



76 Broadway  
Sacramento, CA 95818  
phone 916.558.7676  
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R0344

December 28, 2004

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

Re: **Document Transmittal**  
Fuel Leak Case  
76 Station #5760  
376 Lewelling Blvd.  
San Lorenzo, CA

Dear Mr. Hwang:

Please find attached Delta's *Semi-annual Summary Report, dated 12/10/04*, and TRC's *Semi-annual Monitoring Report, dated 10/20/04* 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 is 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: Steve Meeks, Delta



3164 Gold Camp Dr., Suite 200  
Rancho Cordova, CA 95670  
916-536-2616 TEL  
916-638-8385 FAX

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916.638.2085 800.477.7411  
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December 10, 2004

Mr. Thomas Kosel  
ConocoPhillips  
76 Broadways Avenue  
Sacramento, CA 95818

RE: **Semi-Annual Summary Report-Second and Third Quarter 2004**  
Delta Project Number: C1DD-QSR-1

Dear Mr. Kosel:

On behalf of ConocoPhillips, Delta Environmental Consultants, Inc. is forwarding this Semi-Annual Summary report and TRC's Semi-Annual Monitoring Report, dated 10/20/04 for the following location:

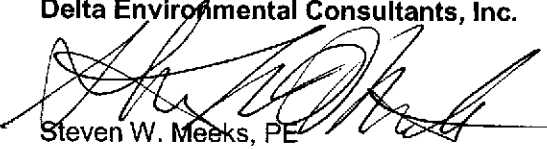
**Service Station**

76 Service Station No. 5760

**Location**

376 Lewelling Boulevard  
San Lorenzo, California

Sincerely,  
Delta Environmental Consultants, Inc.

  
Steven W. Meeks, PE  
Project Manager



A member of:



## **SEMI-ANNUAL SUMMARY REPORT Second and Third Quarter 2004**

76 Service Station No. 5760  
376 Lewelling Boulevard.  
San Lorenzo, California

City/County ID #: San Lorenzo

County: Alameda

### **PREVIOUS ASSESSMENT**

The site is located at 376 Lewelling Boulevard, in San Lorenzo, California.

In November 1987 the Underground Storage Tanks (UST's) were removed and replaced. At that time monitoring well U-1 was installed in response to the contamination observed during the UST replacement. Information on the installation of well U-1 is documented in a report titled *Well Installation* prepared by Woodward-Clyde Consultants dated March 25, 1988.

In August 1990 three additional monitoring wells (U-2, U-3 and U-4) were installed by GeoStrategies Incorporated (GSI). The installation of these wells is documented in a report titled *Monitoring Well Installation Report* prepared by GSI dated November 16, 1990.

In March 1992 GSI installed four offsite monitoring wells (U-5 through U-8) to further delineate the groundwater hydrocarbon plume. The installation of these wells is documented in a report titled *Well Installation Report* prepared by GSI dated June 15, 1992.

In May 1993 additional offsite well U-9 was installed by GSI. The installation of this well is documented in a report titled *Well Installation Report* prepared by GSI dated August 9, 1993

In September 1993, twelve borings were drilled as part of a property divestment program. Due to hydrocarbon impacted soils being encountered, three of the borings were converted to vapor extraction wells.

In March 1994, the delineation of hydrocarbon-impacted soils was completed with the installation of two additional soil borings.

Between August 8 & 13, 1994 a Soil Vapor Extraction (SVE) feasibility test was performed by Pacific Environmental Group (Pacific). Based on the results of the SVE test, it appeared that SVE is an applicable technology for removal of petroleum hydrocarbons from soil and groundwater below the site.

In September, 1995 a combination SVE and groundwater treatment (GWT) system was constructed at the site. Start-up activities for the GWT system began on October 3, 1995. SVE system start-up and continuous GWT operation began in mid October, 1995. The system continued to operate until February, 1997 when it was shut down due to diminishing incremental benefit.

## **MONITORING AND SAMPLING**

Groundwater sampling began in the second quarter, 1988. In the first quarter of 2000 quarterly monitoring began and continued at a quarterly interval until March, 1996 when the frequency changed to semi-annual. Frequency continues to currently be Semi-annual.

Of the nine groundwater monitoring wells (four onsite and five offsite), only seven are currently accessible. Offsite wells U-6 and U-7 have been covered with asphalt and not sampled since September, 1999. Samples are analyzed for TPHH, BTEX, and fuel oxygenates.

## **REMEDIATION STATUS**

In September, 1995 a combination SVE and Groundwater Treatment (GWT) system was constructed at the site. Start-up activities for the GWT system began on October 3, 1995. SVE system start-up and continuous GWT operation began in mid October, 1995. The system continued to operate until February, 1997 when it was shut down due to diminishing incremental benefit.

## **CHARACTERIZATION STATUS**

Contamination in soil has been adequately delineated. The hydrocarbon plume is considered stable. In the September, 2004 monitoring and sampling data, the current maximum dissolved TPPH concentration was 22,000 µg/l. Benzene and MtBE were below detection limits.

### April through September, 2004 discussion:

The groundwater elevation dropped an average of 1.74 feet since the March, 2004 sampling event with depths to groundwater ranging from 14.75 feet to 16.98 feet below ground surface (bgs).

The gradient remained essentially constant and flow direction remained to the Southwest.

Of the seven currently accessible wells, six were gauged. Of these six, two (U-1 & U-3) were sampled. The remainder were monitored only. U-2 was inaccessible as a car was parked on the well. As stated previous, U-6 & U-7 were paved over and not sampled or gauged.

### Chemicals of Concern:

**TPPH:** Detected in the two sampled wells U-1 & U-3 at 22,000 µg/l and 1,300 µg/l respectively. U-1 is essentially the same as the March, 2004 event while U-3 is significantly lower than a detected concentration of 14,000 µg/l in March, 2004.

**Benzene:** Not detected in U-1 & U-3 at ND<20 µg/l and ND<2.5 µg/l respectively.

**MtB:** Not detected in U-1 & U-3 at ND<20 µg/l and ND<2.5 µg/l respectively.

## **RECENT CORRESPONDENCE**

No regulatory correspondence was sent or received in the second and third quarter, 2004

**THIS SEMI-ANNUAL ACTIVITIES (Second and Third quarter 2004)**

1. TRC performed semi-annual monitoring/sampling event on September 9, 2004
2. Meeting held between ConocoPhillips and Alameda County in late September, 2004 to discuss site prioritization and potential closure.

**NEXT SEMI-ANNUAL ACTIVITIES (Fourth quarter 2004 and First quarter 2005)**

1. TRC to prepare and submit the April through September Semi-Annual Monitoring Report.
2. Delta to maintain dialogue with Alameda County regarding potential closure.

**CONSULTANT:** Delta Environmental Consultants, Inc.



Customer-Focused Solutions

April 26, 2004

ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

RO 344

Alameda County  
MAY 18 2004  
Environmental Health

ATTN: MR. THOMAS H. KOSEL  
  
SITE: 76 STATION 5760  
376 LEWELLING BOULEVARD  
SAN LORENZO, CALIFORNIA  
  
RE: SEMI-ANNUAL MONITORING REPORT  
OCTOBER 2003 THROUGH MARCH 2004

Dear Mr. Kosel:

Please find enclosed our Semi-Annual Monitoring Report for 76 Station 5760, located at 376 Lewelling Boulevard, San Lorenzo, 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. Amir K. Gholami, Alameda County Health Care Services  
Mr. Steve Meeks, Delta Environmental

Enclosures  
20-0400/5760R01.QMS

## GROUNDWATER MONITORING REPORT

<b>LIST OF ATTACHMENTS</b>	
<b>Summary Sheet</b>	Summary of Gauging and Sampling Activities
<b>Tables</b>	Table Key Table 1: Summary of Groundwater Levels and Chemical Analysis Results Table 2: Historic Groundwater Levels and Chemical Analysis Results Table 3: Summary of Additional Chemical Analysis Results
<b>Figures</b>	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
<b>Graphs</b>	Benzene Concentrations vs. Time Hydrographs
<b>Field Activities</b>	General Field Procedures Groundwater Sampling Field Notes
<b>Laboratory Reports</b>	Official Laboratory Reports Quality Control Reports Chain of Custody Records
<b>Statements</b>	Purge Water Transport and Disposal Limitations

## Summary of Gauging and Sampling Activities

76 Station 5760  
376 Lewelling Road  
San Lorenzo, CA

### Site Information:

Site:	76 Station 376 Lewelling Road San Lorenzo, CA
Project Coordinator/Phone Number:	Thomas H. Kosel/916-558-7666
Groundwater wells onsite:	9
Groundwater wells offsite:	0

### Field Activity:

Sampling consultant:	TRC
Date(s) sampled:	03/04/04
Groundwater wells gauged:	7
Groundwater wells sampled:	5
Purging method:	submersible pump
Treatment/disposal method during sampling event:	Onyx/Rodeo Unit 100
Free product pumpouts other than sampling event:	No
Treatment/Disposal method during free product pumpouts:	N/A

### Site Hydrogeology:

Minimum depth to groundwater (feet bgs):	13.07
Maximum depth to groundwater (feet bgs):	16.17
Average groundwater elevation (feet relative to mean sea level):	24.86
Average change in groundwater elevations since previous event (feet):	1.78
Groundwater gradient and flow direction:	0.006 ft/ft, southwest

### Groundwater Condition (Benzene Maximum Contaminant Level [MCL] = 1.0 µg/l)

Wells with benzene concentrations below MCL:	5
Wells with benzene concentrations at or above MCL:	0
Minimum benzene concentration (µg/l):	ND
Maximum benzene concentration (µg/l):	ND
Minimum MTBE concentration (µg/l):	ND
Maximum MTBE concentration (µg/l):	ND
Minimum TPPH concentration (µg/l):	ND
Maximum TPPH concentration (µg/l):	20000 (U-1)
Groundwater wells with free product:	0
Minimum free product thickness (feet):	0
Maximum free product thickness (feet):	0

### Additional Information:

U-2=Monitored Only, U-4=Monitored Only, U-6=Covered with asphalt, U-7=Covered with asphalt,

This report presents the results of groundwater monitoring and sampling activities performed by TRC. Please contact the primary consultant for other specific information on this site.



## TABLE KEY

### ABBREVIATIONS / SYMBOLS

LPH	= liquid-phase hydrocarbons
µg/l	= micrograms per liter
mg/l	= milligrams per liter
ND	= not detected at or above laboratory detection limit
DTSC	= Department of Toxic Substances Control
N/A	= not applicable
Trace	= less than 0.01 foot of LPH in well
USTs	= underground storage tanks
--	= not analyzed, measured, or collected
TPH-G	= total petroleum hydrocarbons with gasoline distinction
BTEX	= benzene, toluene, ethylbenzene, and total xylenes
TPH-D	= total petroleum hydrocarbons with diesel distinction
TRPH	= total recoverable petroleum hydrocarbons
MTBE	= methyl tertiary butyl ether
TAME	= tertiary amyl methyl ether
ETBE	= ethyl tertiary butyl ether
DIPE	= di-isopropyl ether
TBA	= tertiary butyl alcohol
1,1-DCA	= 1,1-Dichloroethane
1,2-DCA	= 1,2-Dichloroethane
1,1-DCE	= 1,1-Dichloroethene
1,2-DCE	= cis- and trans-1,2-Dichloroethene
PCE	= tetrachloroethene
TCA	= trichloroethane
TCE	= trichloroethene
PCB	= polychlorinated biphenyls
TPPH	= total purgeable petroleum hydrocarbons

### NOTES

Elevations are in feet above mean sea level.

Groundwater elevation for wells with LPH is calculated as follows:

$$\text{Surface elevation} - \text{depth to water} + (0.75 \times \text{LPH thickness}).$$

Concentration Graphs have been modified to plot non-detect results at the reporting limit stated in the official laboratory report. All non-detect results prior to the Second Quarter 2000 were plotted at 0.1 µg/l for graphical display.

J = estimated concentration, value is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL)

### REFERENCE

TRC began groundwater monitoring and sampling activities in October 2003. Historical data 76 Station 5760 was provided by Gettler-Ryan Inc., Dublin, California, in an excel table received in September 2003.

