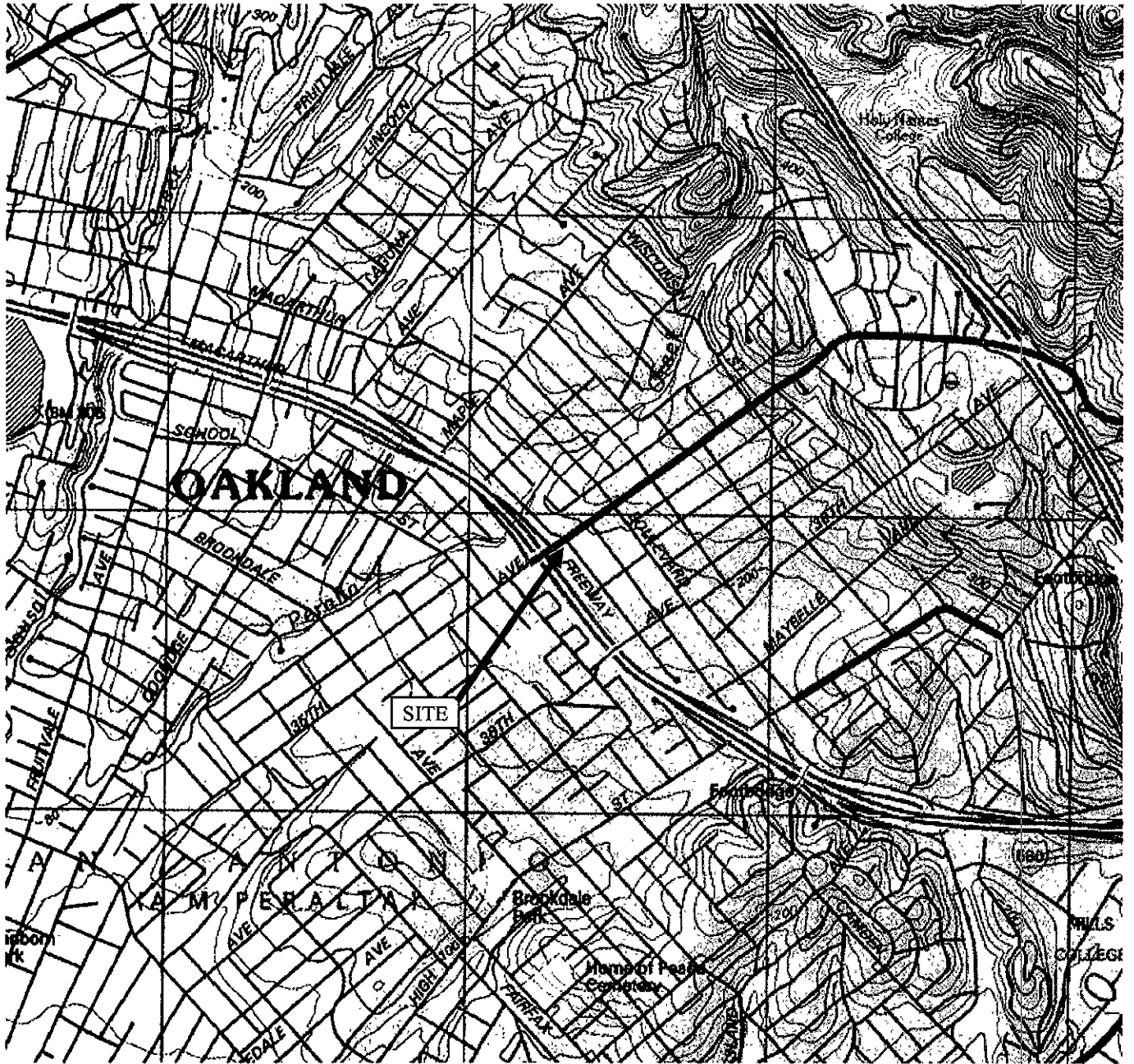
## **WASTE DISPOSAL SUMMARY**

No waste was generated during the quarter.

## **NEXT QUARTER ACTIVITIES (Second Quarter 2005)**

1. TRC will conduct the quarterly groundwater monitoring and sampling event at the site.
2. Upon approval of the Work Plan submitted by Miller Brooks dated October 11, 2004, ATC will complete four monitor wells and three soil borings.

**CONSULTANT:** ATC Associates Inc.



SOURCE: USGS OAKLAND WEST QUADRANGLE, CALIFORNIA (7.5 MINUTE SERIES) TOPOGRAPHIC MAP. OBTAINED FROM THE 2000 NATIONAL GEOGRAPHIC TOPO! SOFTWARE.



6602 Owens Drive, Suite 100  
 Pleasanton, CA 94588  
 (925) 460-5300

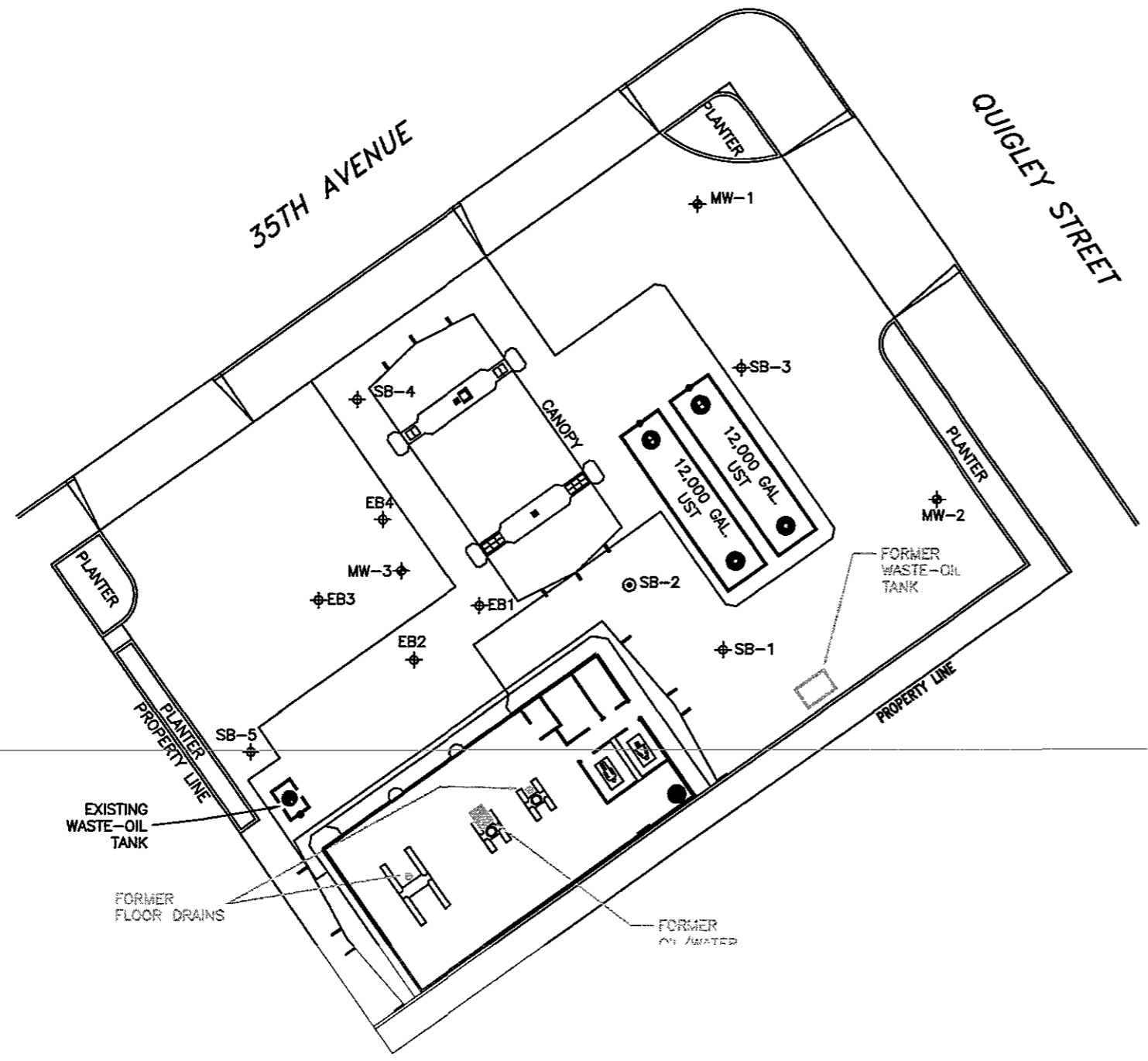
PROJECT NO: 75.75118.4583

DESIGNED BY: DE      SCALE: N/A      REVIEWED BY: DE

DRAWN BY: EC      DATE: 03/05      FILE: 6129 SITE VIC

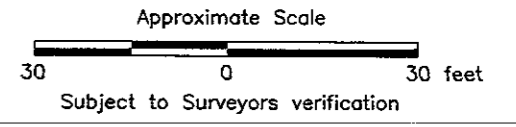
FIGURE 1  
**SITE VICINITY MAP**

76 STATION 6129  
 3420 35<sup>th</sup> AVENUE  
 OAKLAND, CALIFORNIA



**LEGEND**

- MW-3 GROUNDWATER MONITOR WELL
- SB-5 SOIL BORING LOCATIONS (2003)
- SB-2 ATTEMPTED SOIL BORING
- EB1 SOIL BORING LOCATIONS (1990)
- GASOLINE UNDERGROUND STORAGE TANK
- DISPENSER ISLAND
- HOIST



BASE MAP REFERENCE:  
 MODIFIED FROM SITE PLAN SUPPLIED BY  
 MILLER BROOKS, ENVIRONMENTAL, INC.



