

**RECEIVED**

8:06 am, Dec 04, 2012

Alameda County  
Environmental Health

Barbara Jakub  
Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577

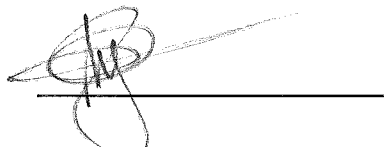
Re: BPS Reprographics' (Formerly City Blue Print)  
RWQCB Case #01-0210  
1700 Jefferson St  
Oakland CA, 94612

Dear Barbara Jakub,

BPS had directed ERS Corporation to provide, on our behalf, professional environmental consulting services to the best of their ability. To the best of my knowledge the information in this report is accurate and all local Agency and/or Regional Water Quality Control Board regulations and guidelines have been followed.

This report was prepared by ERS Corporation and BPS has relied on their advice and assistance. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,



Authorized Representative

Attachment: Report

December 3, 2012

Christopher Payne  
BPS Reprographic Services  
945 Bryant Street  
San Francisco, CA 94103

RE: Semi-Annual Ground Water Monitoring Report  
1700 Jefferson Street, Oakland, California  
Fuel Leak Case No. RO 151  
*ERS Project No 1015-01.00*

Dear Mr. Payne:

Environmental Risk Specialties Corporation (ERS) encloses herein one hard copy of the Semi-Annual Ground Water Monitoring Report for 1700 Jefferson Street, Oakland, California. ERS will also upload the Report along with monitor well sampling and analytical data to the Regional Water Quality Control Board's GeoTracker database.

If you have any questions regarding this report or the findings of the work, please contact me at (925) 938-1600, extension 102 or email me at [smichelson@erscorp.us](mailto:smichelson@erscorp.us).

Sincerely,



Steven Michelson, PG  
Principal Geologist

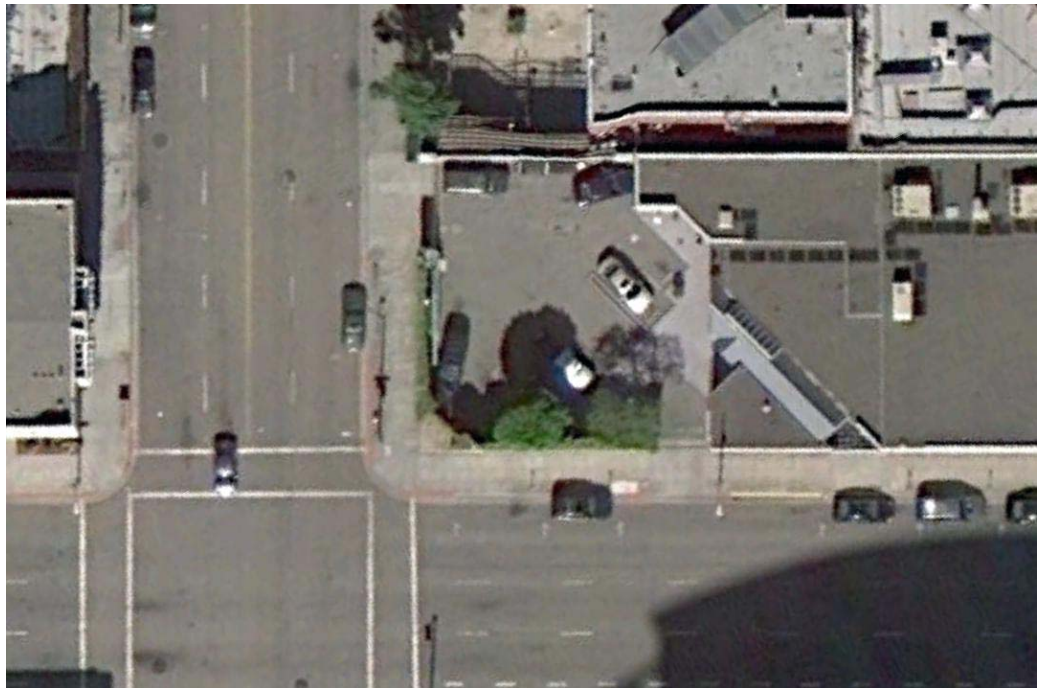
cc: Ms. Barbara Jakub, Alameda County Department of Environmental Health

---

# SEMI-ANNUAL GROUND WATER MONITORING REPORT

1700 Jefferson, Oakland, CA

December 2012



ers

---

**SEMI-ANNUAL  
GROUND WATER MONITORING REPORT**

**December 2012**

**1700 Jefferson Street**

**Oakland, California**

***Prepared for:***

Mr. Christopher Payne  
BPS Reprographic Services  
945 Bryant Street  
San Francisco, CA 94103

***Prepared by:***

Environmental Risk Specialties Corporation  
Walnut Creek, California  
**December 3, 2012**

Reviewed By:



Steven Michelson, PG  
Principal Geologist



## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
<b>2.0</b>	<b>BACKGROUND .....</b>	<b>1</b>
2.1	Subsurface Conditions .....	2
<b>3.0</b>	<b>GROUND WATER MONITORING AND SAMPLING.....</b>	<b>2</b>
3.1	Ground Water Monitoring.....	2
3.2	Ground Water Gradient.....	2
3.3	Ground Water Sampling .....	3
<b>4.0</b>	<b>RESULTS OF GROUND WATER SAMPLING.....</b>	<b>3</b>
<b>5.0</b>	<b>DISCUSSION .....</b>	<b>3</b>
<b>6.0</b>	<b>SUMMARY .....</b>	<b>4</b>
<b>7.0</b>	<b>REFERENCES.....</b>	<b>5</b>

### **LIST OF TABLES**

- Table 1 - Ground Water Elevations
- Table 2 - Ground Water Gradient and Flow Direction
- Table 3 - Ground Water Analytical Results

### **LIST OF CHARTS**

- Chart 1 - Concentrations of TPH (GRO) vs. Time in MW-1, MW-3, and MW-5
- Chart 2 - Concentrations of Benzene vs. Time in MW-1, MW-3, and MW-5

### **LIST OF FIGURES**

- Figure 1 - Location Map
- Figure 2 - Site Plan
- Figure 3 - Gradient Contour Map
- Figure 4 - TPH (GRO) Iso-Concentration Contour Map
- Figure 5 - Benzene Iso-Concentration Contour Map
- Figure 6 - Ground Water Gradient Rose Diagram

### **LIST OF APPENDICES**

- Appendix A – Monitor Well Worksheets
- Appendix B – Laboratory Analytical Reports

## 1.0 INTRODUCTION

This Semi-Annual Ground Water Monitoring Report was prepared by Environmental Risk Specialties Corporation (ERS) on behalf of BPS Reprographic Services. This Report describes ground water monitoring work performed at 1700 Jefferson Street, Oakland, California (Site). The project objectives were to sample and analyze ground water from five existing monitor wells, measure the depth to ground water in all existing wells to calculate ground water gradient magnitude and direction, evaluate analytical results, and report the findings.

## 2.0 BACKGROUND

The Site is located on the northeast corner of the intersection of Jefferson Street and 17<sup>th</sup> Street in Oakland, California. The Site is a former gas station that had two 1,000 gallon gasoline underground storage tanks (USTs) and one 550 gallon waste oil UST. On February 20, 1987, three borings (Borings 1 through 3) were advanced for a geotechnical investigation. Two additional borings (Borings 4 and 5) were advanced near the former USTs. On June 16, 1987, three gasoline USTs, product lines and dispensers were removed, overexcavated, and backfilled without confirmation sampling. Soil was excavated to approximately 9.5 feet, which was the maximum reach of the excavation equipment. The soil was stockpiled and then spread out for aeration. The excavation was subsequently backfilled on August 5 and 6, 1987 with the aerated soil.

Three ground water monitor wells were installed in June 1987 (MW-1 to MW-3) and well MW-1 initially contained 30 inches of free-phase floating product (free product). Well MW-2 was subsequently destroyed on November 9, 1987 when the current building was constructed. On August 12, 1987, Boring 6 was advanced to investigate soil permeability. In January 1988, ground water extraction wells MW-1A and MW-4 were installed to remove free product. In August 1988, offsite well MW-5 was installed.

Free product was removed from well MW-1 on a daily basis yielding an estimated 2,300 gallons of free product from September 1987 to March 1991. A ground water extraction and treatment system was installed in June 1992. The system was removed in July 1999, after extracting an additional 867 gallons of free product. Five Cone Penetrometer Test (CPT) borings both south of the Site and north of well MW-5 were advanced in March 1995. In April 1996, well MW-6 was installed. In April 1998, analyses showed the free product was comprised of leaded gasoline. Measurable thickness of free product has not been observed in the wells since 1999.

In 1999, oxygen release compound (ORC®) socks were placed in wells MW-1A, MW-3, MW-4, and MW-5. The ORC® socks were removed at the request of Alameda County Department of Environmental Health in 2002.

Quarterly ground water monitoring of wells MW-1, MW-3, MW-5, and MW-6 has been conducted from January 1994 through March 2009, when semi-annual monitoring commenced. Ground water extraction wells MW-1A and MW-4 were periodically sampled from August 1991 to June 1999.

On April 15, 2010, all monitor wells were surveyed by Muir Consulting of Oakdale, California to Geotracker specifications using NAVD88 datum. The prior monitor well elevations referenced the City of Oakland datum, which differs -5.7 feet from NAVD88, the standard national datum.

In April of 2011, three wells were installed at the Merrill Sign Company, a RWQCB site located on the corner of 18<sup>th</sup> and Jefferson St (PDE, 2011). ERS coordinated with PDE to measure depth to water and collected ground water samples in the monitor wells at both sites. The Merrill Site was given case closure on July 31, 2012 and the monitor wells were destroyed shortly after.

## **2.1 Subsurface Conditions**

Boring logs show that silty sand and clayey sand are present from the surface to a depth of approximately 17.5 feet below ground surface (bgs). Sand was reported in the borings from approximately 17.5 to 31.0 feet bgs with the exception of MW-5 where sand was reported from the surface to 31.0 feet bgs with a layer of silty sand from 6 to 12 feet bgs. These soils are underlain by stiff to very stiff, saturated silty clays to the maximum explored depth of 41.5 feet bgs. Ground water was encountered at approximately 23 feet bgs in the boreholes.