**Table 1**  
**SUMMARY OF GROUNDWATER LEVELS AND CHEMICAL ANALYSIS RESULTS**  
**March 4, 2004**  
**76 Station 5760**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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>U-1</b>	<b>(Screen Interval in feet: 10.5-30.5)</b>													
03/04/04	40.20	14.64	0.00	25.56	2.13	--	20000	ND<20	ND<20	1900	8300	--	ND<80	
<b>U-2</b>	<b>(Screen Interval in feet: 15.0-30.0)</b>													
03/04/04	41.26	16.17	0.00	25.09	1.83	--	--	--	--	--	--	--	--	Monitored Only
<b>U-3</b>	<b>(Screen Interval in feet: 15.0-25.0)</b>													
03/04/04	39.26	14.11	0.00	25.15	2.19	--	14000	ND<10	ND<10	940	3500	--	ND<40	
<b>U-4</b>	<b>(Screen Interval in feet: 15.0-28.0)</b>													
03/04/04	40.25	15.39	0.00	24.86	1.81	--	--	--	--	--	--	--	--	Monitored Only
<b>U-5</b>	<b>(Screen Interval in feet: 15.0-30.0)</b>													
03/04/04	39.31	14.79	0.00	24.52	1.47	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
<b>U-6</b>	<b>(Screen Interval in feet: 13.0-28.0)</b>													
03/04/04	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
<b>U-7</b>	<b>(Screen Interval in feet: 15.0-35.0)</b>													
03/04/04	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
<b>U-8</b>	<b>(Screen Interval in feet: 15.0-30.0)</b>													
03/04/04	38.57	13.98	0.00	24.59	1.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
<b>U-9</b>	<b>(Screen Interval in feet: 13.0-28.0)</b>													
03/04/04	37.31	13.07	0.00	24.24	1.57	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	

**Table 2**  
**HISTORIC GROUNDWATER LEVELS AND CHEMICAL ANALYSIS RESULTS**

**March 1990 Through March 2004**

**76 Station 5760**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-1	(Screen Interval in feet: 10.5-30.5)													
03/20/90	--	--	--	--	--	36000	--	2100	5500	1900	9300	--	--	
06/05/90	--	--	--	--	--	46000	--	2300	5500	2500	11000	--	--	
08/24/90	--	--	--	--	--	27000	--	1200	1800	1400	5500	--	--	
12/05/90	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
03/04/91	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
06/03/91	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
09/19/91	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
12/04/91	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
03/05/92	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
04/07/92	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
08/06/92	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
11/20/92	--	--	--	--	--	--	--	--	--	--	--	--	--	Not sampled due to free product
02/12/93	--	--	--	--	--	70000	--	2200	8400	3100	18000	--	--	
06/04/93	40.51	16.72	0.00	23.79	--	35000	--	1300	5700	900	9200	--	--	
09/09/93	40.51	17.77	0.00	22.74	-1.05	67000	--	2900	18000	6200	32000	--	--	
12/02/93	40.20	18.36	0.01	21.85	-0.89	--	--	--	--	--	--	--	--	Not sampled due to free product
03/09/94	40.20	17.20	0.00	23.00	1.15	45000	--	930	4100	2000	11000	--	--	
06/09/94	40.20	17.42	0.00	22.78	--	59000	--	5200	1300	5200	15000	--	--	
09/07/94	40.20	18.17	0.00	22.03	-0.75	41000	--	1600	6200	3100	16000	--	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
U-1 continued														
12/05/94	40.20	16.67	0.00	23.53	1.50	1300	--	55	20	16	330	--	--	
03/09/95	40.20	15.82	0.00	24.38	0.85	49000	--	860	3200	1900	10000	1500	--	
06/13/95	40.20	14.70	0.00	25.50	1.12	53000	--	1400	5000	2500	14000	2800	--	
09/12/95	40.01	16.77	0.00	23.24	-2.26	43000	--	910	2700	1700	9600	1400	--	
12/14/95	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
03/20/96	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
03/22/96	40.20	--	--	--	--	13000	--	200	590	640	4000	790	--	
09/24/96	40.20	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
03/27/97	40.20	15.29	0.00	24.91	--	1300	--	8	ND	ND	400	ND	--	
09/23/97	40.20	17.20	0.00	23.00	-1.91	2000	--	15	ND	ND	530	ND	--	
03/10/98	40.20	12.68	0.00	27.52	4.52	2200	--	19	4.8	ND7	980	38	--	
09/04/98	40.20	16.84	0.00	23.36	-4.16	5300	--	53	ND	410	620	ND	--	
03/04/99	40.20	13.04	0.00	27.16	3.80	1500	--	19	ND	56	110	310	--	
09/13/99	40.20	17.14	0.00	23.06	-4.10	5850	--	32.7	ND	520	925	ND	--	
03/21/00	40.20	--	--	--	--	4820	--	17.4	7.74	297	1,370	ND	--	
09/18/00	40.20	16.72	0.00	23.48	--	647	--	6.44	ND	22.3	6.86	22.2	--	
10/13/00	40.20	16.85	0.00	23.35	-0.13	--	--	--	--	--	--	--	29	
03/16/01	40.20	--	--	--	--	4,950	--	1.73	1.77	429	536	613	--	
09/04/01	40.20	--	--	--	--	11,000	--	25	ND<10	1,100	1,800	370	--	
03/18/02	40.20	15.60	--	24.60	--	8,100	--	ND<20	ND<20	740	1,300	ND<200	--	
09/17/02	40.20	17.35	0.00	22.85	-1.75	--	4,200	ND<2.5	ND<2.5	120	43	--	280	
03/28/03	40.20	15.72	0.00	24.48	1.63	--	560	ND<0.50	ND<0.50	0.96	ND<1.0	--	69	
09/05/03	40.20	16.77	--	23.43	-1.05	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1	--	ND<2	
03/04/04	40.20	14.64	0.00	25.56	2.13	--	20000	ND<20	ND<20	1900	8300	--	ND<80	
U-2 (Screen Interval in feet: 15.0-30.0)														
08/23/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/05/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground- water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-2 continued														
03/04/91	--	--	--	--	--	ND	--	ND	0.9	ND	2.6	--	--	
06/03/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
09/19/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/04/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
03/05/92	--	--	--	--	--	ND	--	ND	0.36	ND	ND	--	--	
04/07/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/06/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/93	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
06/04/93	41.62	17.59	0.00	24.03	--	ND	--	ND	ND	ND	ND	--	--	
09/09/93	41.62	18.68	0.00	22.94	-1.09	ND	--	ND	ND	ND	ND	--	--	
12/02/93	41.26	19.23	0.00	22.03	-0.91	ND	--	ND	ND	ND	ND	--	--	
03/09/94	41.26	18.05	0.00	23.21	1.18	62	--	1.1	5.4	1.1	9.7	--	--	
04/13/94	41.26	18.18	0.00	23.08	-0.13	ND	--	ND	ND	ND	ND	--	--	
06/09/94	41.26	18.26	0.00	23.00	-0.08	ND	--	ND	ND	ND	ND	--	--	
09/07/94	41.26	19.28	0.00	21.98	-1.02	ND	--	ND	0.63	ND	0.61	--	--	
12/05/94	41.26	18.82	0.00	22.44	0.46	ND	--	ND	ND	ND	ND	--	--	
03/09/95	41.26	16.96	0.00	24.30	1.86	ND	--	ND	ND	ND	ND	ND	--	
06/13/95	41.26	16.71	0.00	24.55	0.25	ND	--	ND	ND	ND	ND	ND	--	
09/12/95	41.26	17.80	0.00	23.46	-1.09	ND	--	ND	ND	ND	ND	ND	--	
12/14/95	41.26	18.18	0.00	23.08	-0.38	ND	--	ND	ND	ND	ND	ND	--	
03/20/96	41.26	15.02	0.00	26.24	3.16	--	--	--	--	--	--	--	--	
09/24/96	41.26	17.90	0.00	23.36	--	--	--	--	--	--	--	--	--	
03/27/97	41.26	16.45	0.00	24.81	1.45	--	--	--	--	--	--	--	--	
09/23/97	41.26	18.40	0.00	22.86	-1.95	--	--	--	--	--	--	--	--	
03/10/98	41.26	13.79	0.00	27.47	4.61	ND	--	ND	ND	ND	ND	ND	--	
09/04/98	41.26	17.98	0.00	23.28	-4.19	--	--	--	--	--	--	--	--	
03/04/99	41.26	14.96	0.00	26.30	3.02	ND	--	ND	ND	ND	ND	ND	--	
09/13/99	41.26	18.25	0.00	23.01	-3.29	--	--	--	--	--	--	--	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-2 continued														
03/21/00	41.26	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/18/00	41.26	17.55	0.00	23.71	--	--	--	--	--	--	--	--	--	
03/16/01	41.26	--	--	--	--	--	--	--	--	--	--	--	--	
09/04/01	41.26	--	--	--	--	--	--	--	--	--	--	--	--	
03/18/02	41.26	16.87	--	24.39	--	--	--	--	--	--	--	--	--	
09/17/02	41.26	18.33	0.00	22.93	-1.46	--	--	--	--	--	--	--	--	
03/28/03	41.26	16.95	0.00	24.31	1.38	--	--	--	--	--	--	--	--	
09/05/03	41.26	18.00	0.00	23.26	-1.05	--	--	--	--	--	--	--	--	Monitored Only
03/04/04	41.26	16.17	0.00	25.09	1.83	--	--	--	--	--	--	--	--	Monitored Only
U-3 (Screen Interval in feet: 15.0-25.0)														
08/23/90	--	--	--	--	--	110000	--	4400	13000	2800	17000	--	--	
12/05/90	--	--	--	--	--	69000	--	1900	3500	1600	9800	--	--	
01/18/91	--	--	--	--	--	51000	--	1700	3100	1500	7500	--	--	
03/04/91	--	--	--	--	--	84000	--	1400	10000	2900	17000	--	--	
06/03/91	--	--	--	--	--	130000	--	5800	19000	4600	24000	--	--	
09/19/91	--	--	--	--	--	61000	--	3300	9700	2800	15000	--	--	
12/04/91	--	--	--	--	--	75000	--	2500	6100	1900	11000	--	--	
03/05/92	--	--	--	--	--	160000	--	5300	15000	5400	26000	--	--	
04/07/92	--	--	--	--	--	97000	--	6100	16000	5400	28000	--	--	
08/06/92	--	--	--	--	--	140000	--	5100	13000	5000	23000	--	--	
11/20/92	--	--	--	--	--	50000	--	3200	4700	1900	10000	--	--	
02/12/93	--	--	--	--	--	80000	--	3700	9400	3700	18000	--	--	
06/04/93	39.64	15.48	0.00	24.16	--	92000	--	2900	8700	4300	20000	--	--	
09/09/93	39.64	17.04	0.00	22.60	-1.56	110000	--	2800	10000	6500	31000	--	--	
12/02/93	39.26	17.55	0.00	21.71	-0.89	110000	--	3200	7700	5600	26000	--	--	
03/09/94	39.26	16.35	0.00	22.91	1.20	120000	--	4500	8300	5600	28000	--	--	
06/09/94	39.26	16.60	0.00	22.66	--	120000	--	3300	6100	5200	26000	--	--	
09/07/94	39.26	17.61	0.00	21.65	-1.01	100000	--	2400	4900	4200	21000	--	--	
12/05/94	39.26	17.08	0.00	22.18	0.53	140000	--	3100	5100	4900	21000	--	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
U-3 continued														
03/09/95	39.26	15.20	0.00	24.06	1.88	100000	--	2300	3300	4800	21000	54000	--	
06/13/95	39.26	15.11	0.00	24.15	0.09	64000	--	1700	1500	3800	18000	900	--	
09/12/95	39.26	16.11	0.00	23.15	-1.00	69000	--	1700	820	4000	19000	29000	--	
12/14/95	39.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
03/20/96	39.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
03/22/96	39.26	--	--	--	--	15000	--	150	490	480	3100	400	--	
09/24/96	39.26	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible; system not running
03/27/97	39.26	14.77	0.00	24.49	--	110	--	ND	ND	ND	0.62	9.6	--	
09/23/97	39.26	16.74	0.00	22.52	-1.97	ND	--	ND	ND	ND	ND	ND	--	
03/10/98	39.26	12.18	0.00	27.08	4.56	ND	--	ND	ND	ND	3.1	ND	--	
09/04/98	39.26	16.46	0.00	22.80	-4.28	ND	--	ND	ND	1.2	2.3	ND	--	
03/04/99	39.26	13.48	0.00	25.78	2.98	ND	--	ND	ND	ND	ND	ND	--	
09/13/99	39.26	16.71	0.00	22.55	-3.23	ND	--	ND	1.77	ND	1.06	9.08	--	
03/21/00	39.26	--	--	--	--	18700	--	ND	ND	1,290	4,770	ND	--	
09/18/00	39.26	16.12	0.00	23.14	--	ND	--	ND	ND	ND	ND	ND	--	
03/16/01	39.26	--	--	--	--	2,310	--	ND	ND	184	618	ND	--	
09/04/01	39.26	--	--	--	--	340	--	0.95	ND<0.50	8.1	18	ND<5.0	--	
03/18/02	39.26	15.11	--	24.15	--	6,500	--	ND<10	ND<10	390	1,400	ND<100	--	
09/17/02	39.26	17.67	0.00	21.59	-2.56	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.0	
03/28/03	39.26	15.25	0.00	24.01	2.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
09/05/03	39.26	16.30	0.00	22.96	-1.05	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1	--	ND<2	
03/04/04	39.26	14.11	0.00	25.15	2.19	--	14000	ND<10	ND<10	940	3500	--	ND<40	
U-4 (Screen Interval in feet: 15.0-28.0)														
08/23/90	--	--	--	--	--	ND	--	ND	1	ND	1.8	--	--	
12/05/90	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
01/18/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
03/04/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
U-4 continued														
06/03/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
09/19/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/04/91	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
03/05/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
04/07/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/06/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/92	--	--	--	--	--	ND	--	ND	2.5	ND	ND	--	--	
02/12/93	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
06/04/93	40.53	16.73	0.00	23.80	--	ND	--	ND	ND	ND	ND	--	--	
09/09/93	40.53	16.89	0.00	23.64	-0.16	ND	--	ND	ND	ND	ND	--	--	
12/02/93	40.25	18.46	0.00	21.79	-1.85	ND	--	ND	ND	ND	2.6	--	--	
03/09/94	40.25	17.30	0.00	22.95	1.16	ND	--	1.4	4.7	1.1	8.1	--	--	
04/13/94	40.25	17.44	0.00	22.81	-0.14	ND	--	ND	ND	ND	ND	--	--	
06/09/94	40.25	17.53	0.00	22.72	-0.09	ND	--	ND	ND	ND	ND	--	--	
09/07/94	40.28	18.52	0.00	21.76	-0.96	ND	--	ND	1.1	ND	1	--	--	
12/05/94	40.28	18.08	0.00	22.20	0.44	ND	--	ND	ND	ND	ND	--	--	
03/09/95	40.28	16.16	0.00	24.12	1.92	ND	--	ND	ND	ND	ND	ND	--	
06/13/95	40.25	15.95	0.00	24.30	0.18	ND	--	ND	ND	ND	ND	2.7	--	
09/12/95	40.25	17.10	0.00	23.15	-1.15	ND	--	ND	ND	ND	ND	ND	--	
12/14/95	40.25	17.43	0.00	22.82	-0.33	ND	--	ND	ND	ND	ND	1.3	--	
03/20/96	40.25	14.93	0.00	25.32	2.50	--	--	--	--	--	--	--	--	
09/24/96	40.25	17.19	0.00	23.06	--	--	--	--	--	--	--	--	--	
03/27/97	40.25	15.66	0.00	24.59	1.53	ND	--	ND	ND	ND	ND	ND	--	
09/23/97	40.25	17.69	0.00	22.56	-2.03	--	--	--	--	--	--	--	--	
03/10/98	40.25	12.99	0.00	27.26	4.70	ND	--	ND	ND	ND	ND	ND	--	
09/04/98	40.25	17.28	0.00	22.97	-4.29	--	--	--	--	--	--	--	--	
03/04/99	40.25	14.17	0.00	26.08	3.11	ND	--	ND	ND	ND	ND	ND	--	
09/13/99	40.25	17.55	0.00	22.70	-3.38	--	--	--	--	--	--	--	--	
03/21/00	40.25	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	



Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-4 continued														
09/18/00	40.25	16.88	0.00	23.37	--	--	--	--	--	--	--	--	--	
03/16/01	40.25	--	--	--	--	--	--	--	--	--	--	--	--	
09/04/01	40.25	--	--	--	--	--	--	--	--	--	--	--	--	
03/18/02	40.25	16.08	--	24.17	--	--	--	--	--	--	--	--	--	
09/17/02	40.25	16.56	0.00	23.69	-0.48	--	--	--	--	--	--	--	--	
03/28/03	40.25	16.15	0.00	24.10	0.41	--	--	--	--	--	--	--	--	
09/05/03	40.25	17.20	0.00	23.05	-1.05	--	--	--	--	--	--	--	--	Monitored Only
03/04/04	40.25	15.39	0.00	24.86	1.81	--	--	--	--	--	--	--	--	Monitored Only
U-5 (Screen Interval in feet: 15.0-30.0)														
04/07/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/06/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/93	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
06/04/93	39.61	16.05	0.00	23.56	--	ND	--	ND	ND	ND	ND	--	--	
09/09/93	39.61	16.90	0.00	22.71	-0.85	ND	--	ND	ND	ND	ND	--	--	
12/02/93	39.31	17.66	0.00	21.65	-1.06	ND	--	ND	ND	ND	ND	--	--	
03/09/94	39.31	16.45	0.00	22.86	1.21	71	--	1.7	6.3	1.5	10	--	--	
04/13/94	39.31	16.64	0.00	22.67	-0.19	ND	--	ND	ND	ND	ND	--	--	
06/09/94	39.31	16.70	0.00	22.61	-0.06	ND	--	ND	ND	ND	ND	--	--	
09/07/94	39.31	17.73	0.00	21.58	-1.03	ND	--	ND	0.73	ND	0.84	--	--	
12/05/94	39.31	17.23	0.00	22.08	0.50	ND	--	ND	ND	ND	ND	--	--	
03/09/95	39.31	15.35	0.00	23.96	1.88	ND	--	ND	ND	ND	ND	ND	--	
06/13/95	39.31	15.16	0.00	24.15	0.19	ND	--	ND	ND	ND	ND	0.87	--	
09/12/95	39.31	16.30	0.00	23.01	-1.14	ND	--	ND	ND	ND	ND	ND	--	
12/14/95	39.31	16.56	0.00	22.75	-0.26	ND	--	ND	ND	ND	ND	ND	--	
03/20/96	39.31	14.07	0.00	25.24	2.49	--	--	--	--	--	--	--	--	
09/24/96	39.31	16.55	0.00	22.76	--	--	--	--	--	--	--	--	--	
03/27/97	39.31	14.85	0.00	24.46	1.70	ND	--	ND	ND	ND	ND	ND	--	
09/23/97	39.31	16.90	0.00	22.41	-2.05	--	--	--	--	--	--	--	--	Sampled annually

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-5 continued														
03/10/98	39.31	12.21	0.00	27.10	4.69	ND	--	ND	ND	ND	ND	ND	--	
09/04/98	39.31	16.57	0.00	22.74	-4.36	--	--	--	--	--	--	--	--	
03/04/99	39.31	13.42	0.00	25.89	3.15	ND	--	ND	0.67	ND	ND	ND	--	
09/13/99	39.31	17.02	0.00	22.29	-3.60	--	--	--	--	--	--	--	--	
03/21/00	39.31	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/18/00	39.31	16.17	0.00	23.14	--	--	--	--	--	--	--	--	--	
03/16/01	39.31	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/04/01	39.31	--	--	--	--	--	--	--	--	--	--	--	--	
03/18/02	39.31	15.25	--	24.06	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
09/17/02	39.31	16.71	0.00	22.60	-1.46	--	--	--	--	--	--	--	--	Sampled annually
03/28/03	39.31	15.21	0.00	24.10	1.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
09/05/03	39.31	16.26	0.00	23.05	-1.05	--	--	--	--	--	--	--	--	Sampled annually
03/04/04	39.31	14.79	0.00	24.52	1.47	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
U-6 (Screen Interval in feet: 13.0-28.0)														
04/07/92	--	--	--	--	--	6600	--	90	ND	820	1200	--	--	
08/06/92	--	--	--	--	--	9200	--	160	ND	360	150	--	--	
11/20/92	--	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
02/12/93	--	--	--	--	--	2600	--	27	ND	120	51	--	--	
06/04/93	37.94	14.45	0.00	23.49	--	13000	--	100	38	450	320	--	--	
09/09/93	37.94	15.56	0.00	22.38	-1.11	6300	--	29	ND	120	34	--	--	
12/02/93	37.68	16.08	0.00	21.60	-0.78	2100	--	12	1.6	21	1.1	--	--	
03/09/94	37.68	14.90	0.00	22.78	1.18	2200	--	11	8.2	24	16	--	--	
06/09/94	37.68	15.18	0.00	22.50	--	2600	--	16	ND	29	ND	--	--	
09/07/94	37.68	16.20	0.00	21.48	-1.02	16004	--	ND	ND	ND	ND	--	--	
12/05/94	37.68	15.60	0.00	22.08	0.60	450	--	ND	ND	ND	ND	--	--	
03/09/95	37.68	13.74	0.00	23.94	1.86	2500	--	29	ND	70	120	320	--	
06/13/95	37.68	13.73	0.00	23.95	0.01	1300	--	ND	ND	20	46	5400	--	
09/12/95	37.68	14.85	0.00	22.83	-1.12	ND	--	ND	ND	ND	ND	6600	--	
12/14/95	37.68	14.89	0.00	22.79	-0.04	760	--	ND	ND	7	8.4	1100	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-6 continued														
03/20/96	37.68	12.41	0.00	25.27	2.48	52	--	1.1	0.98	ND	0.75	1200	--	
09/24/96	37.68	15.06	0.00	22.62	--	ND	--	ND	ND	ND	ND	750	--	
03/27/97	37.68	13.48	0.00	24.20	1.58	ND	--	ND	ND	ND	ND	150	--	
09/23/97	37.68	15.36	0.00	22.32	-1.88	66	--	0.81	ND	ND	ND	150	--	
03/10/98	37.68	10.90	0.00	26.78	4.46	ND	--	ND	ND	ND	ND	18	--	
09/04/98	37.68	14.85	0.00	22.83	-3.95	ND	--	ND	ND	ND	ND	ND	--	
03/04/99	37.68	12.10	0.00	25.58	2.75	ND	--	ND	ND	ND	ND	6.5	--	
09/13/99	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
03/21/00	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/18/00	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
03/16/01	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/04/01	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
03/18/02	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/17/02	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/05/03	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
03/04/04	37.68	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
U-7 (Screen Interval in feet: 15.0-35.0)														
04/07/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/06/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
11/20/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/93	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
06/04/93	37.49	14.17	0.00	23.32	--	ND	--	ND	ND	ND	ND	--	--	
09/09/93	37.49	15.23	0.00	22.26	-1.06	ND	--	ND	ND	ND	ND	--	--	
12/02/93	37.11	15.61	0.00	21.50	-0.76	ND	--	ND	ND	ND	ND	--	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
U-7 continued														
03/09/94	37.11	14.45	0.00	22.66	1.16	ND	--	1.4	4.4	0.96	7.5	--	--	
04/13/94	37.11	14.63	0.00	22.48	-0.18	ND	--	ND	ND	ND	ND	--	--	
06/09/94	37.11	14.70	0.00	22.41	-0.07	ND	--	ND	ND	ND	ND	--	--	
09/07/94	37.11	15.72	0.00	21.39	-1.02	ND	--	ND	ND	ND	ND	--	--	
12/05/94	37.11	15.10	0.00	22.01	0.62	ND	--	ND	ND	ND	ND	--	--	
03/09/95	37.11	13.36	0.00	23.75	1.74	ND	--	ND	ND	ND	ND	ND	--	
06/13/95	37.11	13.33	0.00	23.78	0.03	ND	--	ND	ND	ND	ND	3.5	--	
09/12/95	37.11	14.40	0.00	22.71	-1.07	ND	--	ND	ND	ND	ND	ND	--	
12/14/95	37.11	14.39	0.00	22.72	0.01	ND	--	ND	ND	ND	ND	1.4	--	
03/20/96	37.11	11.96	0.00	25.15	2.43	--	--	--	--	--	--	--	--	
09/24/96	37.11	14.59	0.00	22.52	--	--	--	--	--	--	--	--	--	
03/27/97	37.11	13.08	0.00	24.03	1.51	ND	--	ND	ND	ND	ND	ND	--	
09/23/97	37.11	14.90	0.00	22.21	-1.82	--	--	--	--	--	--	--	--	
03/10/98	37.11	10.46	0.00	26.65	4.44	ND	--	ND	ND	ND	ND	ND	--	
09/04/98	37.11	14.42	0.00	22.69	-3.96	--	--	--	--	--	--	--	--	
03/04/99	37.11	11.64	0.00	25.47	2.78	ND	--	ND	ND	ND	ND	6.6	--	
09/13/99	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
03/21/00	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/18/00	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
03/16/01	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/04/01	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/17/02	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible covered with asphalt
09/05/03	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
03/04/04	37.11	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt

U-8 (Screen Interval in feet: 15.0-30.0)

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-8 continued														
04/07/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
08/06/92	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
02/12/93	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
06/04/93	38.94	15.26	0.00	23.68	--	ND	--	ND	ND	ND	ND	--	--	
09/09/93	38.94	16.38	0.00	22.56	-1.12	ND	--	ND	ND	ND	ND	--	--	
12/02/93	38.57	16.80	0.00	21.77	-0.79	ND	--	ND	ND	ND	ND	--	--	
03/09/94	38.57	15.62	0.00	22.95	1.18	ND	--	1.2	3.7	0.79	6.1	--	--	
04/13/94	38.57	15.80	0.00	22.77	-0.18	ND	--	ND	0.78	ND	0.98	--	--	
06/09/94	38.57	15.86	0.00	22.71	-0.06	ND	--	ND	ND	ND	ND	--	--	
09/07/94	38.57	16.87	0.00	21.70	-1.01	ND	--	ND	ND	ND	ND	--	--	
12/05/94	38.57	16.32	0.00	22.25	0.55	ND	--	ND	ND	ND	ND	--	--	
03/09/95	38.57	14.56	0.00	24.01	1.76	ND	--	ND	ND	ND	ND	ND	--	
06/13/95	38.57	14.40	0.00	24.17	0.16	ND	--	ND	ND	ND	ND	ND	--	
09/12/95	38.57	15.50	0.00	23.07	-1.10	ND	--	ND	ND	ND	ND	ND	--	
12/14/95	38.57	15.67	0.00	22.90	-0.17	ND	--	ND	ND	ND	ND	ND	--	
03/20/96	38.57	13.25	0.00	25.32	2.42	--	--	--	--	--	--	--	--	
09/24/96	38.57	15.75	0.00	22.82	--	--	--	--	--	--	--	--	--	
03/27/97	38.57	14.18	0.00	24.39	1.57	ND	--	ND	ND	ND	ND	ND	--	
09/23/97	38.57	16.05	0.00	22.52	-1.87	--	--	--	--	--	--	--	--	Sampled annually
03/10/98	38.57	11.63	0.00	26.94	4.42	ND	--	ND	ND	ND	ND	ND	--	
09/04/98	38.57	15.81	0.00	22.76	-4.18	--	--	--	--	--	--	--	--	
03/04/99	38.57	12.81	0.00	25.76	3.00	ND	--	ND	ND	ND	ND	ND	--	
09/13/99	38.57	16.37	0.00	22.20	-3.56	--	--	--	--	--	--	--	--	
03/21/00	38.57	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/18/00	38.57	15.31	0.00	23.26	--	--	--	--	--	--	--	--	--	
03/16/01	38.57	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/04/01	38.57	--	--	--	--	--	--	--	--	--	--	--	--	
03/18/02	38.57	14.46	--	24.11	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
09/17/02	38.57	15.93	0.00	22.64	-1.47	--	--	--	--	--	--	--	--	Sampled annually

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-8 continued														
03/28/03	38.57	14.40	0.00	24.17	1.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
09/05/03	38.57	15.46	0.00	23.11	-1.06	--	--	--	--	--	--	--	--	Sampled annually
03/04/04	38.57	13.98	0.00	24.59	1.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
U-9 (Screen Interval in feet: 13.0-28.0)														
06/04/93	37.88	14.67	0.00	23.21	--	2100	--	ND	ND	ND	ND	--	--	
09/09/93	37.88	15.79	0.00	22.09	-1.12	1200	--	ND	ND	ND	ND	--	--	
12/02/93	37.31	15.93	0.00	21.38	-0.71	ND	--	ND	ND	ND	ND	--	--	
03/09/94	37.31	14.74	0.00	22.57	1.19	5700	--	ND	ND	ND	ND	--	--	
04/13/94	37.31	14.96	0.00	22.35	-0.22	ND	--	ND	ND	ND	ND	--	--	
06/09/94	37.31	15.05	0.00	22.26	-0.09	2900	--	ND	ND	ND	ND	--	--	
09/07/94	37.31	16.06	0.00	21.25	-1.01	2700	--	ND	ND	ND	ND	--	--	
12/05/94	37.31	15.43	0.00	21.88	0.63	3700	--	ND	ND	ND	ND	--	--	
03/09/95	37.31	13.50	0.00	23.81	1.93	2500	--	ND	ND	ND	ND	5800	--	
06/13/95	37.31	13.63	0.00	23.68	-0.13	ND	--	ND	ND	ND	ND	1200	--	
09/12/95	37.31	14.73	0.00	22.58	-1.10	ND	--	ND	ND	ND	ND	1600	--	
12/14/95	37.31	14.67	0.00	22.64	0.06	ND	--	ND	ND	ND	ND	4400	--	
03/20/96	37.31	12.27	0.00	25.04	2.40	ND	--	ND	ND	ND	ND	480	--	
09/24/96	37.31	14.92	0.00	22.39	--	ND	--	ND	ND	ND	ND	ND	--	
03/27/97	37.31	13.36	0.00	23.95	1.56	ND	--	ND	ND	ND	ND	42	--	
09/23/97	37.31	15.28	0.00	22.03	-1.92	ND	--	ND	ND	ND	ND	ND	--	
03/10/98	37.31	10.86	0.00	26.45	4.42	ND	--	ND	ND	ND	3.1	ND	--	
09/04/98	37.31	15.03	0.00	22.28	-4.17	ND	--	ND	ND	ND	ND	ND	--	
03/04/99	37.31	11.95	0.00	25.36	3.08	ND	--	ND	ND	ND	ND	ND	--	
09/13/99	37.31	15.61	0.00	21.70	-3.66	ND	--	ND	1.67	ND	1.01	7.85	--	
03/21/00	37.31	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/18/00	37.31	14.87	0.00	22.44	--	ND	--	ND	1.42	ND	1.06	ND	--	
03/16/01	37.31	--	--	--	--	ND	--	ND	ND	ND	ND	ND	--	
09/04/01	37.31	--	--	--	--	--	--	--	--	--	--	--	--	Sampled annually
03/18/02	37.31	13.56	--	23.75	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground- water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (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
U-9 continued														
09/17/02	37.31	15.14	0.00	22.17	-1.58	--	--	--	--	--	--	--	--	Sampled annually
03/28/03	37.31	13.61	0.00	23.70	1.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
09/05/03	37.31	14.64	0.00	22.67	-1.03	--	--	--	--	--	--	--	--	Sampled annually
03/04/04	37.31	13.07	0.00	24.24	1.57	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	

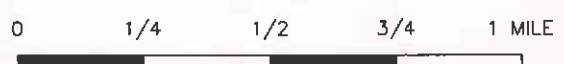
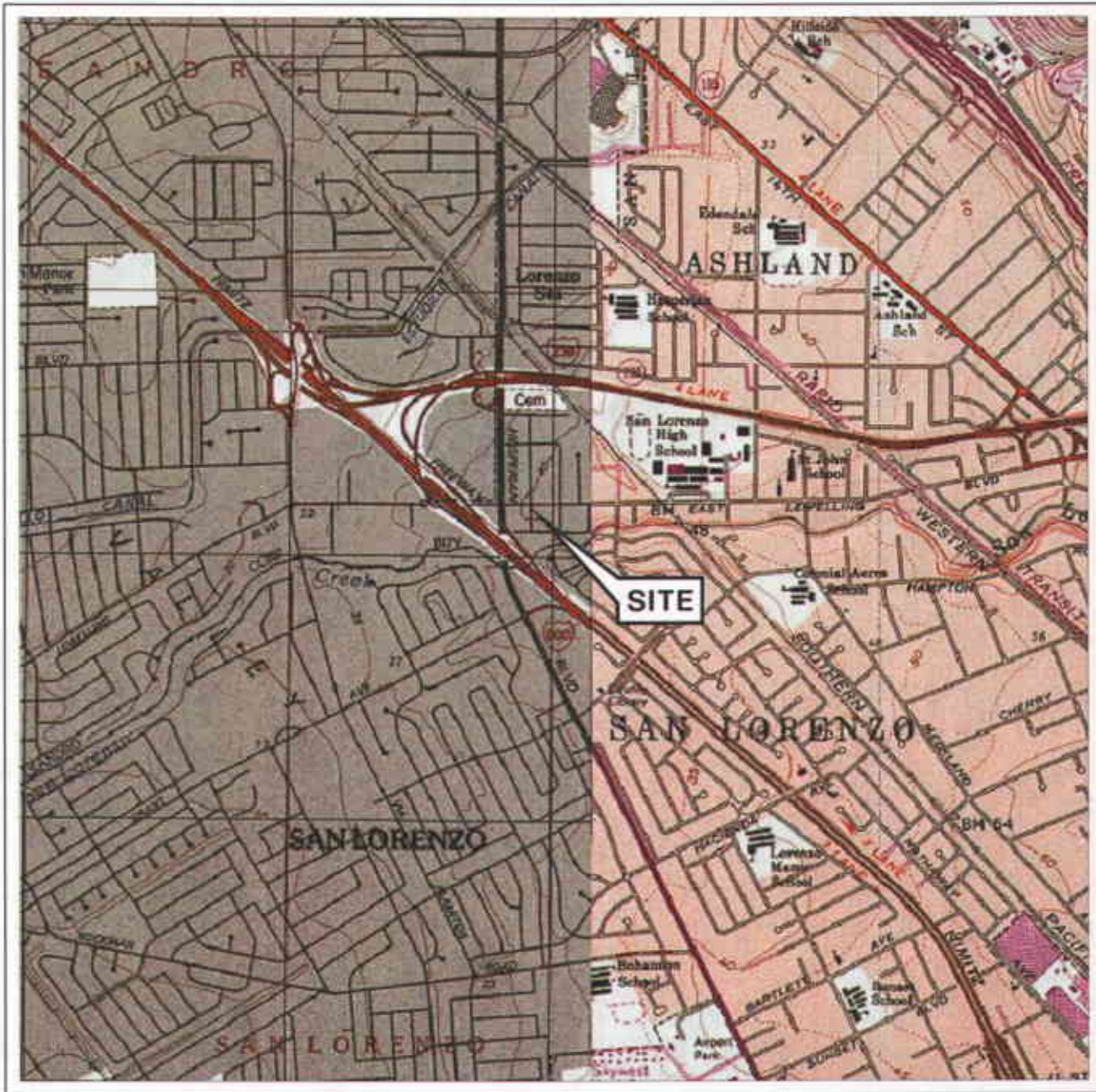
**Table 3**  
**SUMMARY OF ADDITIONAL CHEMICAL ANALYSIS RESULTS**  
**76 Station 5760**