6602 Owens Drive, Suite 100  
 Pleasanton, CA 94588  
 (925) 460-5300

SCALE AS SHOWN	DRAWING DATE 03/25/05	ACAD FILE 6129-site plan
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**SITE MAP**

CLIENT	CONOCO-PHILLIPS	PM	DAE
LOCATION	76 STATION 6129 3420 35th AVENUE OAKLAND, CALIFORNIA	PE	DA
DESIGNED	DRAWN BY: EC	PROJECT NO 75.75118.4583	FIGURE 2



76 Broadway  
Sacramento, CA 95818  
phone 916.558.7676  
fax 916.558.7639

April 27, 2005

Mr. Don Hwang  
Alameda County Health Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Re: **Document Transmittal**  
Fuel Leak Case  
76 Station #6129  
3420 35th Avenue  
Oakland, CA

Dear Mr. Hwang:

Please find attached ATC's *Quarterly Summary Report, dated 4/29/05*, and TRC's *Quarterly Monitoring Report, dated 3/14/05* for the above referenced site. I declare, under penalty of perjury, that to the best of my knowledge the information and/or recommendations contained in the attached proposal or report are true and correct.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas H. Kosel". The signature is fluid and cursive.

Thomas H. Kosel  
Site Manger, Risk Management and Remediation  
ConocoPhillips  
76 Broadway, Sacramento, CA 95818

Attachment

cc: Dave Evans, ATC

# TRC

Customer-Focused Solutions

March 14, 2005

ConocoPhillips Company  
76 Broadway  
Sacramento, CA 94563

ATTN: MR. THOMAS KOSEL

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

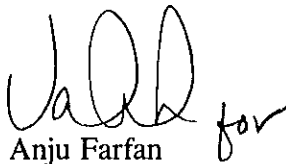
RE: QUARTERLY MONITORING REPORT  
JANUARY THROUGH MARCH 2005

Dear Mr. Kosel:

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) 753-0101.

Sincerely,

TRC



Anju Farfan

QMS Operations Manager

CC: Mr. Dave Evans, ATC Associates Inc. (2 copies)

Enclosures:  
20-0400/6129R03.QMS

21 Technology Drive • Irvine, California 92618  
Telephone 949-753-0101 • Fax 949-753-0111



Customer-Focused Solutions

**QUARTERLY MONITORING REPORT  
JANUARY THROUGH MARCH 2005**

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

Prepared For:

Mr. Thomas Kosel  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, CA 94563

By:

Senior Project Geologist, Irvine Operations  
March 11, 2005



**LIST OF ATTACHMENTS**

Summary Sheet	Summary of Gauging and Sampling Activities
Tables	Table Key Table 1: Current Fluid Levels and Selected Analytical Results Table 2: Historic Fluid Levels and Selected Analytical Results Table 3: Additional Analytical Results
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPPH 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 Groundwater Sampling Field Notes
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**January 2005 through March 2005**  
**76 Station 6129**  
**3420 35th Ave.**  
**Oakland, CA**

Project Coordinator: **Thomas Kosel**  
Telephone: **916-558-7666**

Water Sampling Contractor: **TRC**  
Compiled by: **Valentina Tobon**

Date(s) of Gauging/Sampling Event: **02/09/05**

**Sample Points**

Groundwater wells: **3** onsite, **0** offsite      Wells gauged: **3**      Wells sampled: **3**  
Purging method: **Bailer**  
Purge water disposal: **Onyx/Rodeo Unit 100**  
Other Sample Points: **0**      Type: **n/a**

**Liquid Phase Hydrocarbons (LPH)**

Wells with LPH: **0**      Maximum thickness (feet): **n/a**  
LPH removal frequency: **n/a**      Method: **n/a**  
Treatment or disposal of water/LPH: **n/a**

**Hydrogeologic Parameters**

Depth to groundwater (below TOC):      Minimum: **26.08 feet**      Maximum: **26.89 feet**  
Average groundwater elevation (relative to available local datum): **74.99 feet**  
Average change in groundwater elevation since previous event: **2.39 feet**  
Interpreted groundwater gradient and flow direction:  
    Current event: **0.02 ft/ft, southwest**  
    Previous event: **0.02 ft/ft, southwest (11/23/04)**

**Selected Laboratory Results**

Wells with detected **Benzene**: **0**      Wells above MCL (1.0 µg/l): **n/a**  
    Maximum reported benzene concentration: **n/a**  
  
Wells with **TPPH 8260B**: **0**  
Wells with **MTBE**: **3**      Maximum: **2,100 µg/l (MW-3)**

**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
µg/l	=	micrograms per liter (approx. equivalent 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
ETBE	=	ethyl tertiary butyl ether
MTBE	=	methyl tertiary butyl ether
PCB	=	polychlorinated biphenyls
PCE	=	tetrachloroethene
TBA	=	tertiary butyl alcohol
TCA	=	trichloroethane
TCE	=	trichloroethene
TPH-G	=	total petroleum hydrocarbons with gasoline distinction
TPH-D	=	total petroleum hydrocarbons with diesel distinction
TPPH	=	total purgeable petroleum hydrocarbons
TRPH	=	total recoverable petroleum hydrocarbons
TAME	=	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.

**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**February 9, 2005**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground- water Elevation (feet)	Change in Elevation (feet)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1</b>												
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	
<b>MW-2</b>												
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	
<b>MW-3</b>												
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	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**January 1990 Through February 2005**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1</b>												
01/05/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
05/11/90	--	--	--	--	--	--	ND	7.1	ND	ND	--	
08/09/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
11/14/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
02/12/91	--	--	--	--	--	--	0.32	ND	ND	ND	--	
05/09/91	--	--	--	--	--	--	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	
<b>MW-2</b>												
01/05/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
05/11/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
08/09/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
11/14/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
02/12/91	--	--	--	--	--	--	ND	0.42	ND	0.51	--	
05/09/91	--	--	--	--	--	--	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	
<b>MW-3</b>												
01/05/90	--	--	0.00	--	--	--	ND	ND	ND	ND	--	
05/11/90	--	--	--	--	--	--	ND	ND	ND	ND	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**January 1990 Through February 2005**  
**76 Station 6129**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground- water Elevation (feet)	Change in Elevation (feet)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260B (µg/l)	Comments
MW-3 continued												
08/09/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
11/14/90	--	--	--	--	--	--	ND	ND	ND	ND	--	
02/12/91	--	--	--	--	--	--	ND	ND	ND	ND	--	
05/09/91	--	--	--	--	--	--	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	