## **3.0 GROUND WATER MONITORING AND SAMPLING**

Ground water monitoring and sampling of the Site was performed on October 10, 2012 by ERS personnel. Work at the Site included measuring depth to water, subjectively evaluating the possible presence of petroleum in ground water in the wells, purging and sampling the wells using EPA approved low-flow techniques, and submitting the samples to a state-certified laboratory for analysis.

Ground water elevation data are summarized in Table 1, gradient data are summarized in Table 2, and analytical data are summarized in Table 3. Field sheets of recently recorded ground water monitoring data are included in Appendix A

### **3.1 Ground Water Monitoring**

Before purging and sampling ground water, the depth to the water table was measured from the top of each well casing using an electronic water level meter. The water level measurements were recorded to the nearest 0.01 foot.

### **3.2 Ground Water Gradient**

Ground water elevation contours based on the most recent measurements of depth to ground water are illustrated on Figure 3. The ground water gradient direction is to the west-northwest at an average of 0.0027 ft/ft. A rose diagram depicting ground water gradients over time is presented in Figure 6.



### 3.3 Ground Water Sampling

Before ground water sampling, each well was purged using low-flow techniques described in the “Low-Flow (Minimal Drawdown) Ground Water Sampling Procedures” (ASTM No 6771-02, 2002). Dedicated tubing, attached to a peristaltic pump, was lowered to the mid-point of the reported screen zone. The pump was set to a rate of less than 1 liter per minute and pH, dissolved oxygen (DO), specific conductance (SC), oxidation reduction potential (ORP), depth to water (DTW) and temperature were measured in three to five minute intervals within a flow-through cell. When depth to water remained constant and parameters stabilized to within  $\pm 10\%$  in consecutive readings, the pump rate was reduced, the tube was disconnected from the flow-through cell and samples were collected directly from the dedicated tubing.

From each monitor well, four laboratory-supplied 40-milliliter HCL-preserved sample vials were filled with ground water and sealed with zero headspace. Once filled, sample vials were inverted and tapped to test for air bubbles. Sample containers were labeled and stored in a pre-chilled, insulated container and returned to ERS’s Walnut Creek office where they were stored at 4°C. The samples were transported to TestAmerica, a state-certified analytical laboratory, following standard COC protocols for the requested analyses.

Water purged during the development and sampling of the monitor wells is being temporarily stored onsite in a 55-gallon drum pending laboratory analysis and proper disposal.

## 4.0 RESULTS OF GROUND WATER SAMPLING

Ground water samples collected from wells MW-1, MW-3, MW-4, MW-5, and MW-6 were analyzed for Total Petroleum Hydrocarbon Gasoline Range Organics (TPH (GRO)), benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8260B. TPH (GRO) represents the total concentration of hydrocarbons with five to twelve carbon atoms (C5-C12). Copies of the chain of custody record and laboratory analytical reports with individual and standard chromatograms are included as Appendix B. TPH (GRO), BTEX, and MTBE analytical results are summarized in Table 3.

## 5.0 DISCUSSION

The available data collected at 1700 Jefferson Street indicates that ground water has been affected by fuel within the former USTs. Ground water use as a potential source of drinking water in this area is highly unlikely due to site location and the high quality public drinking water supplied by EBMUD. In Table 3, the concentrations measured in the ground water are compared with the Environmental Screening Levels (ESLs) for ground water that is not a potential drinking water source published in 2008 by the San Francisco Bay Regional Water Quality Control Board (RWQCB-SF).

Charts 1 and 2 depict the trends of TPH (GRO) and benzene respectively in the monitor wells MW-1, MW-3, and MW-5 over time. Figures 4 and 5 show the distribution of TPH (GRO) and benzene in ground water at the Site.

## 6.0 SUMMARY

Based on the results of ground water monitoring performed at 1700 Jefferson Street:

- Ground water gradient direction is to the west-northwest at an average of 0.0027 ft/ft.
- Concentrations of TPH (GRO) increased in wells MW-1, MW-4 and MW-5.
- Concentrations of benzene increased in all wells.
- No detectable TPH (GRO) and BTEX concentrations were reported in downgradient well MW-6.
- From 1999 to 2012, concentrations of TPH (GRO), benzene, toluene, and total xylenes all decreased by an order of magnitude in MW-4.
- Despite seasonal fluctuations, concentrations in ground water have remained relatively stable over the past 10 years (Charts 1 and 2).

## 7.0 REFERENCES

ASTM 2002. *Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations*. Designation: D 6771-02

California Regional Water Quality Control Board Region 2 – Environmental Screening Levels, San Francisco Bay  
Regional Water Quality Control Board, California Environmental Protection Agency, 2008

P&D Environmental (PDE), Ground Water Monitoring Well Installation Report, Merrill Sign Company, May 2011

## TABLES

**Table 1  
GROUND WATER ELEVATIONS  
1700 Jefferson Street, Oakland, California**

1700 Jefferson St, BPS Reprographics

Well ID	MW-1		MW-1A		MW-3		MW-4		MW-5		MW-6	
Top of Casing (ft above MSL)	36.81		35.25		36.23		36.77		35.21		35.91	
Date	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)
7/8/1987	25.75	5.69	--	--	25.50	6.27	--	--	--	--	--	--
7/12/1989	26.00	5.44	--	--	24.44	7.33	--	--	24.91	4.31	--	--
Data not available from 1990 to 1995												
3/6/1996	NS	--	--	--	24.79	6.98	--	--	23.53	7.03	NA	---
6/11/1996	FP	--	--	--	25.60	6.17	--	--	23.78	6.78	25.16	6.10
9/19/1996	FP	--	--	--	26.09	5.68	--	--	24.48	6.08	25.76	5.50
12/23/1996	FP	--	--	--	FP	---	--	--	24.83	5.73	25.88	5.38
3/27/1997	FP	--	--	--	FP	---	--	--	23.82	6.74	24.78	6.48
6/4/1997	26.41	5.95	--	--	25.11	6.66	--	--	23.92	6.64	24.60	6.66
9/26/1997	26.80	5.56	--	--	25.41	6.36	--	--	24.29	6.27	24.80	6.46
12/22/1997	26.00	6.36	--	--	24.91	6.86	--	--	24.02	6.54	24.71	6.55
3/31/1998	26.06	6.30	--	--	24.05	7.72	--	--	22.78	7.78	23.75	7.51
6/18/1998	25.60	6.76	--	--	23.71	8.06	--	--	22.51	8.05	23.22	8.04
8/28/1998	25.45	6.91	--	--	23.70	8.07	--	--	22.74	7.82	22.23	9.03
12/2/1998	24.92	7.44	--	--	23.60	8.17	--	--	23.16	7.40	23.72	7.54
3/10/1999	24.90	7.46	--	--	22.65	9.12	--	--	22.82	7.74	23.54	7.72
6/30/1999	25.53	6.83	--	--	23.07	8.70	--	--	22.41	8.15	23.04	8.22
9/29/1999	24.23	8.13	--	--	23.03	8.74	--	--	22.81	7.75	23.42	7.84
11/22/1999	24.33	8.03	--	--	23.68	8.09	--	--	22.88	7.68	23.64	7.62
2/11/2000	24.38	7.98	--	--	23.74	8.03	--	--	22.74	7.82	23.67	7.59
5/30/2000	23.57	8.79	--	--	22.97	8.80	--	--	21.73	8.83	22.82	8.44
9/15/2000	23.85	8.51	--	--	23.12	8.65	--	--	22.14	8.42	23.10	8.16
11/16/2000	24.14	8.22	--	--	23.40	8.37	--	--	22.39	8.17	23.41	7.85
4/2/2001	23.40	8.96	--	--	23.40	8.37	--	--	22.07	8.49	23.33	7.93
6/28/2001	23.58	8.78	--	--	23.17	8.60	--	--	22.15	8.41	23.15	8.11
8/30/2001	24.00	8.36	--	--	23.35	7.42	--	--	22.35	8.21	23.35	7.91
12/26/2001	24.18	8.18	--	--	23.54	8.23	--	--	22.49	8.07	23.27	7.99
4/23/2002	NA	--	--	--	22.89	8.88	--	--	21.07	9.49	22.89	8.37
6/14/2002	23.41	8.95	--	--	22.85	8.92	--	--	21.80	8.76	22.81	8.45
8/20/2002	23.85	8.51	--	--	23.11	8.66	--	--	22.14	8.42	23.15	8.11
12/27/2002	24.10	8.26	--	--	23.34	8.43	--	--	NA <sup>1</sup>	NA <sup>1</sup>	23.41	7.85
4/1/2003	23.75	8.61	--	--	22.90	8.87	--	--	NA <sup>1</sup>	NA <sup>1</sup>	23.16	8.10
7/1/2003	23.50	8.86	--	--	22.80	8.97	--	--	NA <sup>1</sup>	NA <sup>1</sup>	22.75	8.51
9/24/2003	23.82	8.54	--	--	23.15	8.62	--	--	22.21	8.35	23.16	8.10
12/29/2003	24.07	8.29	--	--	23.45	8.32	--	--	22.56	8.00	23.47	7.79
5/18/2004	23.64	8.72	--	--	22.98	8.79	--	--	21.85	8.71	22.87	8.39
6/30/2004	23.64	8.72	--	--	23.04	8.73	--	--	22.00	8.56	22.43	8.83
9/23/2004	23.98	8.38	--	--	23.32	8.45	--	--	22.36	8.20	23.30	7.96
12/28/2004	24.07	8.29	--	--	28.71	3.06	--	--	22.42	8.14	23.42	7.84
3/16/2005	23.80	8.56	--	--	23.70	8.07	--	--	22.11	8.45	23.60	7.66
6/23/2005	22.90	9.46	--	--	22.40	9.37	--	--	21.20	9.36	22.27	8.99
9/9/2005	23.27	9.09	--	--	22.63	9.14	--	--	21.68	8.88	22.55	8.71
12/2/2005	23.75	8.61	--	--	23.06	8.74	--	--	22.19	8.37	23.05	8.21
3/24/2006	23.05	9.31	--	--	22.57	9.20	--	--	21.01	9.55	22.50	8.76
6/29/2006	22.56	9.80	--	--	23.91	9.84	--	--	20.78	9.78	21.85	9.41
9/13/2006	23.00	9.36	--	--	22.35	9.42	--	--	21.35	9.21	22.31	8.95
12/27/2006	23.47	8.89	--	--	22.82	8.95	--	--	21.82	8.74	22.85	8.41
3/30/2007	23.51	8.85	--	--	22.91	8.86	--	--	21.70	8.86	22.88	8.38
7/2/2007	23.39	8.97	--	--	22.88	8.89	--	--	21.81	8.75	22.75	8.51
10/2/2007	23.87	8.49	--	--	23.20	8.57	--	--	22.22	8.34	23.17	8.09
12/13/2007	24.05	8.31	--	--	23.40	8.37	--	--	22.31	8.25	23.37	7.89
3/26/2008	23.56	8.80	--	--	23.00	8.77	--	--	21.77	8.79	22.97	8.29
6/2/2008	23.70	8.66	--	--	23.08	8.69	--	--	22.04	8.52	23.07	8.19
9/10/2008	24.07	8.29	--	--	23.55	8.22	--	--	22.52	8.04	23.49	7.77
11/19/2008	24.33	8.03	--	--	23.68	8.09	--	--	22.63	7.93	23.64	7.62
3/3/2009	24.31	8.05	--	--	23.78	7.99	--	--	22.51	8.05	22.51	7.51
9/3/2009	24.16	8.20	--	--	23.55	8.22	--	--	22.36	8.20	23.49	-15.44
3/3/2010	23.99	12.82	22.42	12.83	23.45	12.78	23.87	12.90	22.14	13.07	23.49	12.42
9/8/2010	23.75	13.06	22.31	12.94	23.09	13.14	23.63	13.14	22.05	13.16	23.11	12.80
3/16/2011	23.63	13.18	22.09	13.16	23.05	13.18	23.55	13.22	21.85	13.36	23.06	12.85
9/9/2011	23.16	13.65	21.64	13.61	22.50	13.73	23.06	13.71	21.57	13.64	22.50	13.41
4/12/2012	23.42	13.39	21.89	13.36	22.79	13.44	23.33	13.44	21.69	13.52	22.83	13.08
10/10/2012	23.61	13.20	--	--	22.90	13.33	23.47	13.30	22.02	13.19	22.95	12.96