Date Sampled	1,1-DCA (µg/l)	EDB (µg/l)	Pre-Purge DO (mg/l)	Post Purge DO (mg/l)	TAME 8260B (µg/l)	TBA 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)
<b>U-1</b>									
03/27/97	--	--	2.41	2.35	--	--	--	--	--
10/13/00	ND	ND	--	--	ND	ND	ND	ND	ND
09/17/02	ND<10	ND<10	--	--	ND<10	ND<500	ND<10	ND<10	ND<2,500
09/05/03	--	--	--	--	--	--	--	--	ND<500
03/04/04	--	--	--	--	--	--	--	--	ND<20000
<b>U-2</b>									
03/27/97	--	--	4.36	4.49	--	--	--	--	--
<b>U-3</b>									
03/27/97	--	--	3.18	3.32	--	--	--	--	--
09/05/03	--	--	--	--	--	--	--	--	ND<500
03/04/04	--	--	--	--	--	--	--	--	ND<10000
<b>U-4</b>									
03/27/97	--	--	3.32	3.26	--	--	--	--	--
<b>U-5</b>									
03/27/97	--	--	3.74	3.77	--	--	--	--	--
03/04/04	--	--	--	--	--	--	--	--	ND<500
<b>U-6</b>									
03/20/96	--	--	3.85	3.89	--	--	--	--	--
09/24/96	--	--	3.73	3.81	--	--	--	--	--
03/27/97	--	--	4.43	4.36	--	--	--	--	--
09/23/97	--	--	--	4.14	--	--	--	--	--
03/10/98	--	--	--	3.95	--	--	--	--	--
<b>U-7</b>									
03/27/97	--	--	3.29	3.38	--	--	--	--	--
<b>U-8</b>									



Date Sampled	1,1-DCA (µg/l)	EDB (µg/l)	Pre-Purge DO (mg/l)	Post Purge DO (mg/l)	TAME 8260B (µg/l)	TBA 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)
U-8 continued									
03/27/97	--	--	3.04	3.11	--	--	--	--	--
03/04/04	--	--	--	--	--	--	--	--	ND<500
U-9									
03/20/96	--	--	4.02	4	--	--	--	--	--
09/24/96	--	--	3.85	3.98	--	--	--	--	--
03/27/97	--	--	3.65	3.57	--	--	--	--	--
09/23/97	--	--	--	3.8	--	--	--	--	--
03/10/98	--	--	--	3.62	--	--	--	--	--
03/04/04	--	--	--	--	--	--	--	--	ND<500

# FIGURES



SCALE 1:24,000



**VICINITY MAP**

76 Station 5760  
 376 Lewelling Boulevard  
 San Lorenzo, California

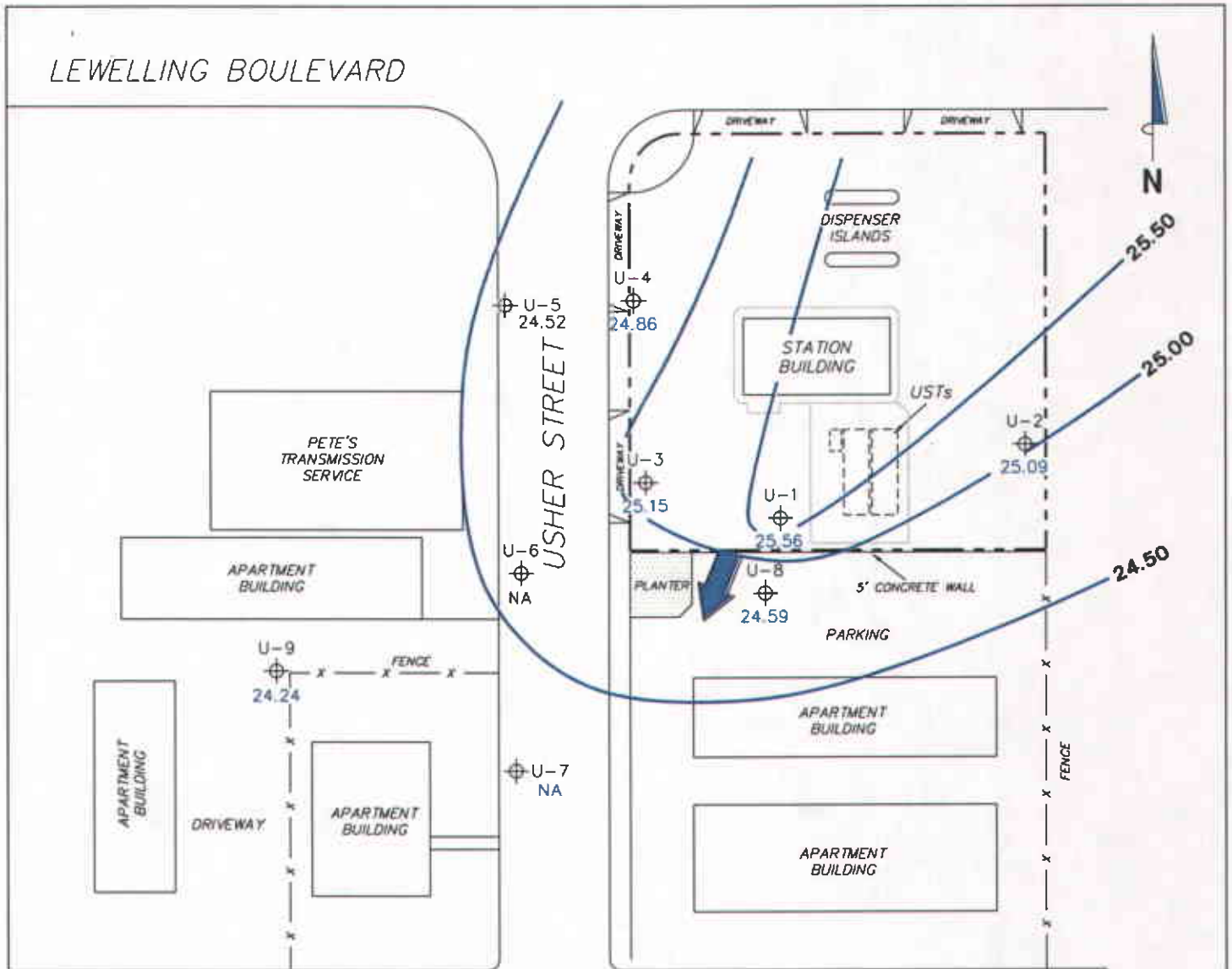
SOURCE:  
 United States Geological Survey  
 7.5 Minute Topographic Map:  
 Hayward Quadrangle

**FIGURE 1**



PS = 1:1

LEWELLING BOULEVARD



**NOTES:**

Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. NA = not analyzed, measured, or collected. UST = underground storage tank.

**LEGEND**

- U-9 ⊕ Monitoring Well with Groundwater Elevation (feet)
- 25.50 — Groundwater Elevation Contour
- ➡ General Direction of Groundwater Flow

ALBION AVENUE

**GROUNDWATER ELEVATION  
CONTOUR MAP  
March 4, 2004**

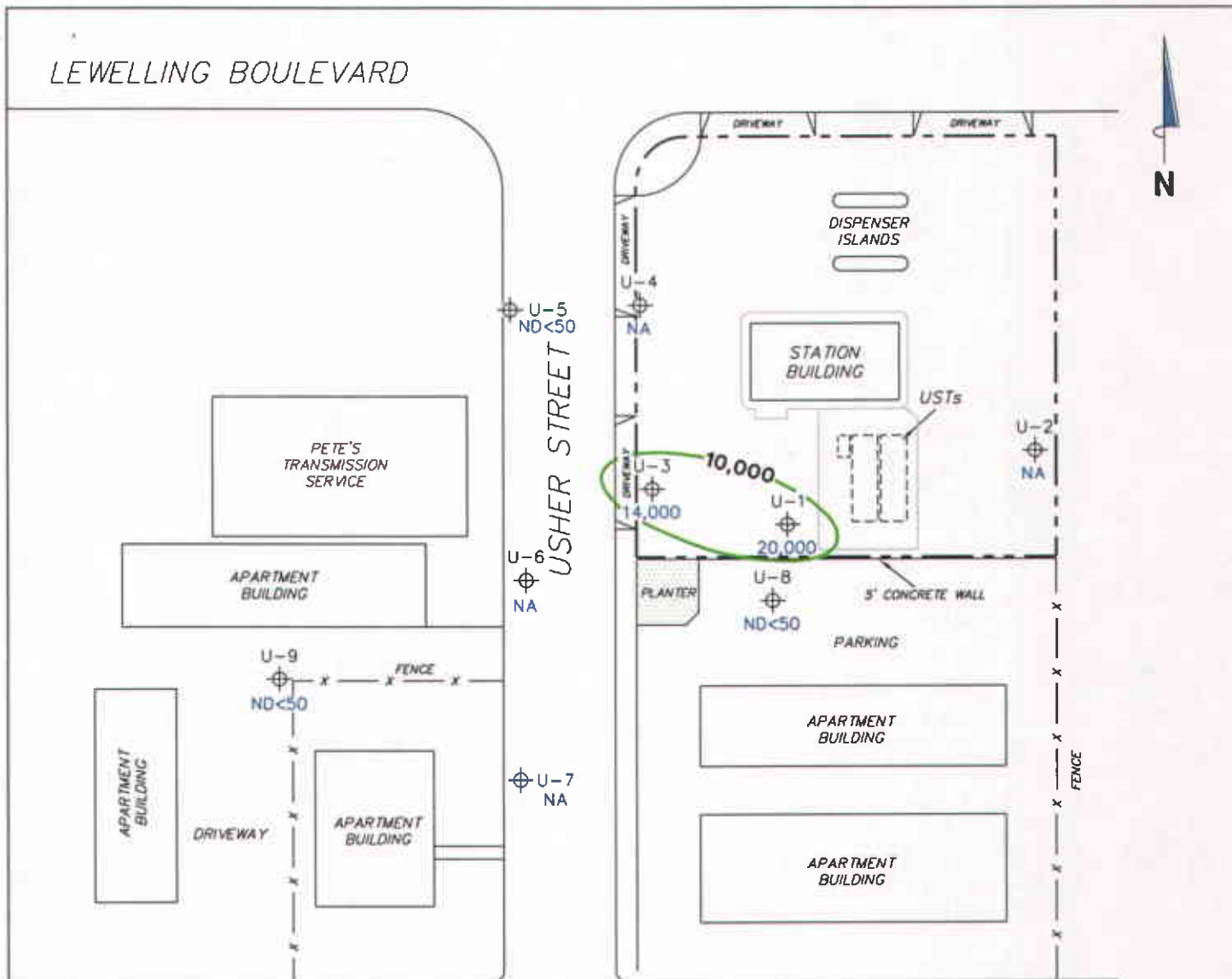
76 Station 5760  
376 Lewelling Boulevard  
San Lorenzo, California



**FIGURE 2**

PS=1:1

LEWELLING BOULEVARD



ALBION AVENUE

**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples. TPPH = total purgeable petroleum hydrocarbons. µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. UST = underground storage tank. Results obtained using EPA Method 8260B.