**Table 3**  
**ADDITIONAL ANALYTICAL RESULTS**  
**76 Station 6129**

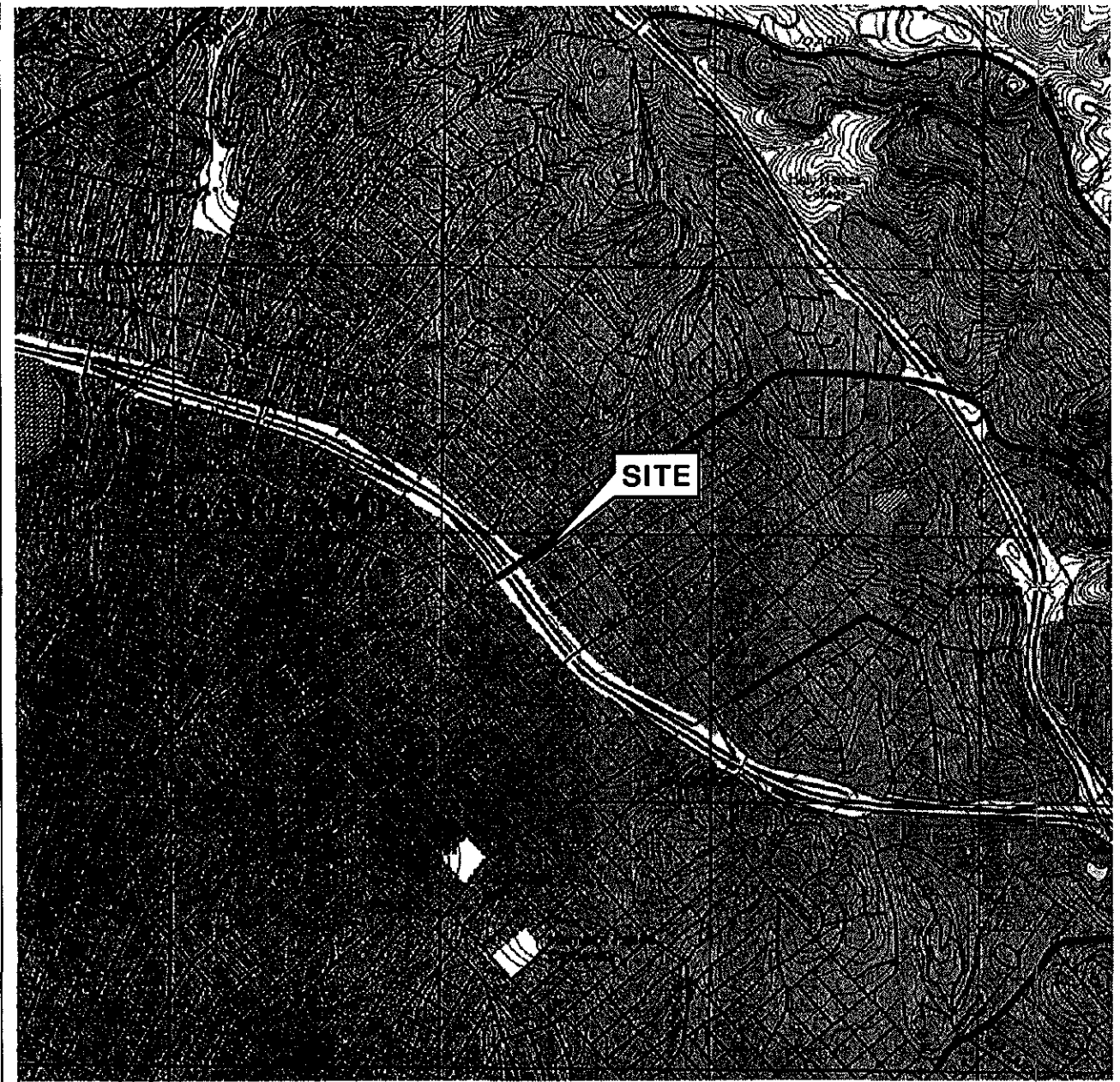
Date Sampled	TPH-G (µg/l)	EDC (µg/l)	EDB (µg/l)	TAME 8260B (µg/l)	TBA 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)
<b>MW-1</b>								
01/05/90	ND	--	--	--	--	--	--	--
05/11/90	ND	--	--	--	--	--	--	--
08/09/90	ND	--	--	--	--	--	--	--
11/14/90	ND	--	--	--	--	--	--	--
02/12/91	ND	--	--	--	--	--	--	--
05/09/91	ND	--	--	--	--	--	--	--
11/13/03	--	ND<4.0	ND<4.0	ND<4.0	ND<200	ND<4.0	ND<4.0	ND<1000
08/27/04	--	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	ND<0.50	ND<50
11/23/04	--	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	ND<0.50	ND<50
02/09/05	--	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<50
<b>MW-2</b>								
01/05/90	ND	--	--	--	--	--	--	--
05/11/90	ND	--	--	--	--	--	--	--
08/09/90	ND	--	--	--	--	--	--	--
11/14/90	ND	--	--	--	--	--	--	--
02/12/91	ND	--	--	--	--	--	--	--
05/09/91	ND	--	--	--	--	--	--	--
11/13/03	--	ND<80	ND<80	ND<80	ND<4000	ND<80	ND<80	ND<20000
08/27/04	--	ND<5.0	ND<5.0	ND<5.0	ND<50	24	ND<5.0	ND<500
11/23/04	--	ND<0.50	ND<0.50	ND<0.50	ND<5.0	18	ND<0.50	ND<50
02/09/05	--	ND<5.0	ND<5.0	ND<5.0	ND<50	19	ND<5.0	ND<500
<b>MW-3</b>								
01/05/90	ND	--	--	--	--	--	--	--
05/11/90	ND	--	--	--	--	--	--	--
08/09/90	ND	--	--	--	--	--	--	--
11/14/90	ND	--	--	--	--	--	--	--



**Table 3**  
**ADDITIONAL ANALYTICAL RESULTS**  
**76 Station 6129**

Date Sampled	TPH-G	EDC	EDB	TAME 8260B	TBA 8260B	DIPE 8260B	ETBE 8260B	Ethanol 8260B
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-3 continued								
02/12/91	ND	--	--	--	--	--	--	--
05/09/91	ND	--	--	--	--	--	--	--
11/13/03	--	ND<80	ND<80	ND<80	ND<4000	ND<80	ND<80	ND<20000
08/27/04	--	ND<10	ND<10	ND<10	ND<100	ND<20	ND<10	ND<1000
11/23/04	--	ND<10	ND<10	ND<10	ND<100	ND<20	ND<10	ND<1000
02/09/05	--	ND<10	ND<10	ND<10	130	ND<10	ND<10	ND<1000

# FIGURES



N

0 1/4 1/2 3/4 1 MILE



SCALE 1:24,000

**SOURCE:**

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



QUADRANGLE  
LOCATION

**VICINITY MAP**

76 Station 6129  
3420 35th Avenue  
Oakland, California

**FIGURE 1**

**TRC**

PS = 1:1



**LEGEND**

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

**NOTES:**

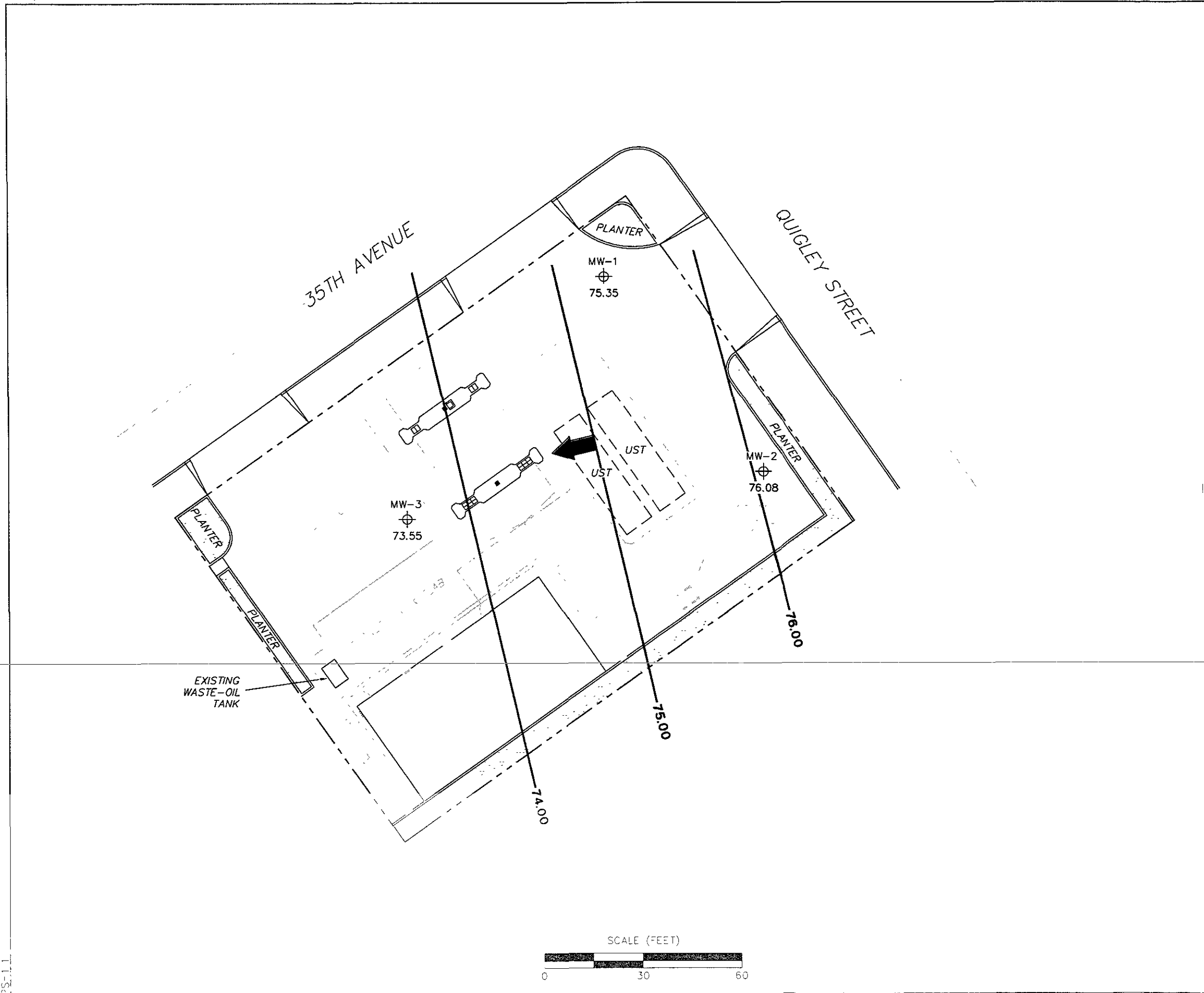
Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank.