612 18th St, Merrill Sign Company

	MW-1		MW-2		MW-3	
	34.62		34.57		34.72	
	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)
4/25/2011	21.18	13.44	21.21	13.36	21.61	13.11
7/25/2011	21.22	13.40	21.14	13.43	21.54	13.18
9/9/2011	21.51	13.11	21.39	13.18	21.79	12.93
4/12/2012	21.58	13.04	21.56	13.01	21.76	12.96

Notes:

NS: Not Sampled  
FP: Free Product  
NA: Not Available

MSL: Mean sea level

ft: feet

bgs: below ground surface

1: Data not available due to ORC socks in well

2: Data not available due to probable equipment malfunction or operator error

Well elevations prior to 2010 are in City of Oakland Datum; After 2010, all elevations are in NAVD 88 Datum.

**Table 2**  
**GROUND WATER GRADIENT AND FLOW DIRECTION**  
**1700 Jefferson Street, Oakland, California**

Date Monitored	Ground Water Gradient	Ground Water Direction
6/11/1996	0.003	SW
6/4/1997	0.009	NW
3/31/1998	0.002	W
8/28/1998	0.007	E
12/2/1998	0.006	NW
3/10/1999	0.011	NW
9/29/1999	0.004	NW
2/11/2000	0.001	NW
5/30/2000	0.003	W
11/16/2000	0.044	W
4/2/2001	0.001	SW
6/28/2001	0.005	SW
8/30/2001	0.004	SW
4/23/2002	0.006	W-SW
6/14/2002	0.004	W- SW
8/20/2002	0.005	W- SW
12/27/2002	0.005	W- SW
4/1/2003	0.007	W- SW
7/1/2003	0.006	W-NW
9/24/2003	0.005	W-NW
12/29/2003	0.003	W-NW
5/18/2004	0.006	W
6/30/2004	0.002	N
9/23/2004	0.005	W
12/28/2004	0.0451	SE <sup>1</sup>
3/16/2005	0.01	SW
6/23/2005	0.005	W
9/9/2005	0.005	W
12/2/2005	0.006	NW
3/24/2006	0.006	NW
9/13/2006	0.005	W-NW
12/13/2007	0.004	W-NW
3/26/2008	0.004	W
6/2/2008	0.004	W
9/10/2008	0.005	W
3/3/2009	0.004	W
9/3/2009	0.003	W-NW
3/3/2010	0.002	SW
9/8/2010	0.0015	W-SW
3/16/2011	0.0024	W-SW
9/9/2011	0.0031	NW
4/12/2012	0.004	NW
10/10/2012	0.0027	W-NW

Notes:

<sup>1</sup> MACTEC reported an error in groundwater measurement

**Table 3**  
**GROUND WATER ANALYTICAL RESULTS**  
**1700 Jefferson Street, Oakland, California**

Well ID	Date Sampled	TPH (GRO)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Free Product	
		(μg/L)							(Inches)
		210	46	130	43	100	1800	--	
MW-1	ESLs	210	46	130	43	100	1800	--	
	7/8/1987	190,000	18,000	26,000	--	3,700	--	30	
	9/12/1988	--	--	--	--	--	--	25	
	7/12/1989	190,000	1,000	8,900	2,900	19,000	--	21.6	
	8/1/1991	--	--	--	--	--	--	12	
	6/18/1992	--	--	--	--	--	--	34	
	7/2/1992	--	--	--	--	--	--	18	
	7/23/1992	--	--	--	--	--	--	10	
	8/18/1992	--	--	--	--	--	--	10	
	11/11/1992	--	--	--	--	--	--	13	
	1/29/1993	--	--	--	--	--	--	25.2	
	2/12/1993	--	--	--	--	--	--	10.2	
	1/6/1994	--	--	--	--	--	--	14.8	
	3/17/1994	--	--	--	--	--	--	23.4	
	4/13/1994	--	--	--	--	--	--	12	
	6/29/1994	--	--	--	--	--	--	0	
	12/8/1994	--	--	--	--	--	--	FP	
	4/3/1995	--	--	--	--	--	--	FP	
	6/27/1995	--	--	--	--	--	--	FP	
	9/19/1995	--	--	--	--	--	--	FP	
	12/13/1995	--	--	--	--	--	--	FP	
	3/6/1996	--	--	--	--	--	--	FP	
	6/11/1996	--	--	--	--	--	--	FP	
	9/19/1996	--	--	--	--	--	--	FP	
	12/23/1996	--	--	--	--	--	--	FP	
	3/27/1997	--	--	--	--	--	--	FP	
	6/4/1997	68,000	2,200	4,500	1,500	11,000	<500	--	
	9/26/1997	59,000	6,000	3,000	1,600	8,600	<500	--	
	12/23/1997	41,000	6,800	3,000	1,400	6,600	300	--	
	3/31/1998	44,000	8,300	3,700	1,100	4,300	420	--	
	6/18/1998	32,000	1,100	3,800	550	3,000	<50	--	
	8/28/1998	26,000	8,600	2,300	730	2,100	<50	--	
	12/2/1998	26,000	9,200	4,300	820	2,800	<50	--	
3/10/1999	26,000	8,200	5,900	870	3,500	<50	--		
6/30/1999	18,000	7,000	5,800	950	2,500	<25	--		
9/29/1999	21,000	9,200	10,000	1,200	5,500	<250	--		
9/29/1999	14,000	6,200	5,900	620	3,500	<250	--		
11/22/1999	24,000	4,900	5,000	730	3,500	<100	--		
2/11/2000	19,000	4,100	4,800	530	2,800	7	--		
5/30/2000	19,000	5,700	8,400	730	3,500	<5.0	--		
9/15/2000	20,000	4,100	5,700	540	2,700	<12	--		
11/16/2000	18,000	3,500	4,300	640	3,200	<40	--		
4/2/2001	19,000	4,700	5,200	570	2,600	50	--		
6/28/2001	39,000	5,200	4,200	660	3,900	9	--		
8/30/2001	31,000	5,600	5,100	560	2,500	<100	--		
12/26/2001	34,000	5,300	5,200	630	2,400	<120	--		
4/24/2002	35,000	4,900	6,000	740	3,100	<120	--		
6/14/2002	35,000	5,400	6,800	870	3,500	<250	--		
8/20/2002	26,000	4,100	4,700	620	2,700	<120	--		
12/27/2002	28,000	4,500	5,000	660	3,000	<120	--		
4/1/2003	16,000	4,500	6,000	680	3,100	<120	--		
7/1/2003	61,000	7,700	11,000	1,200	6,700	<250	--		
9/25/2003	59,000	7,600	9,400	1,000	4,800	<1,200	--		
12/29/2003	46,000	6,600	7,900	960	4,000	<250	--		
5/18/2004	23,000	4,100	4,700	450	1,500	<50	--		
6/30/2004	24,000	3,500	3,600	390	1,300	<50	--		
9/23/2004	24,000	3,800	3,900	470	1,400	<25	--		
12/28/2004	22,000	3,400	3,400	380	1,400	<250	--		
3/16/2005	21,000	4,100	4,200	470	1,300	<50	--		
6/23/2005	30,000	5,400	5,500	520	1,900	<1,200	--		
9/9/2005	7,100	840	950	120	410	<120	--		
12/2/2005	19,000	3,600	3,500	410	1,300	<2.5	--		
3/24/2006	29,000	6,200	6,000	620	2,000	<500	--		
6/29/2006	23,000	4,800	4,000	330	1,200	<500	--		
9/13/2006	20,000	4,500	3,900	400	1,400	<250	--		
12/27/2006	31,000	6,000	5,300	710	2,500	<500	--		
3/30/2007	30,000	5,000	4,600	520	1,700	<500	--		
7/2/2007	14,000	2,500	2,000	280	930	<500	--		
10/2/2007	19,000	3,400	2,700	400	1,200	<500	--		
12/13/2007	18,000	3,500	2,700	390	1,100	<500	--		
3/26/2008	28,000	4,900	4,900	530	2,100	<500	--		
6/2/2008	20,000	3,300	3,300	380	1,700	<500	--		
9/10/2008	24,000	4,200	4,200	470	2,200	<500	--		
11/19/2008	26,000	4,500	4,500	490	2,500	<500	--		
3/3/2009	33,100	5,380	5,380	603	2,800	<100	--		
9/3/2009	35,900	5,570	5,180	620	3,270	<100	--		
3/3/2010	51,700	10,100	8,050	952	4,560	<200	--		
9/8/2010	30,000	7,300	6,300	550	3,700	<50	--		
3/16/2011	38,000	8,600	6,900	670	4,300	<50	--		
9/9/2011	33,000	8,700	6,500	620	4,400	<50	--		
4/12/2012	34,000	7,300	4,700	570	4,300	<50	--		
10/10/2012	37,000	7,900	5,200	800	5,100	<50	--		
MW-1A	9/12/1988	--	--	--	--	--	--	28.2	
	7/12/1989	220,000	1,200	9,210	3,100	24,000	NA	18.6	
	8/1/1991	350,000	17,000	31,000	3,000	FP	NA	FP	
	7/2/1992	FP	FP	FP	FP	FP	NA	18	
	9/30/1992	FP	FP	FP	FP	FP	NA	10 - 13	
	2/12/1993	FP	FP	FP	FP	FP	NA	13	
	3/30/1993	FP	FP	FP	FP	FP	NA	10.2-14.8	
	1/6/1994	FP	FP	FP	FP	14,000	NA	16.2	
	4/13/1994	170,000	17,000	31,000	2,100	22,000	NA	12	
	6/29/1994	95,000	16,000	21,000	1,500	12,000	NA	4.5+/-	
12/8/1994	190,000	13,000	21,000	1,400	11,000	NA	--		
4/3/1995	67,000	11,000	13,000	910	9,800	NA	--		
6/27/1995	53,000	11,000	9,900	500	6,300	NA	--		
MW-2	9/19/1995	52,000	8,900	11,000	790	5,300	NA	--	
	12/13/1995	62,000	9,900	9,200	710	6,800	NA	--	
	3/6/1996	200,000	14,000	22,000	2,700	22,000	NA	--	
	6/11/1996	140,000	18,000	28,000	2,800	19,000	NA	--	
	9/19/1996	100,000	16,000	22,000	2,100	14,000	NA	--	
	12/23/1996	FP	FP	FP	FP	FP	NA	--	
	3/27/1997	66,000	12,000	15,000	1,400	100	1,800	--	
	6/4/1997	54,000	11,000	12,000	1,000	7,200	<500	--	
	9/26/1997	73,000	10,000	16,000	1,400	8,500	<500	--	
	12/23/1997	66,000	10,000	16,000	1,400	12,000	1,900	--	
	3/31/1998	51,000	9,100	11,000	1,100	6,800	300	--	
	6/18/1998	50,000	11,000	15,000	870	5,800	<50	--	
	8/28/1998	15,000	1,100	830	31	3,000	<50	--	
	12/2/1998	41,000	8,500	11,000	720	6,700	<50	--	
	3/10/1999	10,000	2,300	1,900	1,600	2,300	<50	--	
	6/30/1999	18,000	6,400	7,800	660	4,100	<25	--	
	7/8/1987	8,200	1,500	340	--	87	--	--	
	11/9/1987	WELL DESTROYED							--
	7/8/1987	6,200	180	500	--	170	--	0	
	7/12/1989	13,000	4	160	210	420	--	0	
	8/1/1991	74,000	1,600	4,600	670	4,300	--	4	
	9/30/1992	--	--	--	--	--	--	4.1	
	11/11/1992	--	--	--	--	--	--	2	
1/29/1993	--	--	--	--	--	--	1.7		
2/12/1993	--	--	--	--	--	--	1.3		
1/6/1994	--	--	--	--	--	--	2.2		
3/17/1994	--	--	--	--	--	--	2.4		
4/13/1994	--	--	--	--	--	--	1.8		
6/29/1994	39,000	3,200	2,900	580	4,300	--	0.5		
12/8/1994	4,600,000	1,500	4,200	6,000	95,000	--	--		
4/3/1995	51,000	1,100	2,300	580	4,800	--	--		
6/27/1995	20,000	270	550	190	1,700	--	--		
9/19/1995	6,200	70	140	68	500	--	--		
12/13/1995	19,000	220	480	140	1,700	--	--		
3/6/1996	7,000	120	170	49	440	--	--		
6/11/1996	16,000	170	270	68	1,500	--	--		
9/19/1996	6,000	45	30	15	300	--	--		
6/4/1997	85,000	8,500	13,000	2,400	16,000	<500	--		
9/26/1997	47,000	610	6,000	930	5,900	<100	--		
12/23/1997	32,000	640	5,300	800	5,900	<300	--		
3/31/1998	32,000	690	3,800	870	5,200	350	--		
6/18/1998	16,000	180	1,500	490	3,700	<25	--		
8/28/1998	17,000	84	1,100	430	3,800	<50	--		
12/2/1998	3,200	39	85	25	360	<50	--		
3/10/1999	9,600	86	540	250	2,300	<25	--		
6/30/1999	7,900	31	330	200	1,800	<25	--		
9/29/1999	5,000	120	340	230	1,300	10	--		
9/29/1999									

**Table 3  
GROUND WATER ANALYTICAL RESULTS  
1700 Jefferson Street, Oakland, California**

Well ID	Date Sampled	TPH (GRO)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Free Product	
MW-4	ESLs	210	46	130	43	100	1800	--	
	9/12/1988	--	--	--	--	--	--	5.9	
	7/12/1989	93,000	460	4,200	1,200	9700	NA	25.2	
	8/1/1991	86,000	1,500	6,200	1,000	FP	NA	18	
	9/30/1992	FP	FP	FP	FP	FP	NA	FP	
	2/12/1993	FP	FP	FP	FP	FP	NA	8.8	
	1/6/1994	FP	FP	FP	FP	3,200	NA	6.2	
	4/13/1994	58,000	1,500	2,500	520	7,300	NA	--	
	6/29/1994	16,000	1,300	790	51	3,400	NA	--	
	12/8/1994	92,000	1,700	4,100	310	5,400	NA	--	
	4/3/1995	35,000	1,200	3,400	280	5,800	NA	--	
	6/27/1995	13,000	1,300	1,600	77	1,800	NA	--	
	9/19/1995	14,000	630	470	14	1,800	NA	--	
	12/13/1995	11,000	2,200	2,100	110	2,100	NA	--	
	3/6/1996	110,000	2,600	3,600	780	10,000	NA	--	
	6/11/1996	260,000	6,600	19,000	3,700	28,000	NA	--	
	9/19/1996	95,000	9,900	19,000	2,000	13,000	NA	--	
	12/23/1996	FP	FP	FP	FP	FP	NA	FP	
	3/27/1997	37,000	2,600	6,900	540	5,500	1,400	--	
	6/4/1997	24,000	2,600	3,200	140	3,500	<300	--	
	9/26/1997	41,000	2,900	5,000	350	4,800	<500	--	
	12/23/1997	48,000	6,000	11,000	580	8,200	270	--	
6/18/1998	25,000	2,000	460	<15	6,400	<50	--		
8/28/1998	48,000	9,700	11,000	890	5,000	<50	--		
12/2/1998	10,000	1,700	610	<15	2,300	<50	--		
3/10/1999	11,000	2,300	2,100	88	1,600	<25	--		
6/30/1999	88,000	1,800	3,000	150	2,700	<25	--		
4/12/2012	2,700	380	160	100	100	<0.5	--		
10/10/2012	4,200	400	200	150	130	<0.5	--		
MW-5	9/12/1988	--	--	--	--	--	--	0.5	
	7/12/1989	14,000	7	190	210	500	--	0.4	
	8/1/1991	120,000	20,000	14,000	1,900	4,900	--	0	
	9/30/1992	51,000	13,000	5,900	1,400	2,600	--	0	
	3/30/1993	74,000	16,000	5,000	1,800	2,700	--	0.06	
	1/6/1994	80,000	19,000	8,200	1,400	2,700	--	0	
	4/13/1994	63,000	14,000	3,500	1,500	2,100	--	0	
	6/29/1994	64,000	29,000	5,400	2,800	4,500	--	0	
	12/8/1994	59,000	13,000	3,800	1,800	2,900	--	--	
	4/3/1995	51,000	15,000	2,200	2,800	4,500	--	--	
	6/27/1995	41,000	12,000	2,100	1,400	1,600	--	--	
	9/19/1995	50,000	1,600	2,700	2,000	2,100	--	--	
	12/13/1995	45,000	13,000	2,100	16,000	1,900	--	--	
	3/6/1996	51,000	15,000	2,800	2,000	2,400	--	--	
	6/11/1996	48,000	12,000	2,900	2,000	2,700	--	--	
	9/19/1996	48,000	12,000	4,500	2,300	4,000	--	--	
	12/23/1996	45,000	12,000	2,200	2,700	6,500	600	--	
	3/27/1997	44,000	11,000	1,100	1,900	2,800	300	--	
	6/4/1997	35,000	8,900	560	1,500	1,700	<100	--	
	9/26/1997	36,000	7,900	270	1,500	1,300	<500	--	
	12/23/1997	39,000	13,000	500	1,900	1,700	<1,000	--	
	3/31/1998	48,000	10,000	400	2,000	2,200	350	--	
	6/18/1998	17,000	9,500	310	420	850	<10	--	
	8/28/1998	16,000	5,400	160	1,100	900	<50	--	
	12/2/1998	15,000	8,400	120	1,500	840	<50	--	
	3/10/1999	23,000	14,000	300	1,800	1,100	<50	--	
	6/30/1999	7,700	5,200	270	1,100	690	<25	--	
	9/29/1999	11,000	9,600	710	1,100	1,100	<100	--	
	9/29/1999	10,000	14,000	470	1,100	600	<100	--	
	11/22/1999	30,000	11,000	3,400	1,500	2,500	<100	--	
	2/11/2000	23,000	12,000	4,500	1,200	1,300	6.6	--	
	5/30/2000	19,000	9,900	6,900	1,200	2,600	<200	--	
	9/15/2000	24,000	3,800	3,000	460	1,200	<10	--	
	11/16/2000	1,800	470	220	39	100	<5	--	
4/2/2001	15,000	7,400	3,000	1,000	2,200	<50	--		
6/28/2001	3,600	300	11	16	15	4	--		
8/30/2001	34,000	8,300	3,000	1,400	2,600	<50	--		
12/26/2001	1,900	300	110	55	120	<10	--		
4/24/2002	9,400	2,300	130	300	270	<50	--		
6/14/2002	1,700	110	<2.5	7	<2.5	<0.50	--		
8/20/2002	3,200	320	9	22	19	<0.50	--		
12/27/2002	6,200	2,200	140	160	250	<25	--		
9/25/2003	43,000	12,000	2,800	1,500	3,000	<1,200	--		
12/29/2003	26,000	7,700	1,900	910	210	<2.5	--		
5/18/2004	15,000	5,000	1,300	380	770	<50	--		
6/30/2004	18,000	5,700	1,600	540	1,200	<50	--		
9/23/2004	42,000	12,000	3,900	1,200	2,400	<120	--		
12/28/2004	41,000	10,000	3,800	1,000	2,300	<250	--		
3/16/2005	37,000	11,000	3,800	1,100	2,400	<120	--		
MW-1*	4/25/2011	< 50	< 0.5	--	< 0.5	< 0.5	< 0.5	--	
	9/9/2011	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--	
MW-2*	4/25/2011	< 50	< 0.5	--	< 0.5	< 0.5	< 0.5	--	
	9/9/2011	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--	
MW-3*	4/25/2011	< 50	< 0.5	--	< 0.5	< 0.5	< 0.5	--	
	9/9/2011	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--	