**LEGEND**

U-9 ⊕ Monitoring Well with Dissolved-Phase TPPH Concentration (µg/l)

-10,000- Dissolved-Phase TPPH Contour (µg/l)

**DISSOLVED-PHASE TPPH CONCENTRATION MAP  
March 4, 2004**

76 Station 5760  
376 Lewelling Boulevard  
San Lorenzo, California



SCALE (FEET)

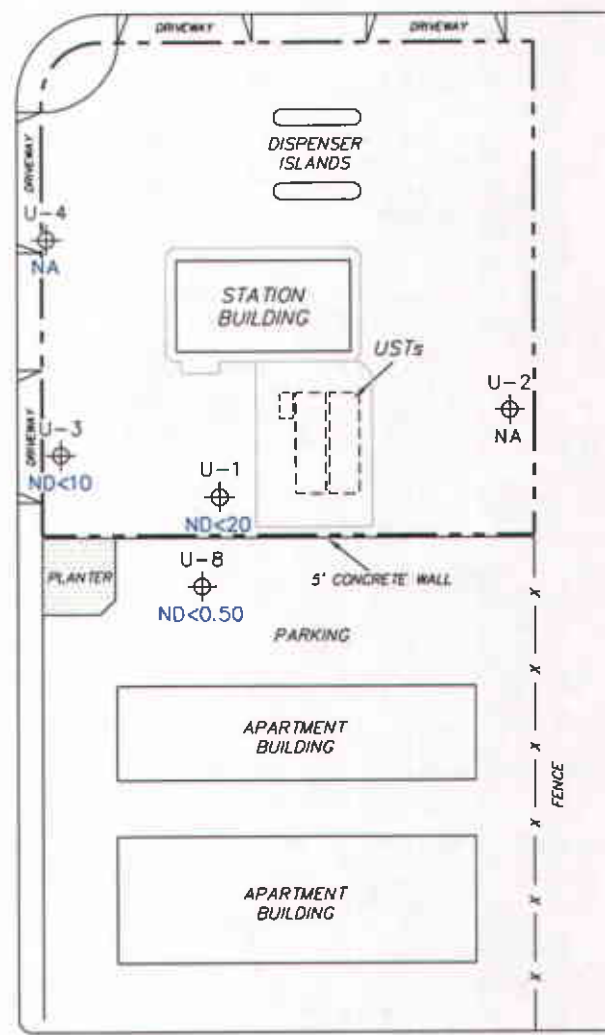
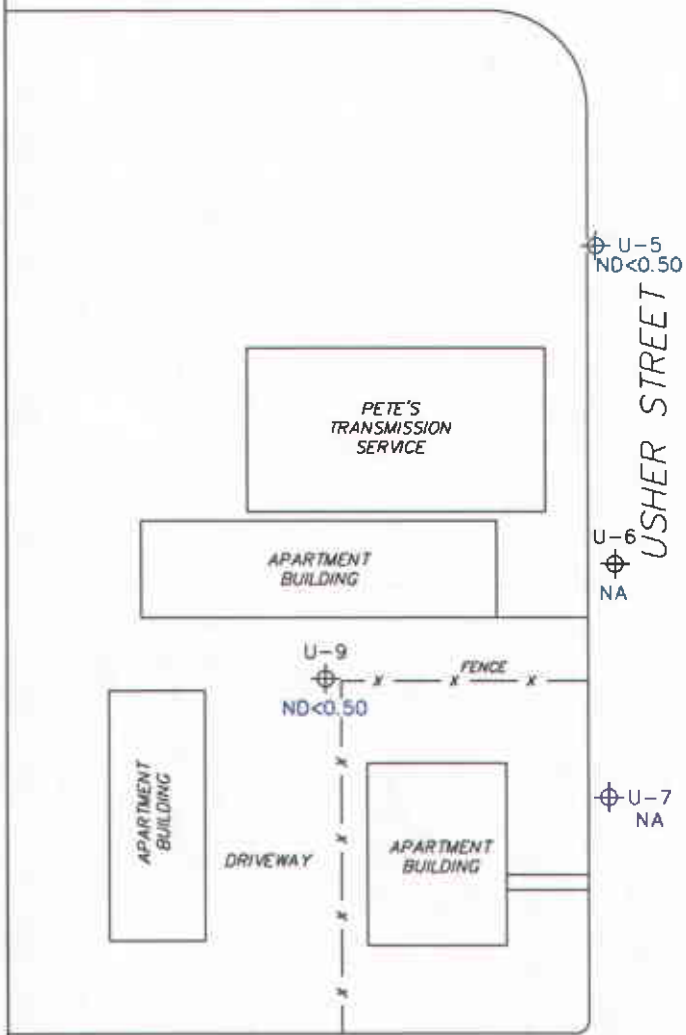


**FIGURE 3**

PS-11



LEWELLING BOULEVARD



ALBION AVENUE

**NOTES:**

µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 NA = not analyzed, measured, or collected.  
 UST = underground storage tank.

**LEGEND**

U-9 ⊕ Monitoring Well with Dissolved-Phase Benzene Concentration (µg/l)

**DISSOLVED-PHASE BENZENE CONCENTRATION MAP**  
**March 4, 2004**

76 Station 5760  
 376 Lewelling Boulevard  
 San Lorenzo, California



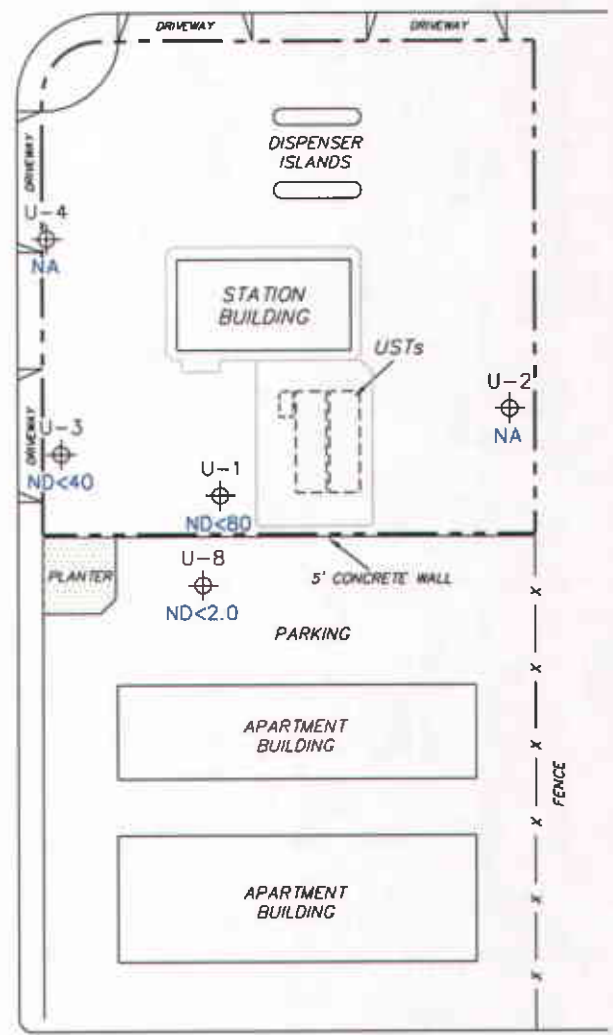
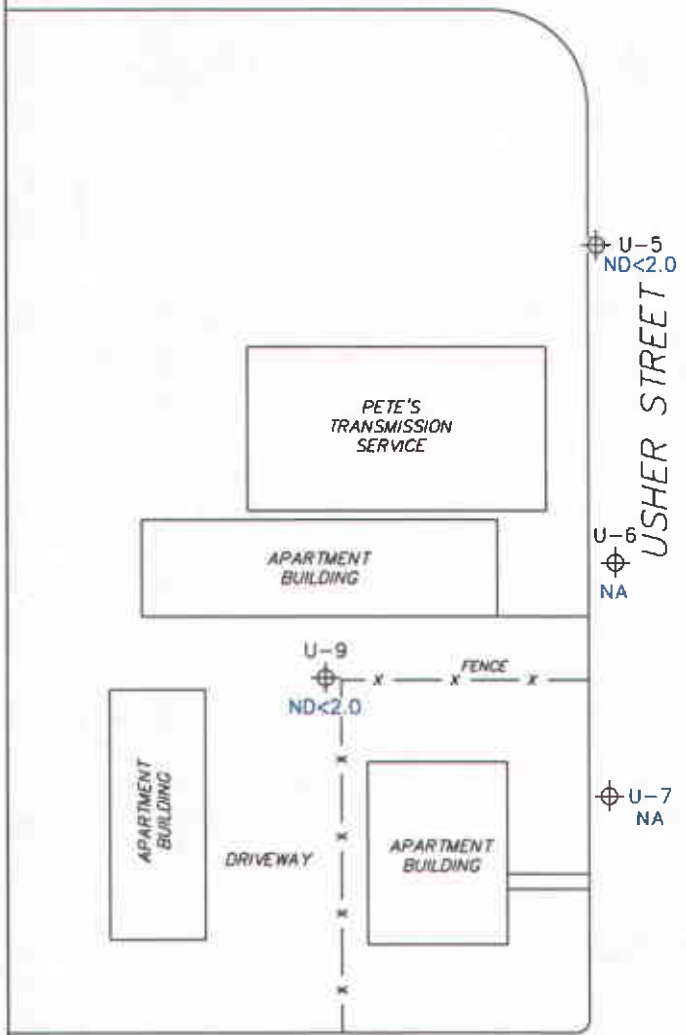
SCALE (FEET)



**FIGURE 4**

PS=1:1

LEWELLING BOULEVARD



ALBION AVENUE

**NOTES:**

MTBE = methyl tertiary butyl ether.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. UST = underground storage tank. Results obtained using EPA Method 8260B.

**LEGEND**

U-9 ⊕ Monitoring Well with Dissolved-Phase MTBE Concentration (µg/l)