**GROUNDWATER ELEVATION  
CONTOUR MAP  
February 9, 2005**

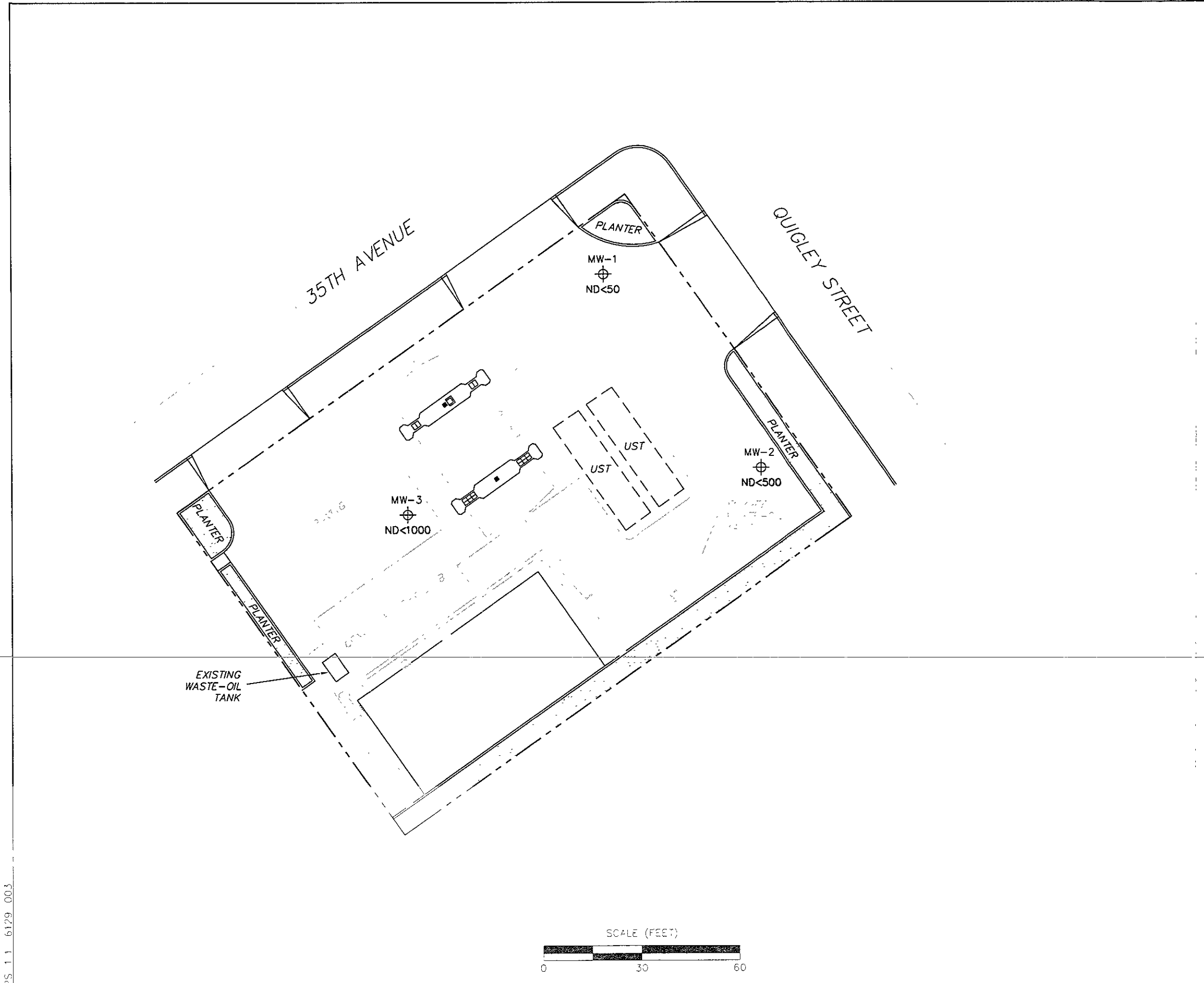
76 Station 6129  
3420 35th Avenue  
Oakland, California



**FIGURE 2**



PS-1.1



**LEGEND**

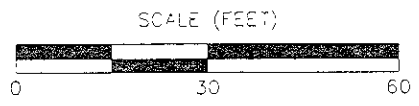
MW-3 ⊕ Monitoring Well with Dissolved-Phase TPPH Concentration (µg/l)

**NOTES:**

TPPH = total purgeable petroleum hydrocarbons.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 UST = underground storage tank. Results obtained using EPA Method 8260B.

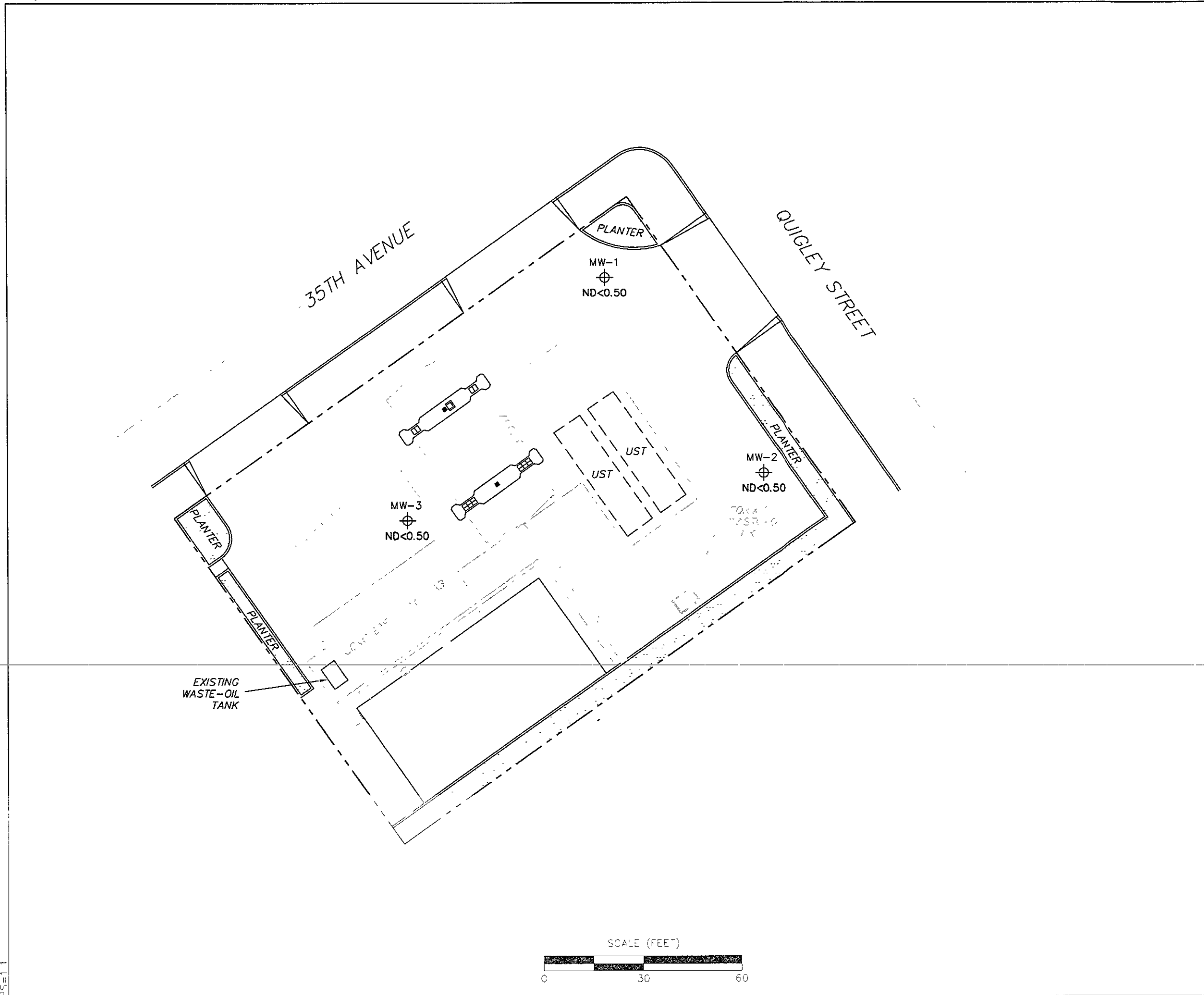
**DISSOLVED-PHASE TPPH  
 CONCENTRATION MAP**  
 February 9, 2005