Notes:

μg/L: micrograms per liter (approximately equivalent to ppb)

<: Concentration is below the reporting limit of the lab

J: Estimated value

--: not applicable or none

\*: Well Located on the Merrill Sign Company Site, data provided by P&D Environmental

ESLs: Environmental Screening Levels for non-drinking water sources - May 2008

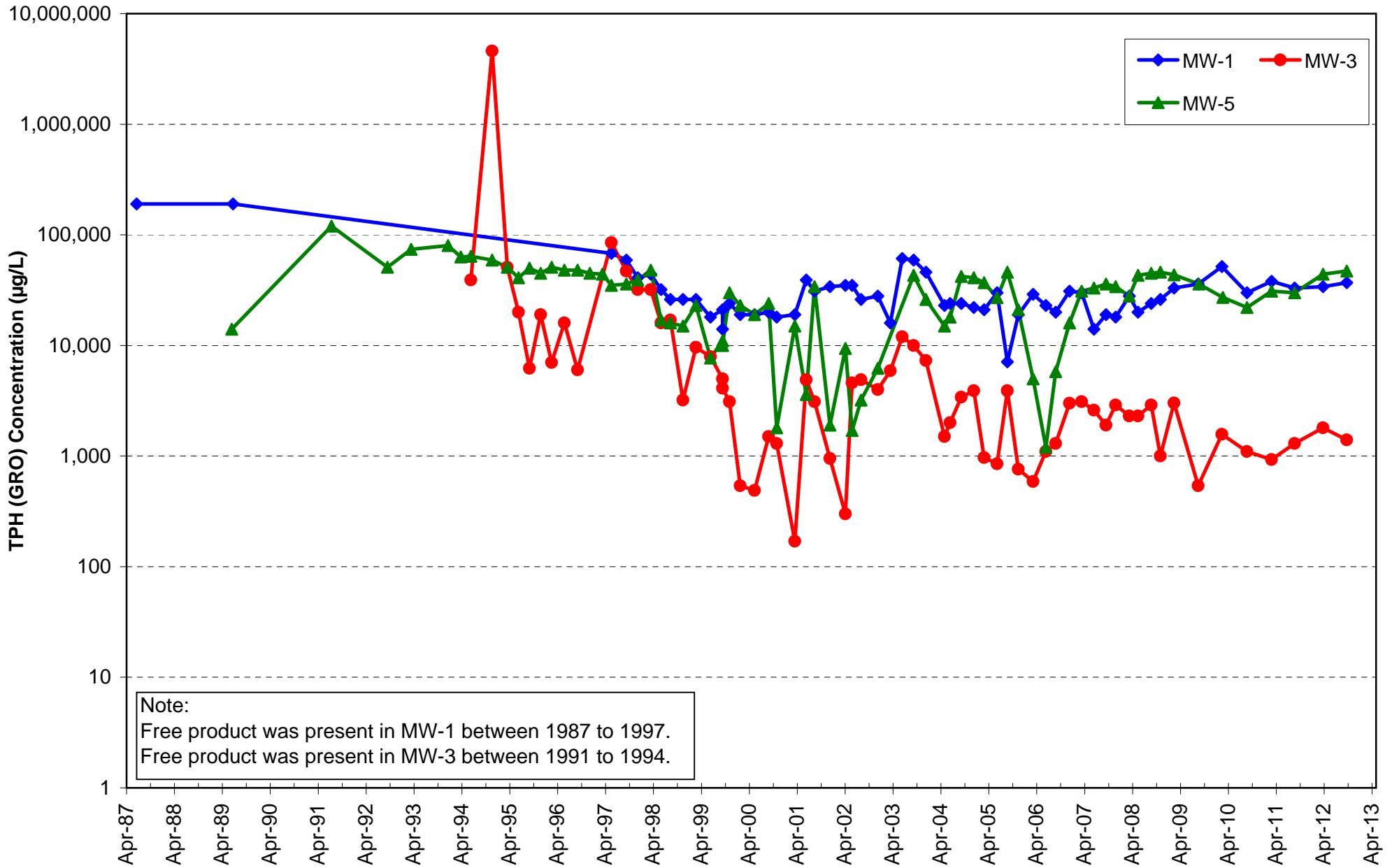
FP: Free product measured (amount unknown)