**DISSOLVED-PHASE MTBE CONCENTRATION MAP**  
**March 4, 2004**

76 Station 5760  
 376 Lewelling Boulevard  
 San Lorenzo, California



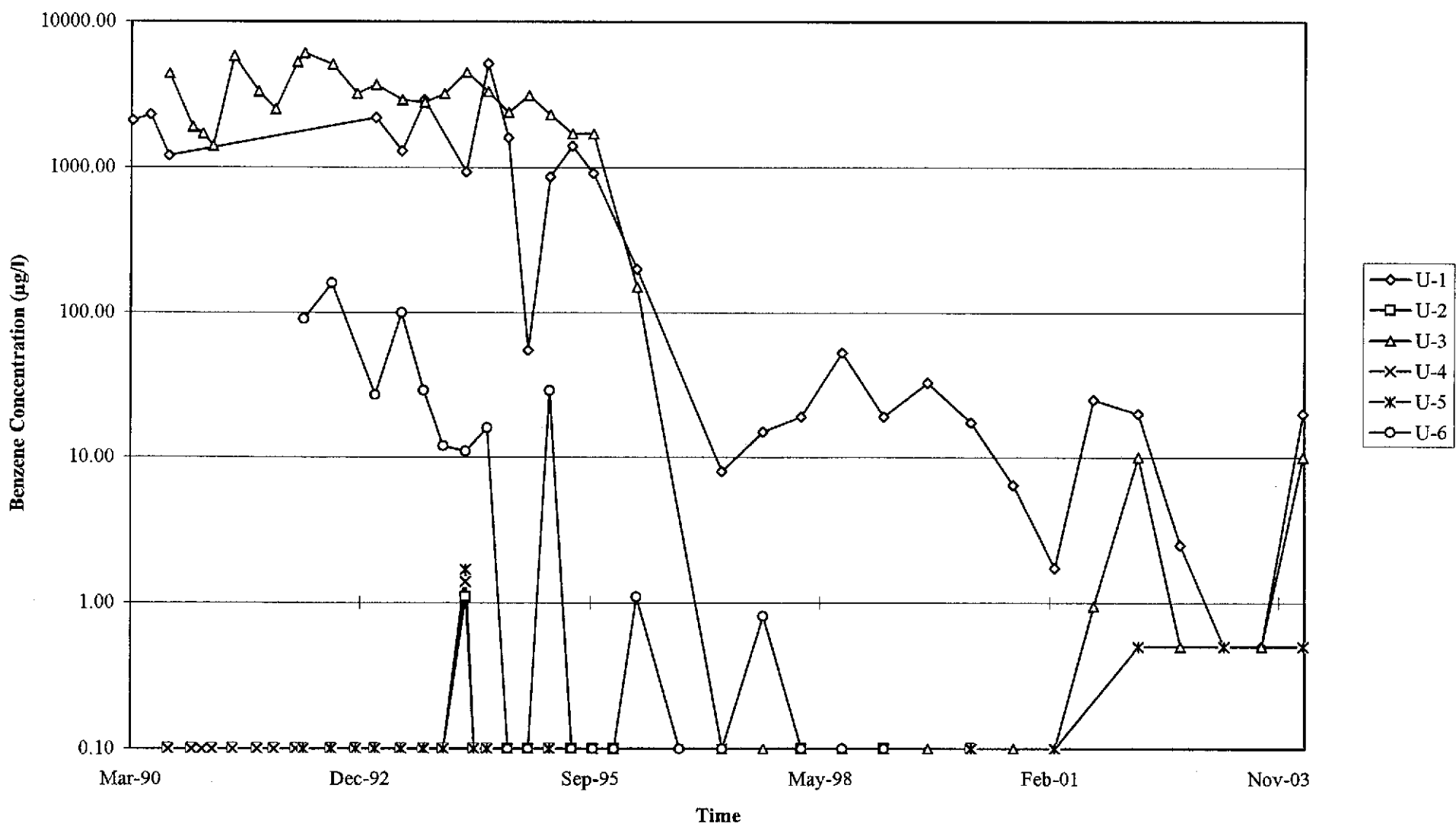
**FIGURE 5**

PS=1:1

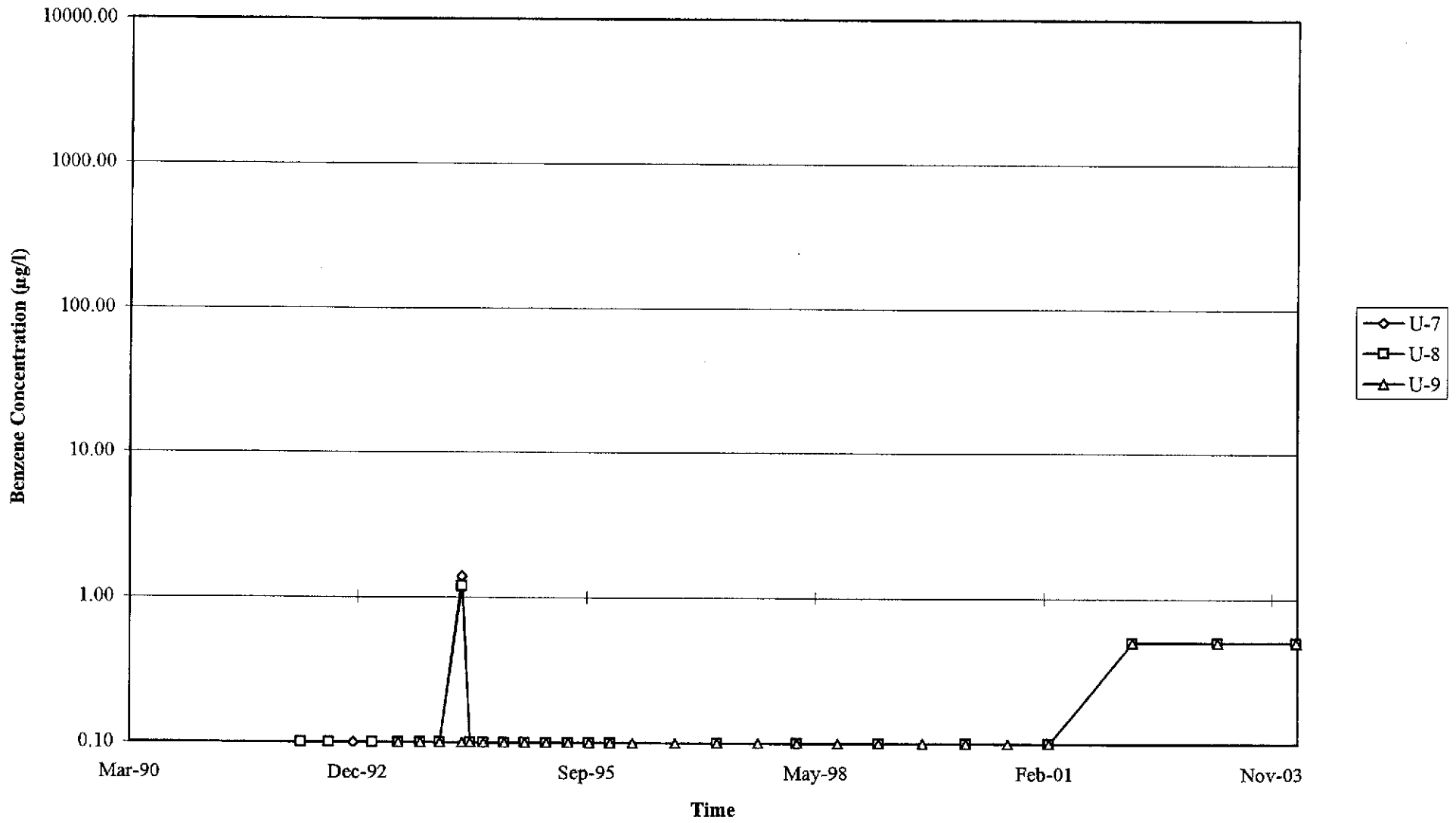
# GRAPHS



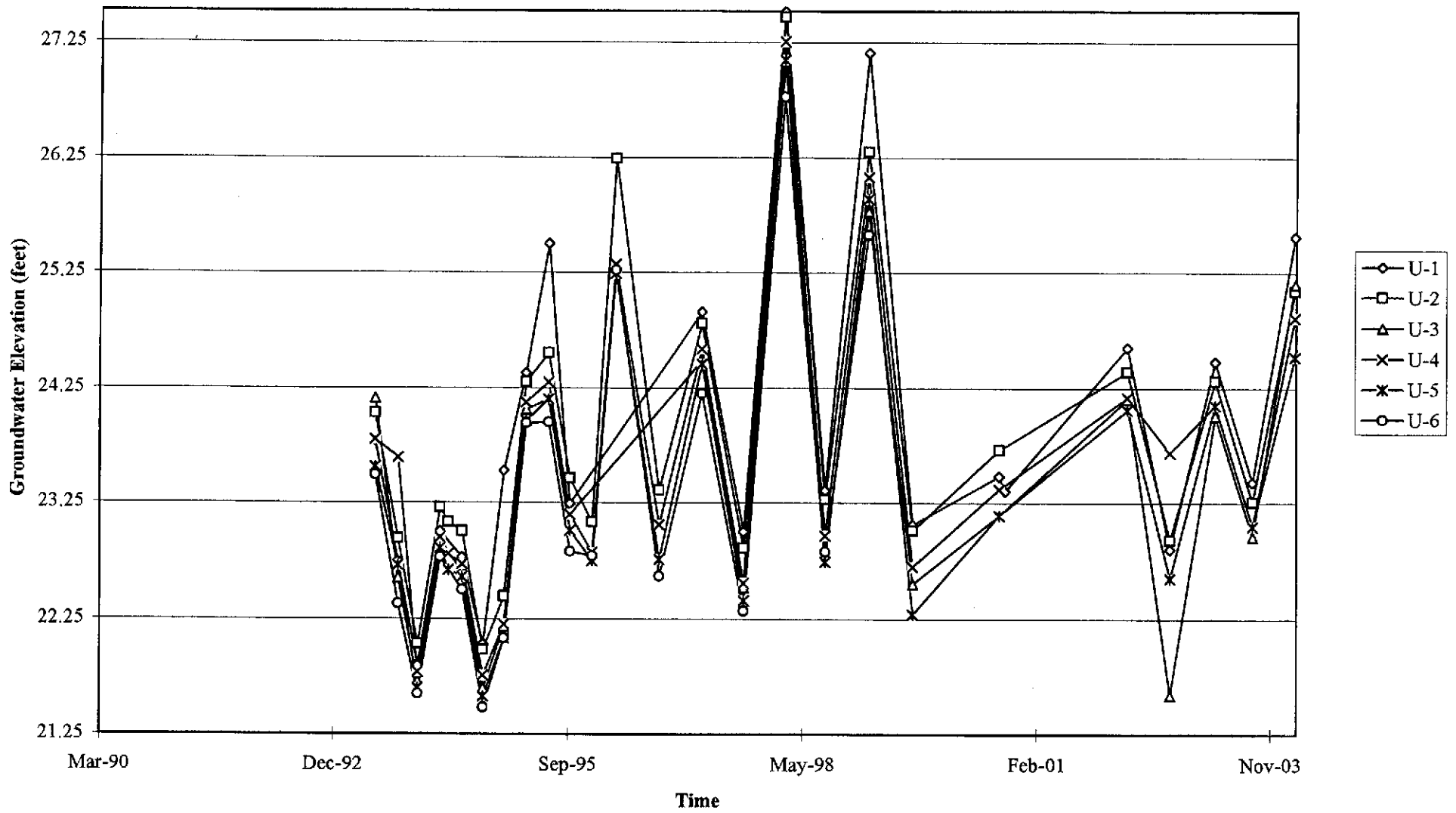
Graph 1  
Benzene Concentrations vs. Time  
76 Station 5760



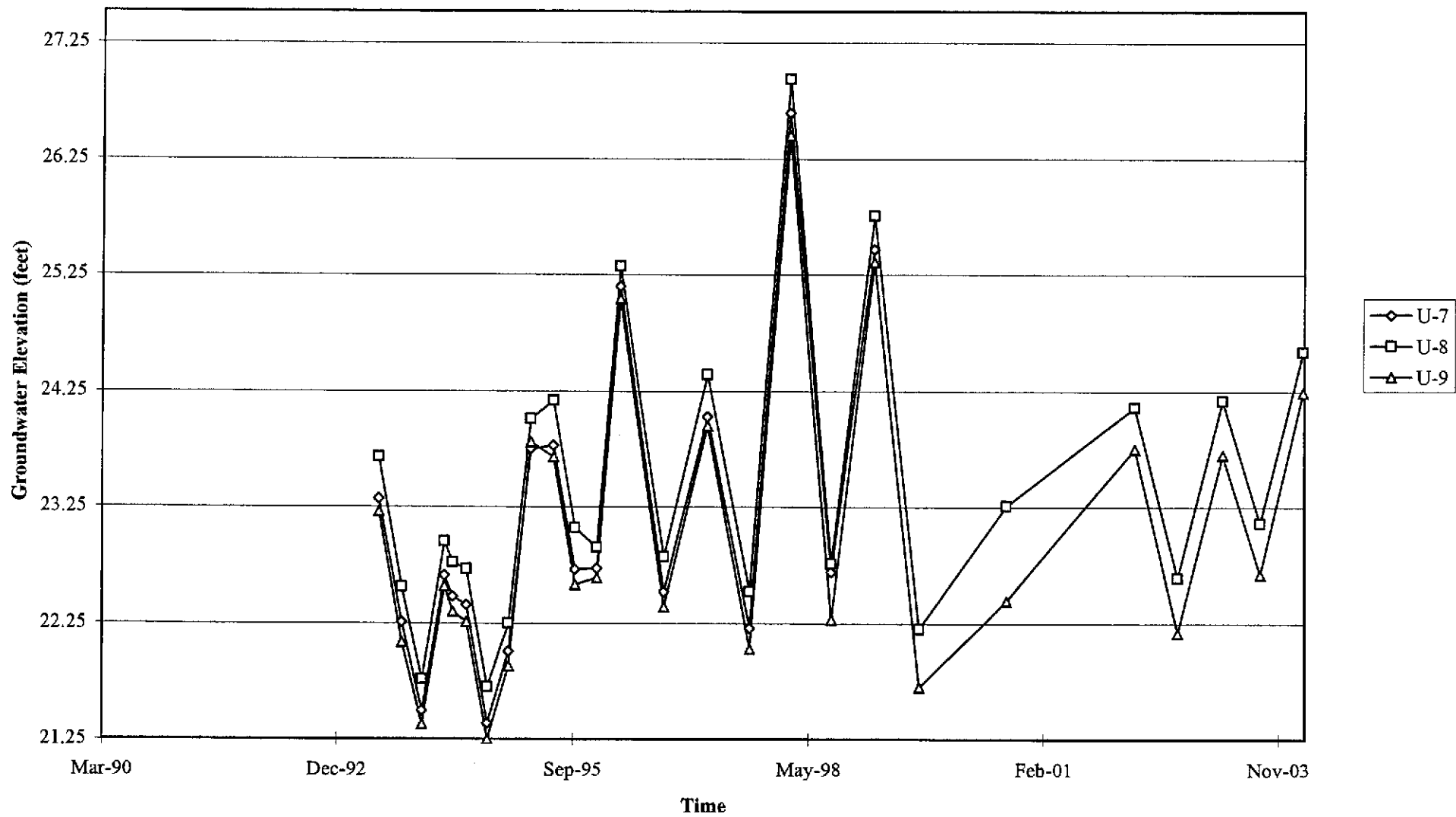
Graph 2  
Benzene Concentrations vs. Time  
76 Station 5760