76 Station 6129  
 3420 35th Avenue  
 Oakland, California



**FIGURE 3**

PS 1.1 6129 003



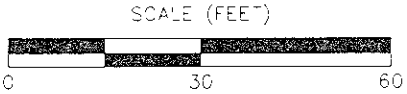
**LEGEND**

MW-3 Monitoring Well with Dissolved-Phase Benzene Concentration ( $\mu\text{g/l}$ )

**NOTES:**  
 $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 UST = underground storage tank.

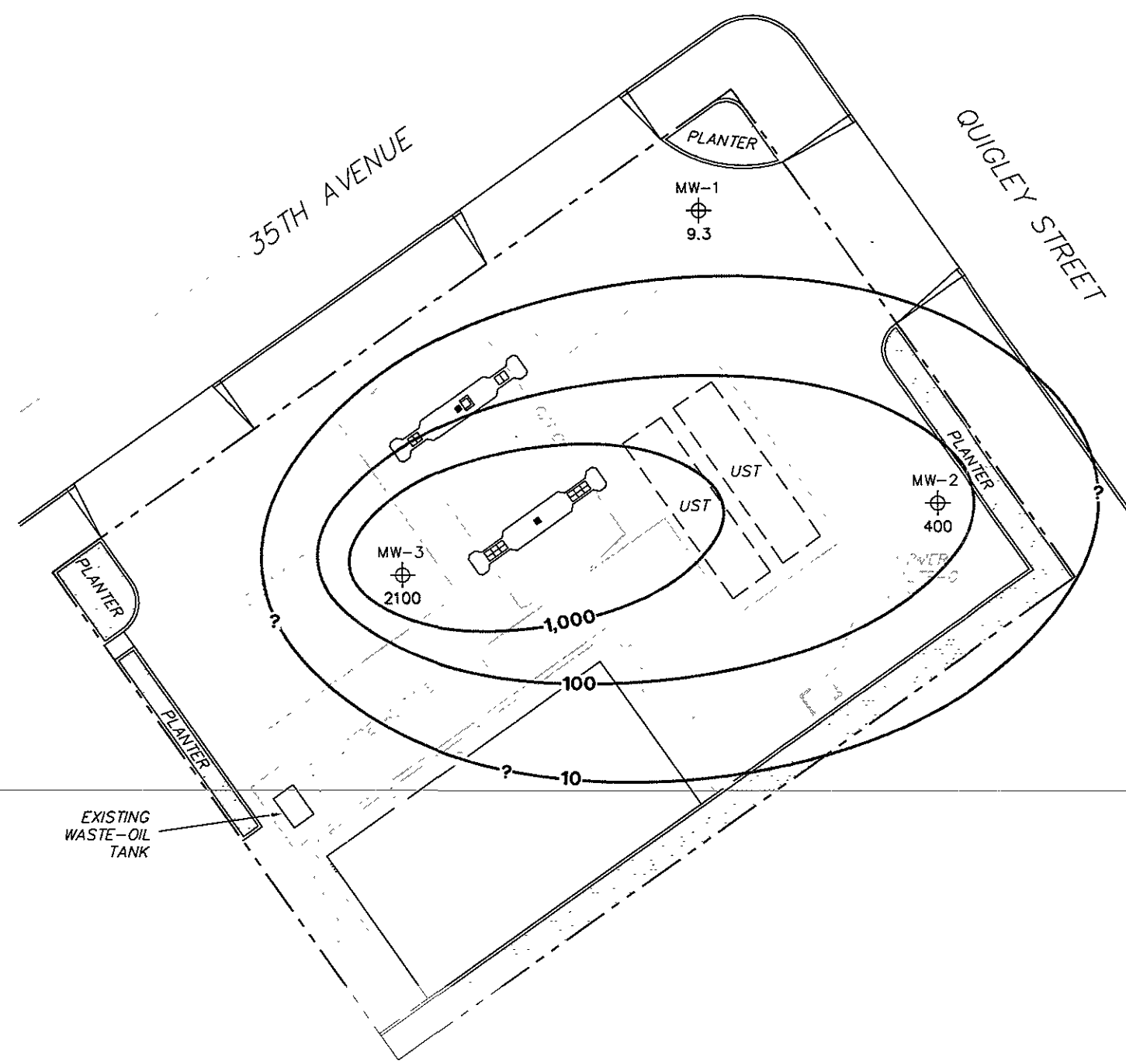
**DISSOLVED-PHASE BENZENE  
 CONCENTRATION MAP**  
 February 9, 2005

76 Station 6129  
 3420 35th Avenue  
 Oakland, California



**FIGURE 4**

PS=1 1



**LEGEND**

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

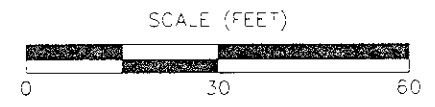
—1,000— Dissolved-Phase MTBE Contour (µg/l)