Concentration is above selected screening criteria

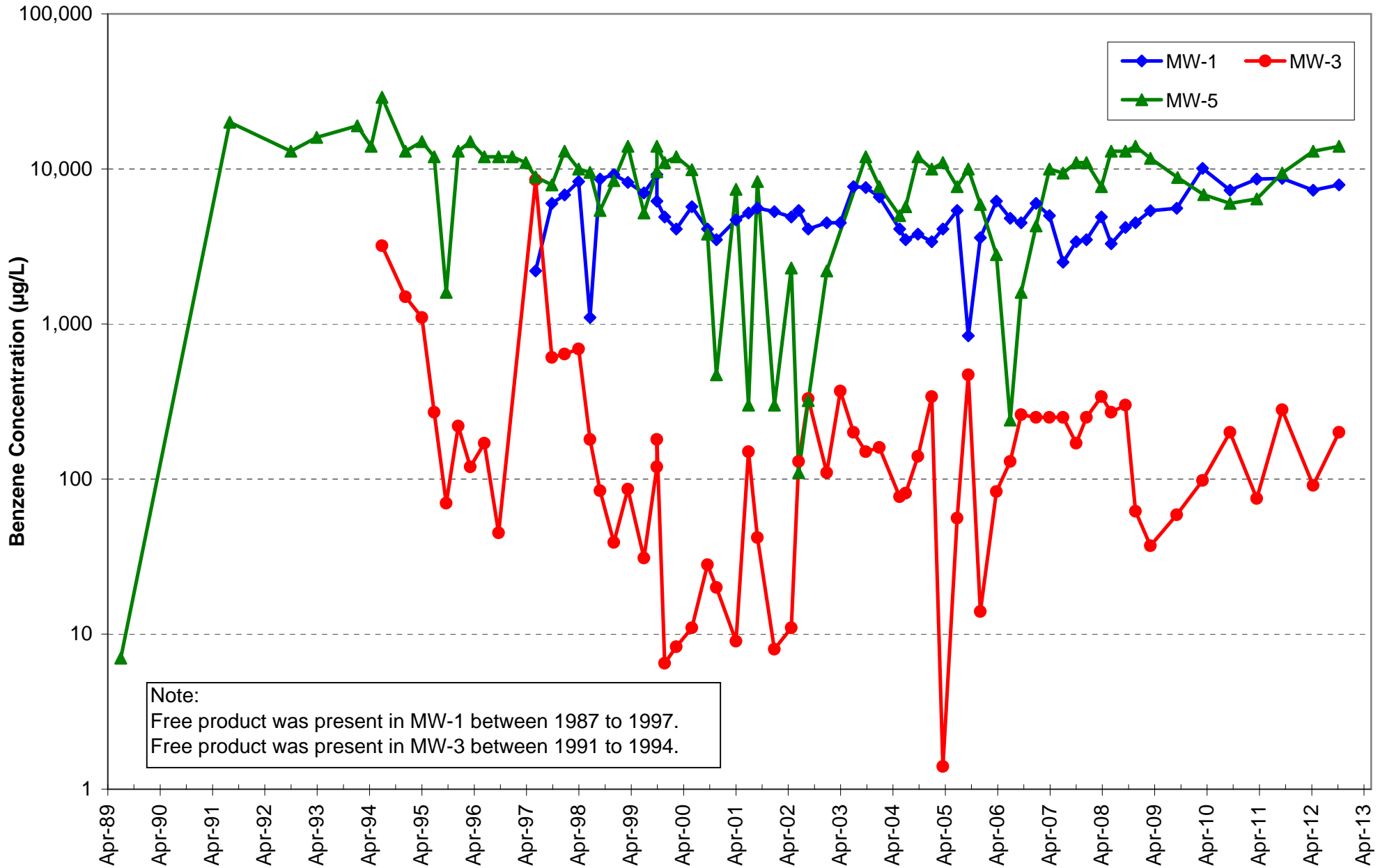


## CHARTS

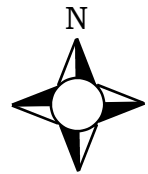
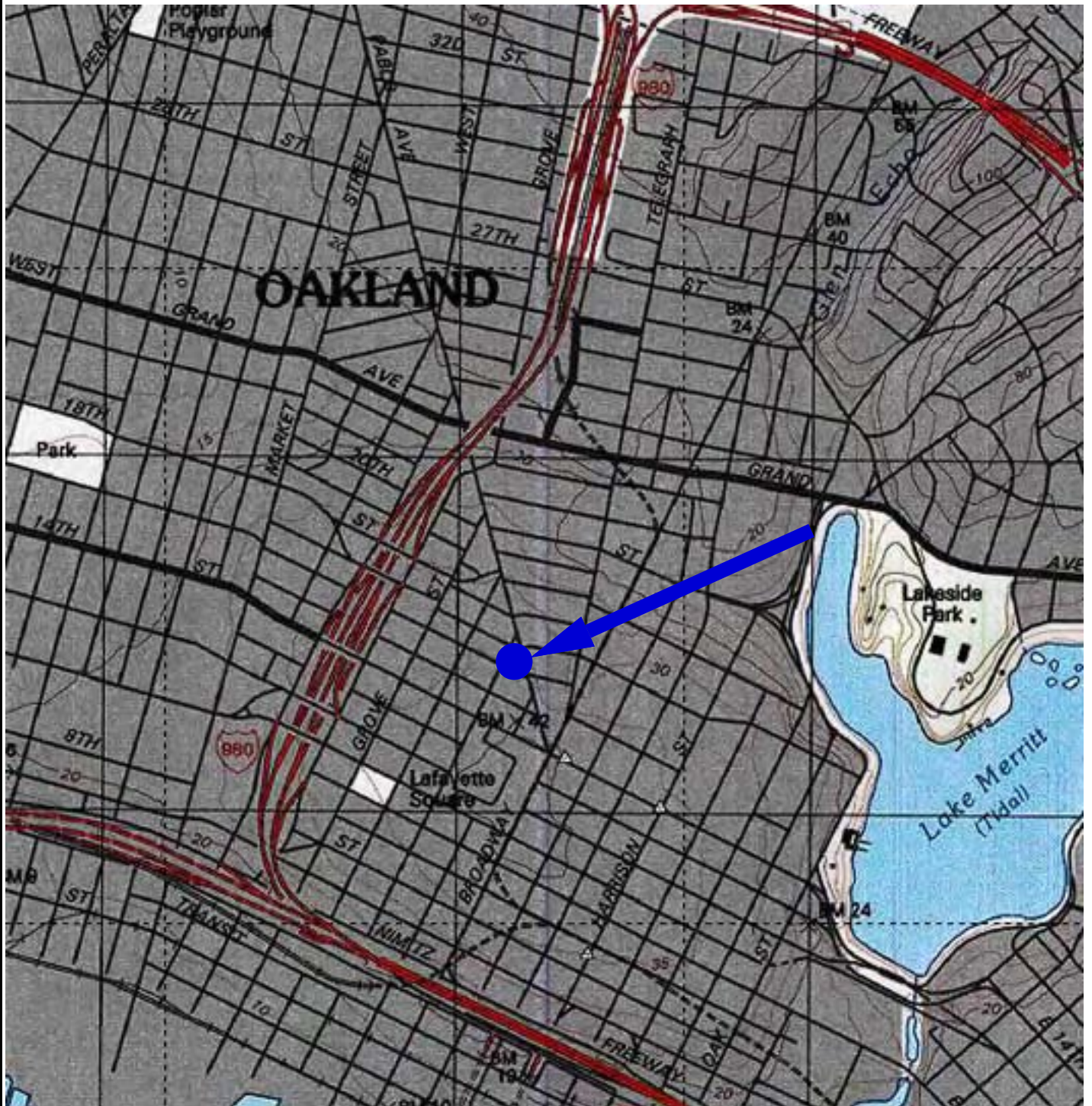
**CHART 1**  
**Concentrations of TPH (GRO) vs. Time in MW-1, MW-3, and MW-5**  
**1700 Jefferson, Oakland, California**



**CHART 2**  
**Concentrations of Benzene vs. Time in MW-1, MW-3, and MW-5**  
**1700 Jefferson, Oakland, California**

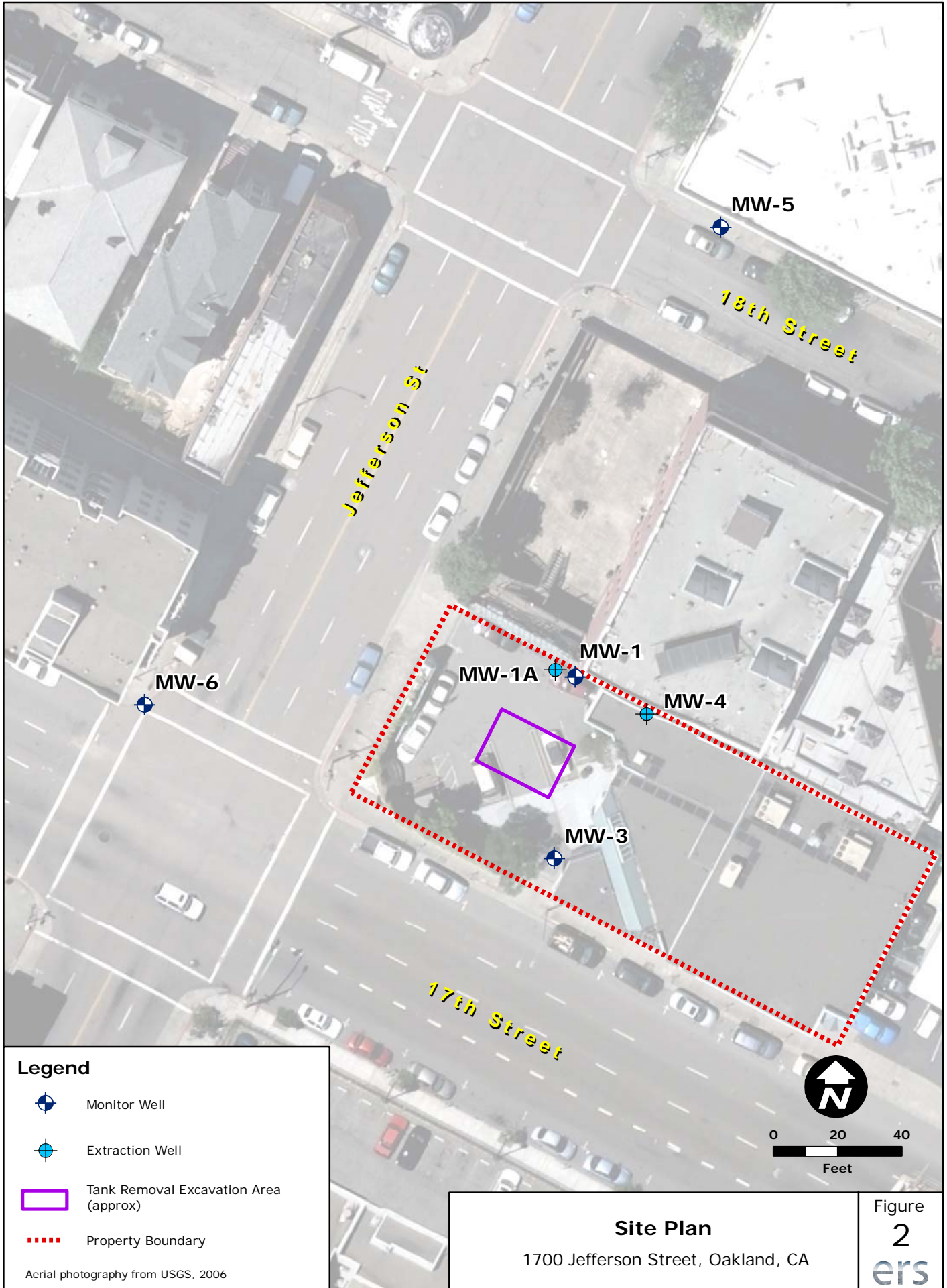


## FIGURES



**Location Map**  
**1700 Jefferson Street**  
**Oakland, California**  
Source: National Geographic TOPO!

**Figure**  
**1**  
**ers**



**Legend**



Monitor Well



Extraction Well

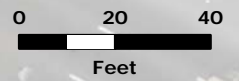


Tank Removal Excavation Area (approx)