Graph 3  
Hydrograph  
76 Station 5760



Graph 4  
Hydrograph  
76 Station 5760



## 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: David Tenney

Site: 5760

Project No.: 410500-OVFA20

Date: 3-4-04

Well No.: U-5  
 Depth to Water (feet): 14.79  
 Total Depth (feet): 28.56  
 Water Column (feet): 13.77  
 80% Recharge Depth (feet): 17.54

Purge Method: Sub 0969  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 2  
 1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C)	pH	Turbidity	D.O.
1052			2	1000 <sub>u</sub>	18.0	6.79		
			4	1012	21.2	6.74		
	1057		6	1009	21.2	6.83		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
1480		6			1101			
Comments:								

Well No.: U-3  
 Depth to Water (feet): 14.11  
 Total Depth (feet): 24.26  
 Water Column (feet): 10.15  
 80% Recharge Depth (feet): 16.14

Purge Method: Sub 0969  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 3  
 1 Well Volume (gallons): 4

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C)	pH	Turbidity	D.O.
1115			4	904 <sub>u</sub>	20.7	6.81		
			8	936	21.4	6.81		
	1121		12	982	21.9	6.82		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
1428		12			1126			
Comments:								



**GROUNDWATER SAMPLING FIELD NOTES**

Technician: David Tenney

Site: 5760

Project No.: 410500-01/FA20

Date: 3-4-04

Well No.: U-1

Purge Method: Sub 0969

Depth to Water (feet): 14.64

Depth to Product (feet): 0

Total Depth (feet): 28.59

LPH & Water Recovered (gallons): 0

Water Column (feet): 13.95

Casing Diameter (Inches): 8

80% Recharge Depth (feet): 17.43

1 Well Volume (gallons): 5

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
1143			5	910N	21.2	6.87		
			10	905	21.2	6.83		
	1151		15	911	21.4	6.79		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
14.75			15		1202			
Comments:								

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	Turbidity	D.O.
Static at Time Sampled			Total Gallons Purged		Time Sampled			
Comments:								

GROUNDWATER SAMPLING FIELD NOTES

Site: 5760 Technician: Dan: d Tenney  
 Project No.: 410500-01/FA20 Date: 3-4-04

Well No.: V-9 Purge Method: Sub 0969  
 Depth to Water (feet): 13.07 Depth to Product (feet): Ø  
 Total Depth (feet): 28.13 LPH & Water Recovered (gallons): Ø  
 Water Column (feet): 15.06 Casing Diameter (Inches): 2  
 80% Recharge Depth (feet): 16.08 1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. °C)	pH	Turbidity	D.O.
0905			2	962N	13.3	6.54		
			4	734	17.6	6.57		
	0911		6	<del>6.60</del> 832	19.8	6.66		
Static at Time Sampled		Total Gallons Purged		Time Sampled				
13.08		6		Ø 0942 or 0924				
Comments:								

Well No.: V-8 Purge Method: Sub 0969  
 Depth to Water (feet): 13.98 Depth to Product (feet): Ø  
 Total Depth (feet): 29.79 LPH & Water Recovered (gallons): Ø  
 Water Column (feet): 15.81 Casing Diameter (Inches): 2  
 80% Recharge Depth (feet): 17.14 1 Well Volume (gallons): 3

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. °C)	pH	Turbidity	D.O.
0941			3	818N	18.1	6.90		
			6	752	18.9	6.82		
	0947		9	769	19.4	6.85		
Static at Time Sampled		Total Gallons Purged		Time Sampled				
14.01		9		0952				
Comments:								

STATEMENT OF NON-COMPLETION OF JOB

DATE OF EVENT: 3-4-04 STATION NUMBER: 5760

NAME OF TECH: David Tenney CALLED ~~GORDON~~: Mike

CALLED PM: \_\_\_\_\_ NAME OF PM CALLED: \_\_\_\_\_

WELL NUMBER: U-6, V-7 STATEMENT FROM PM \_\_\_\_\_ OR TECH X

Wells have been paved over since 1999.

WELL NUMBER: \_\_\_\_\_ STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

WELL NUMBER: \_\_\_\_\_ STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

WELL NUMBER: \_\_\_\_\_ STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

TRC Alton Geoscience

March 19, 2004

21 Technology Drive  
Irvine, CA 92718

Attn.: Anju Farfan

Project#: 41050001FA20

Project: Conoco Phillips #5760

Site: 376 Lewelling Road, San Lorenzo

Attached is our report for your samples received on 03/05/2004 12:01

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 04/19/2004 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

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](http://www.stl-inc.com) \* CA DHS ELAP# 2496

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

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

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

Project: 41050001FA20

Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
U-1	03/04/2004 12:02	Water	1
U-3	03/04/2004 11:26	Water	2
U-5	03/04/2004 11:01	Water	3
U-8	03/04/2004 09:52	Water	4
U-9	03/04/2004 09:24	Water	5

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

03/17/2004 19:04

Page 1 of 9



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

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

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

Project: 41050001FA20

Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-3	Lab ID: 2004-03-0208 - 2
Sampled: 03/04/2004 11:26	Extracted: 3/11/2004 00:50
Matrix: Water	QC Batch#: 2004/03/10-2B.64
Analysis Flag: o ( See Legend and Note Section )	

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	14000	1000	ug/L	20.00	03/11/2004 00:50	
Benzene	ND	10	ug/L	20.00	03/11/2004 00:50	
Toluene	ND	10	ug/L	20.00	03/11/2004 00:50	
Ethylbenzene	940	10	ug/L	20.00	03/11/2004 00:50	
Total xylenes	3500	20	ug/L	20.00	03/11/2004 00:50	
Methyl tert-butyl ether (MTBE)	ND	40	ug/L	20.00	03/11/2004 00:50	
Ethanol	ND	10000	ug/L	20.00	03/11/2004 00:50	
<b>Surrogate(s)</b>						
Toluene-d8	96.3	88-110	%	20.00	03/11/2004 00:50	
1,2-Dichloroethane-d4	83.0	76-114	%	20.00	03/11/2004 00:50	

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

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

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

Project: 41050001FA20

Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

Prep(s): 5030B Test(s): 8260FAB  
 Sample ID: U-5 Lab ID: 2004-03-0208 - 3  
 Sampled: 03/04/2004 11:01 Extracted: 3/11/2004 01:13  
 Matrix: Water QC Batch#: 2004/03/10-2B.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	03/11/2004 01:13	
Benzene	ND	0.50	ug/L	1.00	03/11/2004 01:13	
Toluene	ND	0.50	ug/L	1.00	03/11/2004 01:13	
Ethylbenzene	ND	0.50	ug/L	1.00	03/11/2004 01:13	
Total xylenes	ND	1.0	ug/L	1.00	03/11/2004 01:13	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	03/11/2004 01:13	
Ethanol	ND	500	ug/L	1.00	03/11/2004 01:13	
<b>Surrogate(s)</b>						
Toluene-d8	95.1	88-110	%	1.00	03/11/2004 01:13	
1,2-Dichloroethane-d4	87.1	76-114	%	1.00	03/11/2004 01:13	



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

TRC Alton Geoscience  
Attn.: Anju Farfan

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

Project: 41050001FA20  
Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-8	Lab ID: 2004-03-0208 - 4
Sampled: 03/04/2004 09:52	Extracted: 3/11/2004 01:35
Matrix: Water	QC Batch#: 2004/03/10-2B.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	03/11/2004 01:35	
Benzene	ND	0.50	ug/L	1.00	03/11/2004 01:35	
Toluene	ND	0.50	ug/L	1.00	03/11/2004 01:35	
Ethylbenzene	ND	0.50	ug/L	1.00	03/11/2004 01:35	
Total xylenes	ND	1.0	ug/L	1.00	03/11/2004 01:35	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	03/11/2004 01:35	
Ethanol	ND	500	ug/L	1.00	03/11/2004 01:35	
<b>Surrogate(s)</b>						
Toluene-d8	94.0	88-110	%	1.00	03/11/2004 01:35	
1,2-Dichloroethane-d4	84.7	76-114	%	1.00	03/11/2004 01:35	



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

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

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

Project: 41050001FA20

Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

**Batch QC Report**

Prep(s): 5030B

Method Blank

MB: 2004/03/10-2B.64-054

Water

Test(s): 8260FAB

QC Batch # 2004/03/10-2B.64

Date Extracted: 03/10/2004 19:54

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	03/10/2004 19:54	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	03/10/2004 19:54	
Benzene	ND	0.5	ug/L	03/10/2004 19:54	
Toluene	ND	0.5	ug/L	03/10/2004 19:54	
Ethylbenzene	ND	0.5	ug/L	03/10/2004 19:54	
Total xylenes	ND	1.0	ug/L	03/10/2004 19:54	
Ethanol	ND	500	ug/L	03/10/2004 19:54	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	77.8	76-114	%	03/10/2004 19:54	
Toluene-d8	94.0	88-110	%	03/10/2004 19:54	

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

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

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

Project: 41050001FA20

Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike**

**Water**

**QC Batch # 2004/03/10-2B.64**

LCS 2004/03/10-2B.64-037

Extracted: 03/10/2004

Analyzed: 03/10/2004 18:37

LCSD 2004/03/10-2B.64-059

Extracted: 03/10/2004

Analyzed: 03/10/2004 18:59

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	20.8	20.4	25	83.2	81.6	1.9	65-165	20		
Benzene	20.3	20.8	25	81.2	83.2	2.4	69-129	20		
Toluene	23.4	23.2	25	93.6	92.8	0.9	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	400	389	500	80.0	77.8		76-114			
Toluene-d8	495	491	500	99.0	98.2		88-110			

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

03/17/2004 19:04

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

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

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

Project: 41050001FA20

Conoco Phillips #5760

Received: 03/05/2004 12:01

Site: 376 Lewelling Road, San Lorenzo

---

**Legend and Notes**

---

**Analysis Flag**

0

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

**STL San Francisco**

### Sample Receipt Checklist

Submission #: 2004- 03 - 0208

Checklist completed by: (initials) DSH Date: 03, 07 /04

Courier name:  STL San Francisco  Client \_\_\_\_\_

Custody seals intact on shipping container/samples

Yes \_\_\_ No \_\_\_ Not Present

Chain of custody present?

Yes  No \_\_\_

Chain of custody signed when relinquished and received?

Yes  No \_\_\_

Chain of custody agrees with sample labels?

Yes  No \_\_\_

Samples in proper container/bottle?

Yes  No \_\_\_

Sample containers intact?

Yes  No \_\_\_

Sufficient sample volume for indicated test?

Yes  No \_\_\_

All samples received within holding time?

Yes  No \_\_\_

Container/Temp Blank temperature in compliance ( $4^{\circ}C \pm 2$ )?

Temp: 2.1 °C Yes  No \_\_\_

Ice Present Yes  No \_\_\_

Water - VOA vials have zero headspace?

No VOA vials submitted \_\_\_ Yes  No \_\_\_

(if bubble is present, refer to approximate bubble size and itemize in comments as S (small ~O), M (medium ~ O) or L (large ~ O))

Water - pH acceptable upon receipt?  Yes  No

pH adjusted - Preservative used:  HNO<sub>3</sub>  HCl  H<sub>2</sub>SO<sub>4</sub>  NaOH  ZnOAc - Lot #(s) \_\_\_\_\_

For any item check-listed "No", provided detail of discrepancy in comment section below:

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (initials) \_\_\_\_\_ Date: \_\_\_ / \_\_\_ /04

Client contacted:  Yes  No

Summary of discussion: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action (per PM/Client): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## **STATEMENTS**

### **Purge Water Transport and Disposal**

Non-hazardous groundwater produced during purging and sampling 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 suspected of containing potentially hazardous material, such as liquid-phase hydrocarbons, was accumulated separately in a drum 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.