**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.

**DISSOLVED-PHASE MTBE  
CONCENTRATION MAP**  
February 9, 2005

76 Station 6129  
3420 35th Avenue  
Oakland, California



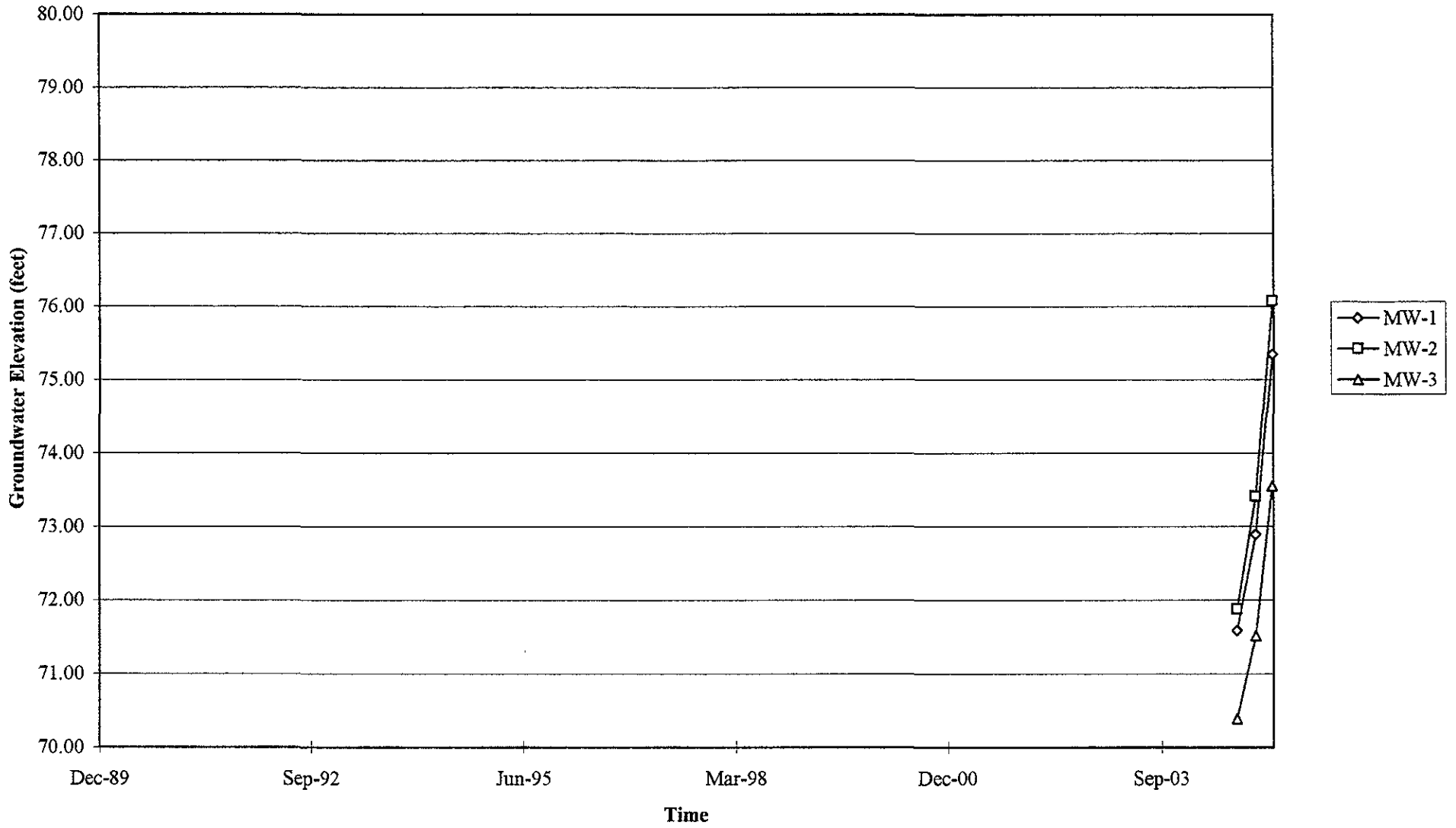
**TRC** **FIGURE 5**

PS=11

# GRAPHS

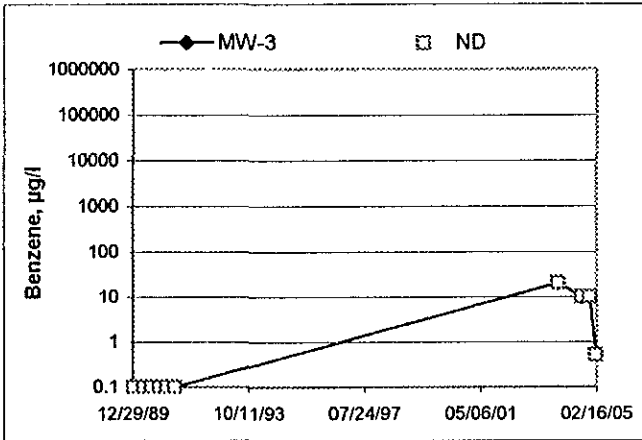
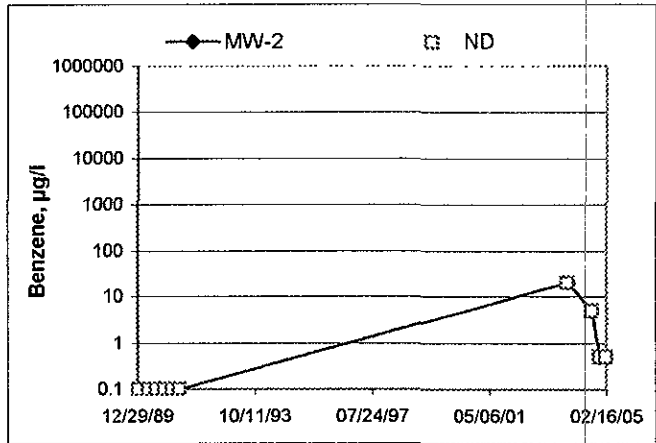
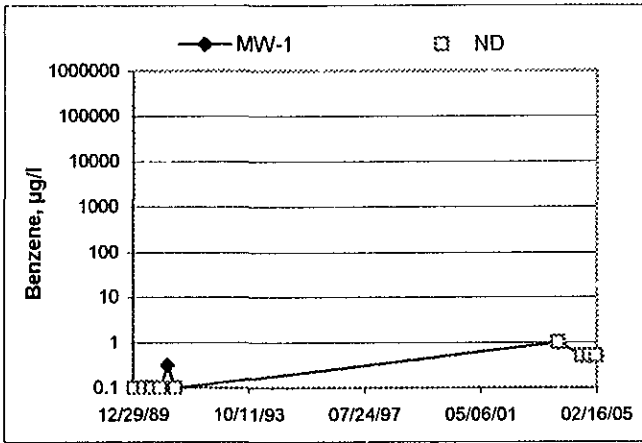


Groundwater Elevations vs. Time  
76 Station 6129

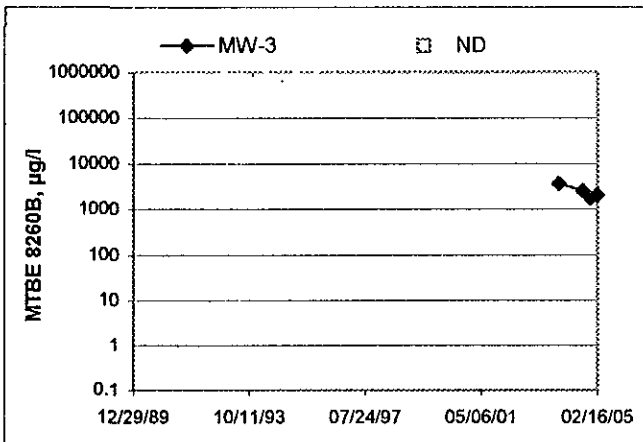
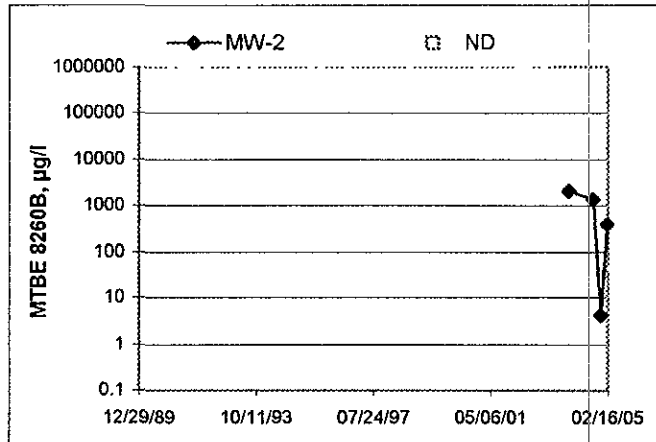
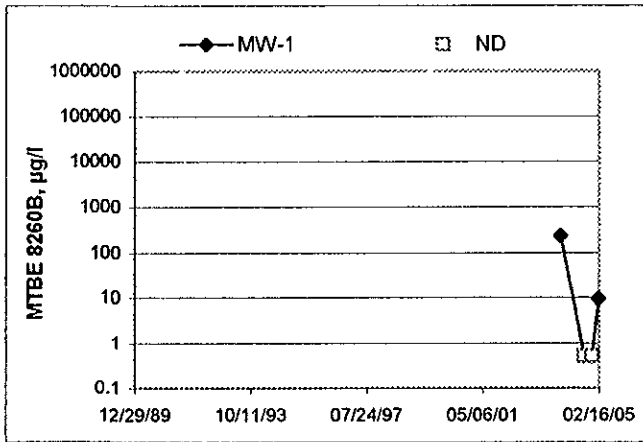


# Benzene Concentrations vs Time

## 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 measurement 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, and the samplers 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 are specified on the TSR. In general, wells are gauged beginning with the least-affected well and ending with the well that has 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 well 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 to 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.