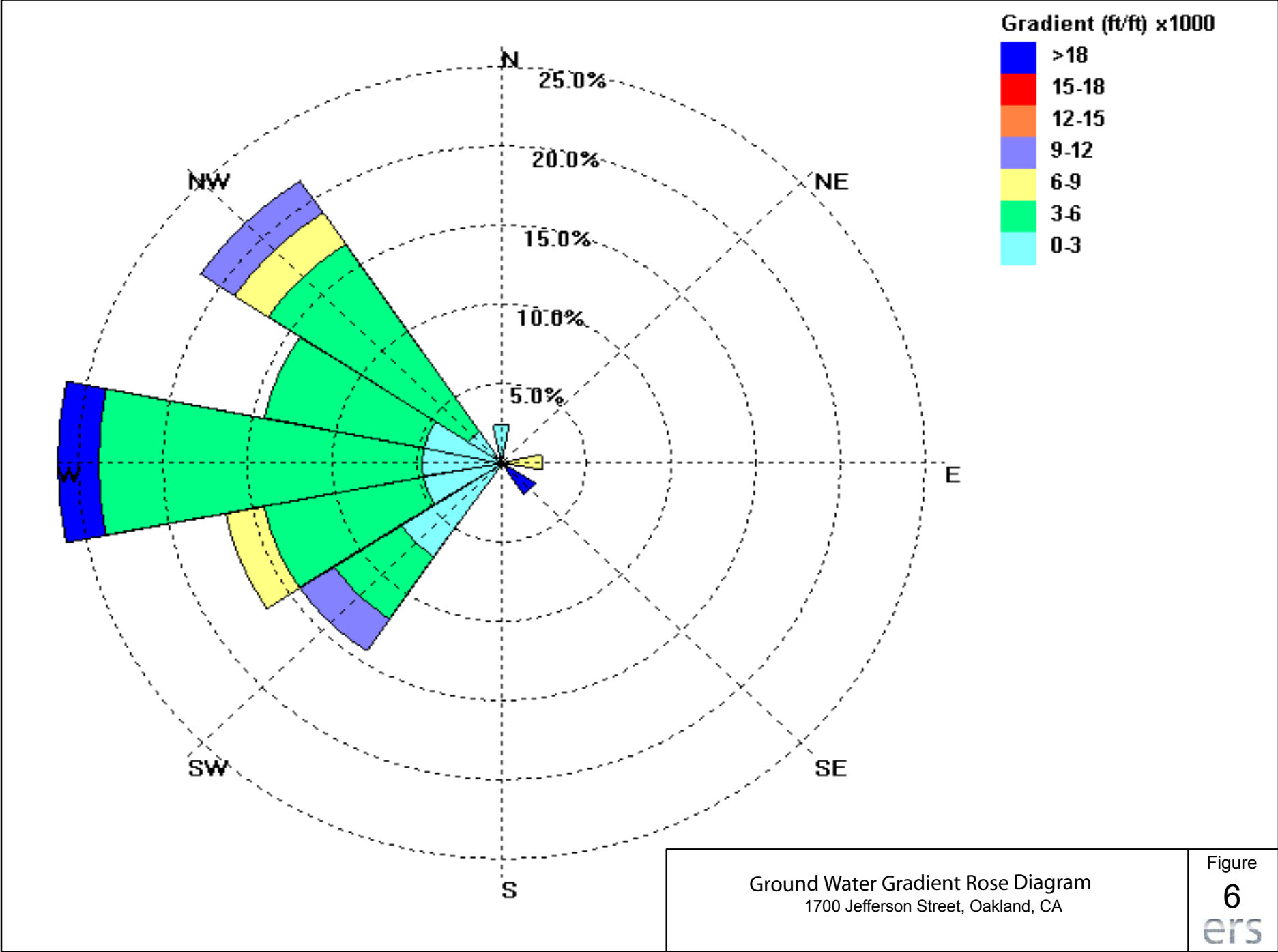
Property Boundary

Aerial photography from USGS, 2006



**Site Plan**

1700 Jefferson Street, Oakland, CA



Ground Water Gradient Rose Diagram  
1700 Jefferson Street, Oakland, CA

## **APPENDIX A: MONITOR WELL WORKSHEETS**



**Depth to Water Data Sheet**

Site Name: BPS Reprographics Date: 10/10/12

Location: 1700 Jefferson, Oakland CA Field Tech: TRF

Client: BPS Reprographics

Well ID	Well Diameter	Time	Depth to Water	Depth to Product	Comments
MW-1	4"		23.61	NM	
MW-1A	4"		-		
MW-3	4"	1510	22.90	NM	Ba. lar in well could not fish out
MW-4	4"	1300	23.47	NM	
MW-5			22.02	NM	
MW-6	2"		22.95	NM	

Notes:

---



---



---



---

### Monitor Well Data Sheet

Site Name: BPS Reprographics	Well/Sample ID: MW-1
Location: 1700 Jefferson	Initial Depth to Water (DTW): 23.61
Client: BPS	Total Well Depth (TD): 37.35
Sampler: TRF	Well Diameter: 4"
Date: 10/10/12	Purge Rate: 0.5 l/min
Purge Method: Peristaltic	Sampling Rate: 0.25 l/min
Sample Method: ..	

2" well x 1 foot = 0.6 liters

4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
1435	6.36	1385	4.72	18.58	23.79	2L	-167.2	
1439	6.35	1385	4.40	18.64	23.80	4L	-155.7	
1442	6.28	1385	4.25	18.60	23.80	5.50L	-140.6	
1445	6.29	1384	4.30	18.61	23.80	7L	-139.6	
Did Well Dewater?	No	Start Purge Time:	1431	DTW prior to sample:	23.8			
Length of Tubing (ft):	25	Stop Purge Time:	1450	Start Sample Time:	1455			
Odor:	Strong	Total Liters Purged:	8L	Total Sample Volume:	200ml			
Turbidity:	low	Sheen:	yes	Color:	Clear			

Notes:

---



---



---

**Monitor Well Data Sheet**

Site Name: BPS Reprographics	Well/Sample ID: <u>MW-3</u>
Location: 1700 Jefferson	Initial Depth to Water (DTW): <u>22.96</u>
Client: BPS	Total Well Depth (TD): <u>31.77</u>
Sampler: TRF	Well Diameter: <u>4"</u>
Date: 10/10/12	Purge Rate: <u>0.5 l/min</u>
Purge Method: <u>Peristaltic</u>	Sampling Rate:
Sample Method: <u>"</u>	

2" well x 1 foot = 0.6 liters 4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
<u>1517</u>	<u>6.43</u>	<u>591</u>	<u>4.15</u>	<u>20.00</u>	<u>23.11</u>	<u>2.0</u>	<u>-176.7</u>	
<u>1520</u>	<u>6.40</u>	<u>595</u>	<u>3.83</u>	<u>19.91</u>	<u>23.12</u>	<u>3.5</u>	<u>-188.9</u>	
<u>1523</u>	<u>6.40</u>	<u>597</u>	<u>3.56</u>	<u>19.86</u>	<u>23.12</u>	<u>5.0</u>	<u>-196.1</u>	
<u>1526</u>	<u>6.38</u>	<u>601</u>	<u>2.98</u>	<u>19.89</u>	<u>23.12</u>	<u>6.5</u>	<u>-188.3</u>	
<u>1529</u>	<u>6.37</u>	<u>601</u>	<u>2.47</u>	<u>19.87</u>	<u>23.12</u>	<u>8</u>	<u>-188.6</u>	

Did Well Dewater?	<u>No</u>	Start Purge Time:	<u>1513</u>	DTW prior to sample:	<u>23.12</u>
Length of Tubing (ft):	<u>35</u>	Stop Purge Time:	<u>1529</u>	Start Sample Time:	<u>1530</u>
Odor:	<u>strong</u>	Total Liters Purged:	<u>10</u>	Total Sample Volume:	<u>200ml</u>
Turbidity:	<u>low</u>	Sheen:	<u>No</u>	Color:	<u>Clear</u>

Notes: Bailer or other object in well

**Monitor Well Data Sheet**

Site Name: BPS Reprographics	Well/Sample ID: MW-4
Location: 1700 Jefferson	Initial Depth to Water (DTW): 23.47
Client: BPS	Total Well Depth (TD): 33.70
Sampler: TRF	Well Diameter: 4"
Date: 10/10/12	Purge Rate: ~1 l/min
Purge Method: Peristaltic	Sampling Rate: 0.25 l/min
Sample Method: 11	

2" well x 1 foot = 0.6 liters      4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
1358	6.00	1405	4.27	18.54	23.38	2 l	-272.1	
1401	5.87	1363	3.65	18.55	23.65	5 l	-255.3	
1405	5.85	1316	3.41	18.44	23.71	8 l	-202.5	
1408	5.86	1309	3.28	18.46	23.71	11 l	-198.7	
1411	5.89	1310	3.29	18.45	23.71	14 l	-191.8	

Did Well Dewater?	No	Start Purge Time:	1355	DTW prior to sample:	23.71
Length of Tubing (ft):	25'	Stop Purge Time:	1413	Start Sample Time:	1415
Odor:	Strong	Total Liters Purged:	15	Total Sample Volume:	200ml
Turbidity:	High	Sheen:	Yes	Color:	Black

Notes: V. strong TPH odor. Bubbles in line → high DO? Lift tubing

### Monitor Well Data Sheet

Site Name: BPS Reprographics	Well/Sample ID: MW-5
Location: 1700 Jefferson	Initial Depth to Water (DTW): 22.02
Client: BPS	Total Well Depth (TD): 41.40
Sampler: TRF	Well Diameter: 2 3/4"
Date: 10/10/12	Purge Rate: 0.5 l/min
Purge Method: Peristaltic	Sampling Rate: 0.25 l/min
Sample Method: "	

2" well x 1 foot = 0.6 liters 4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
1616	6.79	1017	3.78	20.01	22.17	2	-125.7	
1619	6.77	1009	3.12	19.51	22.17	3.5	-129.4	
1622	6.74	1003	3.00	19.44	22.18	5	-127.4	
1625	6.73	997	3.10	19.44	22.18	6.5	-128.4	
1628	6.72	995	3.05	19.45	22.18	8	-129.1	
Did Well Dewater?	No	Start Purge Time:	1612	DTW prior to sample:	22.18			
Length of Tubing (ft):	45'	Stop Purge Time:	1630	Start Sample Time:	1635			
Odor:	None	Total Liters Purged:	8.5	Total Sample Volume:	200ml			
Turbidity:	low	Sheen:	None	Color:	Clear			

Notes:

---



---

**Monitor Well Data Sheet**

Site Name: BPS Reprographics	Well/Sample ID: MW-6
Location: 1700 Jefferson	Initial Depth to Water (DTW): 22.95
Client: BPS	Total Well Depth (TD): 31.26
Sampler: TRF	Well Diameter: 2"
Date: 10/10/12	Purge Rate: 0.5 l/min
Purge Method: Peristaltic	Sampling Rate: 0.25 l/min
Sample Method: ' '	

2" well x 1 foot = 0.6 liters 4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
15:48	6.59	1029	3.93	20.50	23.15	2.1	-129.1	
15:51	6.62	1029	3.60	20.71	23.15	3.5	-126.9	
15:54	6.59	1028	3.41	20.71	23.15	5	-126.3	
15:57	6.58	1027	3.20	20.77	23.15	6.5	-121.2	
16:00	6.59	1031	3.30	20.72	23.15	8	-120.7	

Did Well Dewater?	No	Start Purge Time:	1544	DTW prior to sample:	23.15
Length of Tubing (ft):	32	Stop Purge Time:	1603	Start Sample Time:	1605
Odor:	None	Total Liters Purged:	8.5	Total Sample Volume:	200ml
Turbidity:	low	Sheen:	None	Color:	clear

Notes:

---



---



---



RENTALS

YSI 556MPS RENTAL  
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: JZ

DATE: 10/10/12

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSI-556. 02

SERIAL#:

CUSTOMER.