GROUNDWATER SAMPLING FIELD NOTES

Technician: Anthony

Site: 6129

Project No.: 41050001

Date: 2-9-05

Well No.: MW-1  
 Depth to Water (feet): 26.89  
 Total Depth (feet): 43.45  
 Water Column (feet): 16.56  
 80% Recharge Depth (feet): 30.20

Purge Method: H-B  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 2"  
 1 Well Volume (gallons): 3

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc-tivity (uS/cm)	Temperature (F.°)	pH	Turbidity	D.O.
0855			3	607	16.1	6.89		
			6	454	18.6	6.82		
	0901		9	484	19.3	6.77		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
27.30			9		0943			
Comments:								

Well No.: MW-2  
 Depth to Water (feet): 26.08  
 Total Depth (feet): 43.58  
 Water Column (feet): 17.50  
 80% Recharge Depth (feet): 29.58

Purge Method: H.B.  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 2"  
 1 Well Volume (gallons): 3

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc-tivity (uS/cm)	Temperature (F.°)	pH	Turbidity	D.O.
0910			3	525	17.6	6.87		
			6	587	18.6	6.77		
	0918		9	600	19.0	6.73		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
26.49			9		0950			
Comments:								

GROUNDWATER SAMPLING FIELD NOTES

Site: 6129

Technician: Anthony

Project No.: 41050001

Date: 2-9-05

Well No.: MW-3  
 Depth to Water (feet): 26.45  
 Total Depth (feet): 42.64  
 Water Column (feet): 16.19  
 80% Recharge Depth (feet): 29.69

Purge Method: \_\_\_\_\_  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 2"  
 1 Well Volume (gallons): 3

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc-tivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
0925			3	650	16.2	6.90		
			6	550	19.0	6.96		
	0931		9	562	19.8	6.90		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
28.32			9		0956			
Comments: _____								

Well No.: \_\_\_\_\_  
 Depth to Water (feet): \_\_\_\_\_  
 Total Depth (feet): \_\_\_\_\_  
 Water Column (feet): \_\_\_\_\_  
 80% Recharge Depth (feet): \_\_\_\_\_

Purge Method: \_\_\_\_\_  
 Depth to Product (feet): \_\_\_\_\_  
 LPH & Water Recovered (gallons) \_\_\_\_\_  
 Casing Diameter (Inches): \_\_\_\_\_  
 1 Well Volume (gallons): \_\_\_\_\_

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc-tivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
Static at Time Sampled			Total Gallons Purged		Time Sampled			
Comments: _____								



**TRC Alton Geoscience- Irvine**

February 23, 2005

21 Technology Drive  
Irvine, CA 92718

Attn.: Anju Farfan

Project#: 41050001FA20  
Project: Conoco Phillips # 6129  
Site: 3420 35th Ave Oakland

Attached is our report for your samples received on 02/09/2005 13:20  
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
03/26/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,  
please call me at (925) 484-1919.

You can also contact me via email. My email address is: [dsharma@stl-inc.com](mailto:dsharma@stl-inc.com)

Sincerely,



Dimple Sharma  
Project Manager

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-1	02/09/2005 09:43	Water	1
MW-2	02/09/2005 09:50	Water	2
MW-3	02/09/2005 09:56	Water	3



**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine  
 Attn.: Anju Farfan

21 Technology Drive  
 Irvine, CA 92718  
 Phone: (949) 341-7440 Fax: (949) 753-0111  
 Project: 41050001FA20  
 Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

Prep(s): 5030B	Test(s): 8260B
Sample ID: MW-2	Lab ID: 2005-02-0351 - 2
Sampled: 02/09/2005 09:50	Extracted: 2/19/2005 19:11 2/20/2005 17:57
Matrix: Water	QC Batch#: 2005/02/19-2B.62 2005/02/20-1B.07

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	ND	500	ug/L	10.00	02/19/2005 19:11	
Benzene	ND	0.50	ug/L	1.00	02/20/2005 17:57	
Toluene	ND	0.50	ug/L	1.00	02/20/2005 17:57	
Ethylbenzene	ND	0.50	ug/L	1.00	02/20/2005 17:57	
Total xylenes	ND	1.0	ug/L	1.00	02/20/2005 17:57	
tert-Butyl alcohol (TBA)	ND	50	ug/L	10.00	02/19/2005 19:11	
Methyl tert-butyl ether (MTBE)	400	5.0	ug/L	10.00	02/19/2005 19:11	
Di-isopropyl Ether (DIPE)	19	5.0	ug/L	10.00	02/19/2005 19:11	
Ethyl tert-butyl ether (ETBE)	ND	5.0	ug/L	10.00	02/19/2005 19:11	
tert-Amyl methyl ether (TAME)	ND	5.0	ug/L	10.00	02/19/2005 19:11	
1,2-DCA	ND	5.0	ug/L	10.00	02/19/2005 19:11	
EDB	ND	5.0	ug/L	10.00	02/19/2005 19:11	
Ethanol	ND	500	ug/L	10.00	02/19/2005 19:11	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	101.8	73-130	%	1.00	02/20/2005 17:57	
1,2-Dichloroethane-d4	115.4	73-130	%	10.00	02/19/2005 19:11	
Toluene-d8	98.0	81-114	%	1.00	02/20/2005 17:57	
Toluene-d8	95.3	81-114	%	10.00	02/19/2005 19:11	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine  
 Attn.: Anju Farfan

21 Technology Drive  
 Irvine, CA 92718  
 Phone: (949) 341-7440 Fax: (949) 753-0111  
 Project: 41050001FA20  
 Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

Prep(s): 5030B	Test(s): 8260B
Sample ID: MW-3	Lab ID: 2005-02-0351 - 3
Sampled: 02/09/2005 09:56	Extracted: 2/19/2005 19:37 2/20/2005 18:28
Matrix: Water	QC Batch#: 2005/02/19-2B,62 2005/02/20-1B,07

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	ND	1000	ug/L	20.00	02/19/2005 19:37	
Benzene	ND	0.50	ug/L	1.00	02/20/2005 18:28	
Toluene	ND	0.50	ug/L	1.00	02/20/2005 18:28	
Ethylbenzene	ND	0.50	ug/L	1.00	02/20/2005 18:28	
Total xylenes	ND	1.0	ug/L	1.00	02/20/2005 18:28	
tert-Butyl alcohol (TBA)	130	100	ug/L	20.00	02/19/2005 19:37	
Methyl tert-butyl ether (MTBE)	2100	10	ug/L	20.00	02/19/2005 19:37	
Di-isopropyl Ether (DIPE)	ND	10	ug/L	20.00	02/19/2005 19:37	
Ethyl tert-butyl ether (ETBE)	ND	10	ug/L	20.00	02/19/2005 19:37	
tert-Amyl methyl ether (TAME)	ND	10	ug/L	20.00	02/19/2005 19:37	
1,2-DCA	ND	10	ug/L	20.00	02/19/2005 19:37	
EDB	ND	10	ug/L	20.00	02/19/2005 19:37	
Ethanol	ND	1000	ug/L	20.00	02/19/2005 19:37	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	98.3	73-130	%	1.00	02/20/2005 18:28	
1,2-Dichloroethane-d4	106.4	73-130	%	20.00	02/19/2005 19:37	
Toluene-d8	96.3	81-114	%	20.00	02/19/2005 19:37	
Toluene-d8	98.2	81-114	%	1.00	02/20/2005 18:28	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine  
 Attn.: Anju Farfan

21 Technology Drive  
 Irvine, CA 92718  
 Phone: (949) 341-7440 Fax: (949) 753-0111  
 Project: 41050001FA20  
 Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

**Batch QC Report**

Prep(s): 5030B  
 Method Blank  
 MB: 2005/02/19-2B.62-034

Water

Test(s): 8260B  
 QC Batch # 2005/02/19-2B.62  
 Date Extracted: 02/19/2005 17:34

Compound	Conc.	RL	Unit	Analyzed	Flag
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	02/19/2005 17:34	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	02/19/2005 17:34	
Di-isopropyl Ether (DIPE)	ND	0.5	ug/L	02/19/2005 17:34	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	02/19/2005 17:34	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	02/19/2005 17:34	
1,2-DCA	ND	0.5	ug/L	02/19/2005 17:34	
EDB	ND	0.5	ug/L	02/19/2005 17:34	
Benzene	ND	0.5	ug/L	02/19/2005 17:34	
Toluene	ND	0.5	ug/L	02/19/2005 17:34	
Ethylbenzene	ND	0.5	ug/L	02/19/2005 17:34	
Total xylenes	ND	1.0	ug/L	02/19/2005 17:34	
Ethanol	ND	50	ug/L	02/19/2005 17:34	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	99.6	73-130	%	02/19/2005 17:34	
Toluene-d8	94.2	81-114	%	02/19/2005 17:34	
GRO (C6-C12)	ND	50	ug/L	02/19/2005 17:34	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

Attn.: Anju Farfan

21 Technology Drive  
Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20  
Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

**Batch QC Report**

Prep(s): 5030B  
Method Blank  
MB: 2005/02/20-1B.07-003

Water

Test(s): 8260B  
QC Batch # 2005/02/20-1B.07  
Date Extracted: 02/20/2005 13:21

Compound	Conc.	RL	Unit	Analyzed	Flag
Benzene	ND	0.5	ug/L	02/20/2005 13:21	
Toluene	ND	0.5	ug/L	02/20/2005 13:21	
Ethylbenzene	ND	0.5	ug/L	02/20/2005 13:21	
Total xylenes	ND	1.0	ug/L	02/20/2005 13:21	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	88.6	73-130	%	02/20/2005 13:21	
Toluene-d8	96.8	81-114	%	02/20/2005 13:21	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine  
Attn.: Anju Farfan

21 Technology Drive  
Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111  
Project: 41050001FA20  
Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike**

**Water**

**QC Batch # 2005/02/19-2B.62**

LCS 2005/02/19-2B.62-007  
LCSD

Extracted: 02/19/2005

Analyzed: 02/19/2005 17:07

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	31.6		25	126.4			65-165	20		
Benzene	24.6		25	98.4			69-129	20		
Toluene	25.7		25	102.8			70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	478		500	95.6			73-130			
Toluene-d8	489		500	97.8			81-114			





STL

Submission: 2005-02-0351

Gas/BTEX Fuel Oxygenates by 8260B

TRC Alton Geoscience- Irvine
Attn.: Anju Farfan

21 Technology Drive
Irvine, CA 92718
Phone: (949) 341-7440 Fax: (949) 753-0111
Project: 41050001FA20
Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike

Water

QC Batch # 2005/02/20-1B.07

LCS 2005/02/20-1B,07-002
LCSD

Extracted: 02/20/2005

Analyzed: 02/20/2005 12:50

Table with columns: Compound, Conc. ug/L (LCS, LCSD), Exp. Conc., Recovery % (LCS, LCSD), RPD, Ctrl. Limits % (Rec., RPD), and Flags (LCS, LCSD). Rows include Benzene, Toluene, and Surrogates (1,2-Dichloroethane-d4, Toluene-d8).

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

02/23/2005 15:43

Gas/BTEX Fuel Oxygenates by 8260B

TRC Alton Geoscience- Irvine

Attn.: Anju Farfan

21 Technology Drive  
Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20  
Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike ( MS / MSD )

Water

QC Batch # 2005/02/19-2B.62

MS/MSD

Lab ID: 2005-02-0345 - 012

MS: 2005/02/19-2B.62-023

Extracted: 02/19/2005

Analyzed: 02/19/2005 21:23

Dilution: 1.00

MSD: 2005/02/19-2B.62-049

Extracted: 02/19/2005

Analyzed: 02/19/2005 21:49

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	36.1	33.8	2	25	136.4	127.2	7.0	65-165	20		
Benzene	583	557	520	25	252.0	148.0	52.0	69-129	20	M4	M4,R1
Toluene	32.2	33.6	5.55	25	106.6	112.2	5.1	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	509	510		500	101.8	102.0		73-130			
Toluene-d8	476	500		500	95.2	100.0		81-114			

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine  
Attn.: Anju Farfan

21 Technology Drive  
Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111  
Project: 41050001FA20  
Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike ( MS / MSD )**

**Water**

**QC Batch # 2005/02/20-1B.07**

MS/MSD

Lab ID: 2005-02-0339 - 006

MS: 2005/02/20-1B.07-005

Extracted: 02/20/2005

Analyzed: 02/20/2005 15:22

Dilution: 1.00

MSD: 2005/02/20-1B.07-006

Extracted: 02/20/2005

Analyzed: 02/20/2005 15:53

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	24.9	24.6	ND	25	99.6	98.4	1.2	69-129	20		
Toluene	25.1	25.4	ND	25	100.4	101.6	1.2	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	527	524		500	105.4	104.8		73-130			
Toluene-d8	483	492		500	96.6	98.4		81-114			

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

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21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips # 6129

Received: 02/09/2005 13:20

Site: 3420 35th Ave Oakland

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**Legend and Notes**

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**Analysis Flag**

L2

Reporting limits were raised due to high level of analyte present in the sample.

**Result Flag**

M4

MS/MSD spike recoveries were above acceptance limits. See blank spike (LCS).

R1

Analyte RPD was out of QC limits.

311 San Francisco

# ConocoPhillips Chain Of Custody Record

98192

1226 Quivly Lane

Pleasanton, CA 94588

(925) 464-1819 (925) 464-7000 fax

ConocoPhillips Site Manager:

INVOICE REMITTANCE ADDRESS:

**2005-02-0351**

CONOCOPhillips  
Attn: Don Hunsicker  
2011 Coast Plaza, Suite 200  
Linda Ave, CA 95724

ConocoPhillips Work Order Number

4505 TRLS01

ConocoPhillips Point Object

DATE 2-9-05

DATE 1 1

TWC 21 Technology Drive, Irvine CA 92618 (949) 261-7468 (949) 263-0111 amf@tucsonhans.com 407-601-1620		6129 3430 35th Ave Oaklands Thomas Koval Peter Thomson, TWC (949) 261-7468 pthomson@conoco.com		70600101465 Thomas Koval (949) 261-7468	
ANALYSES REQUESTED <input type="checkbox"/> 1: Lead <input type="checkbox"/> 2: Pb <input type="checkbox"/> 3: Mn <input type="checkbox"/> 4: Ni <input type="checkbox"/> 5: Cu <input type="checkbox"/> 6: Zn <input type="checkbox"/> 7: Cd <input type="checkbox"/> 8: Cr <input type="checkbox"/> 9: Co <input type="checkbox"/> 10: Fe <input type="checkbox"/> 11: Ni <input type="checkbox"/> 12: Mn <input type="checkbox"/> 13: Pb <input type="checkbox"/> 14: Zn <input type="checkbox"/> 15: Cd <input type="checkbox"/> 16: Cr <input type="checkbox"/> 17: Co <input type="checkbox"/> 18: Fe		REQUESTED ANALYSES			
SPECIAL INSTRUCTIONS OR NOTES:		4076011620 1: Pb <input type="checkbox"/> 2: Pb <input type="checkbox"/> 3: Mn <input type="checkbox"/> 4: Ni <input type="checkbox"/> 5: Cu <input type="checkbox"/> 6: Zn <input type="checkbox"/> 7: Cd <input type="checkbox"/> 8: Cr <input type="checkbox"/> 9: Co <input type="checkbox"/> 10: Fe <input type="checkbox"/> 11: Ni <input type="checkbox"/> 12: Mn <input type="checkbox"/> 13: Pb <input type="checkbox"/> 14: Zn <input type="checkbox"/> 15: Cd <input type="checkbox"/> 16: Cr <input type="checkbox"/> 17: Co <input type="checkbox"/> 18: Fe		FIELD NOTES: Container/Preparation of POC Residue or Laboratory Notes	
Sample Identification and Point		SAMPLE NO. DATE TIME MW-1 2-9-05 04 MW-2 2-9-05 MW-3 2-9-05		QUANTITY 3 ↓ ↓	
ANALYSES REQUESTED <input type="checkbox"/> 1: Lead <input type="checkbox"/> 2: Pb <input type="checkbox"/> 3: Mn <input type="checkbox"/> 4: Ni <input type="checkbox"/> 5: Cu <input type="checkbox"/> 6: Zn <input type="checkbox"/> 7: Cd <input type="checkbox"/> 8: Cr <input type="checkbox"/> 9: Co <input type="checkbox"/> 10: Fe <input type="checkbox"/> 11: Ni <input type="checkbox"/> 12: Mn <input type="checkbox"/> 13: Pb <input type="checkbox"/> 14: Zn <input type="checkbox"/> 15: Cd <input type="checkbox"/> 16: Cr <input type="checkbox"/> 17: Co <input type="checkbox"/> 18: Fe		4076011620 1: Pb <input type="checkbox"/> 2: Pb <input type="checkbox"/> 3: Mn <input type="checkbox"/> 4: Ni <input type="checkbox"/> 5: Cu <input type="checkbox"/> 6: Zn <input type="checkbox"/> 7: Cd <input type="checkbox"/> 8: Cr <input type="checkbox"/> 9: Co <input type="checkbox"/> 10: Fe <input type="checkbox"/> 11: Ni <input type="checkbox"/> 12: Mn <input type="checkbox"/> 13: Pb <input type="checkbox"/> 14: Zn <input type="checkbox"/> 15: Cd <input type="checkbox"/> 16: Cr <input type="checkbox"/> 17: Co <input type="checkbox"/> 18: Fe		Lead (TWC) DITLC DITLP X TPAH X STEX X OXY by BAWB	
Signature: [Signature] Date: 2-9-05		Signature: [Signature] Date: 2-9-05		Signature: [Signature] Date: 2-9-05	

## **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 Onyx Transportation, Inc., 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 containing a significant amount of liquid-phase hydrocarbons was accumulated separately in drums for transportation and disposal by Filter Recycling, Inc.

### **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.