CALIBRATION INFORMATION

PARAMETERS:	STANDARDS:	PASS ( )	LOT#
1. CONDUCTIVITY	<u>1000</u> $\mu$ Mhos	<u>X</u>	<u>0534</u>
2. pH ZERO	pH 7	<u>X</u>	<u>0022</u>
3. pH SLOPE	pH 4	<u>X</u>	<u>0747</u>
pH SLOPE	pH 10	<u>X</u>	<u>0748</u>
4. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	<u>X</u>	N/A
5. REDOX (ORP)	<u>221</u> mV (YSI Zobell solution)	<u>X</u>	<u>01912</u>

## **APPENDIX B: LABORATORY ANALYTICAL RESULTS**



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pleasanton  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-45227-1  
Client Project/Site: 1700 Jefferson, Oakland

For:  
Environmental Risk Services, Corp.  
1600 Riviera Ave  
Suite 310  
Walnut Creek, California 94596

Attn: Mr. Steven Michelson



Authorized for release by:  
10/18/2012 4:56:52 PM

Onieka Howard  
Project Manager I  
[onieka.howard@testamericainc.com](mailto:onieka.howard@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
QC Sample Results . . . . .	8
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

## Definitions/Glossary

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

---

**Job ID: 720-45227-1**

---

**Laboratory: TestAmerica Pleasanton**

---

**Narrative**

**Job Narrative**  
720-45227-1

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/11/2012 5:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3° C.

Except: Received 5 voas per sample. COC says 3.

**GC/MS VOA**

No analytical or quality issues were noted.



# Detection Summary

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Client Sample ID: MW-1

## Lab Sample ID: 720-45227-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7900		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	800		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Toluene	5200		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	5100		100		ug/L	100		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	37000		5000		ug/L	100		8260B/CA_LUFT MS	Total/NA

## Client Sample ID: MW-3

## Lab Sample ID: 720-45227-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	200		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	9.4		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Toluene	14		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	1400		500		ug/L	10		8260B/CA_LUFT MS	Total/NA

## Client Sample ID: MW-4

## Lab Sample ID: 720-45227-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	400		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	150		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Toluene	200		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	130		10		ug/L	10		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	4200		500		ug/L	10		8260B/CA_LUFT MS	Total/NA

## Client Sample ID: MW-5

## Lab Sample ID: 720-45227-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	14000		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	1900		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Toluene	6700		50		ug/L	100		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	3400		100		ug/L	100		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	47000		5000		ug/L	100		8260B/CA_LUFT MS	Total/NA

## Client Sample ID: MW-6

## Lab Sample ID: 720-45227-5

No Detections

# Client Sample Results

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

**Client Sample ID: MW-1**

**Date Collected: 10/10/12 14:55**

**Date Received: 10/11/12 17:15**

**Lab Sample ID: 720-45227-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		50		ug/L			10/15/12 14:46	100
<b>Benzene</b>	<b>7900</b>		50		ug/L			10/15/12 14:46	100
<b>Ethylbenzene</b>	<b>800</b>		50		ug/L			10/15/12 14:46	100
<b>Toluene</b>	<b>5200</b>		50		ug/L			10/15/12 14:46	100
<b>Xylenes, Total</b>	<b>5100</b>		100		ug/L			10/15/12 14:46	100
<b>Gasoline Range Organics (GRO) -C5-C12</b>	<b>37000</b>		5000		ug/L			10/15/12 14:46	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		67 - 130					10/15/12 14:46	100
1,2-Dichloroethane-d4 (Surr)	99		75 - 138					10/15/12 14:46	100
Toluene-d8 (Surr)	100		70 - 130					10/15/12 14:46	100

**Client Sample ID: MW-3**

**Date Collected: 10/10/12 15:30**

**Date Received: 10/11/12 17:15**

**Lab Sample ID: 720-45227-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/L			10/16/12 16:01	10
<b>Benzene</b>	<b>200</b>		5.0		ug/L			10/16/12 16:01	10
<b>Ethylbenzene</b>	<b>9.4</b>		5.0		ug/L			10/16/12 16:01	10
<b>Toluene</b>	<b>14</b>		5.0		ug/L			10/16/12 16:01	10
Xylenes, Total	ND		10		ug/L			10/16/12 16:01	10
<b>Gasoline Range Organics (GRO) -C5-C12</b>	<b>1400</b>		500		ug/L			10/16/12 16:01	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		67 - 130					10/16/12 16:01	10
1,2-Dichloroethane-d4 (Surr)	97		75 - 138					10/16/12 16:01	10
Toluene-d8 (Surr)	100		70 - 130					10/16/12 16:01	10

**Client Sample ID: MW-4**

**Date Collected: 10/10/12 14:15**

**Date Received: 10/11/12 17:15**

**Lab Sample ID: 720-45227-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/L			10/16/12 16:30	10
<b>Benzene</b>	<b>400</b>		5.0		ug/L			10/16/12 16:30	10
<b>Ethylbenzene</b>	<b>150</b>		5.0		ug/L			10/16/12 16:30	10
<b>Toluene</b>	<b>200</b>		5.0		ug/L			10/16/12 16:30	10
<b>Xylenes, Total</b>	<b>130</b>		10		ug/L			10/16/12 16:30	10
<b>Gasoline Range Organics (GRO) -C5-C12</b>	<b>4200</b>		500		ug/L			10/16/12 16:30	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		67 - 130					10/16/12 16:30	10
1,2-Dichloroethane-d4 (Surr)	99		75 - 138					10/16/12 16:30	10
Toluene-d8 (Surr)	102		70 - 130					10/16/12 16:30	10

**Client Sample ID: MW-5**

**Date Collected: 10/10/12 16:35**

**Date Received: 10/11/12 17:15**

**Lab Sample ID: 720-45227-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		50		ug/L			10/15/12 16:12	100
<b>Benzene</b>	<b>14000</b>		50		ug/L			10/15/12 16:12	100

# Client Sample Results

Client: Environmental Risk Services, Corp.  
 Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Client Sample ID: MW-5**  
**Date Collected: 10/10/12 16:35**  
**Date Received: 10/11/12 17:15**

**Lab Sample ID: 720-45227-4**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	1900		50		ug/L			10/15/12 16:12	100
Toluene	6700		50		ug/L			10/15/12 16:12	100
Xylenes, Total	3400		100		ug/L			10/15/12 16:12	100
Gasoline Range Organics (GRO) -C5-C12	47000		5000		ug/L			10/15/12 16:12	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		67 - 130					10/15/12 16:12	100
1,2-Dichloroethane-d4 (Surr)	97		75 - 138					10/15/12 16:12	100
Toluene-d8 (Surr)	100		70 - 130					10/15/12 16:12	100

**Client Sample ID: MW-6**  
**Date Collected: 10/10/12 16:05**  
**Date Received: 10/11/12 17:15**

**Lab Sample ID: 720-45227-5**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/16/12 14:35	1
Benzene	ND		0.50		ug/L			10/16/12 14:35	1
Ethylbenzene	ND		0.50		ug/L			10/16/12 14:35	1
Toluene	ND		0.50		ug/L			10/16/12 14:35	1
Xylenes, Total	ND		1.0		ug/L			10/16/12 14:35	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/16/12 14:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		67 - 130					10/16/12 14:35	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 138					10/16/12 14:35	1
Toluene-d8 (Surr)	101		70 - 130					10/16/12 14:35	1

# QC Sample Results

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

**Lab Sample ID: MB 720-123045/5**

**Matrix: Water**

**Analysis Batch: 123045**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/15/12 09:16	1
Benzene	ND		0.50		ug/L			10/15/12 09:16	1
Ethylbenzene	ND		0.50		ug/L			10/15/12 09:16	1
Toluene	ND		0.50		ug/L			10/15/12 09:16	1
Xylenes, Total	ND		1.0		ug/L			10/15/12 09:16	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/15/12 09:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		67 - 130		10/15/12 09:16	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 138		10/15/12 09:16	1
Toluene-d8 (Surr)	99		70 - 130		10/15/12 09:16	1

**Lab Sample ID: LCS 720-123045/6**

**Matrix: Water**

**Analysis Batch: 123045**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	25.0	24.3		ug/L		97	62 - 130
Benzene	25.0	25.0		ug/L		100	79 - 130
Ethylbenzene	25.0	25.4		ug/L		102	80 - 120
Toluene	25.0	25.4		ug/L		101	78 - 120
m-Xylene & p-Xylene	50.0	50.4		ug/L		101	70 - 142
o-Xylene	25.0	26.2		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		67 - 130
1,2-Dichloroethane-d4 (Surr)	92		75 - 138
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: LCS 720-123045/8**

**Matrix: Water**

**Analysis Batch: 123045**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	474		ug/L		95	62 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		67 - 130
1,2-Dichloroethane-d4 (Surr)	96		75 - 138
Toluene-d8 (Surr)	101		70 - 130

**Lab Sample ID: LCSD 720-123045/7**

**Matrix: Water**

**Analysis Batch: 123045**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	25.0	24.1		ug/L		96	62 - 130	1	20



# QC Sample Results

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Lab Sample ID: LCSD 720-123045/7**

**Matrix: Water**

**Analysis Batch: 123045**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	24.9		ug/L		100	79 - 130	0	20
Ethylbenzene	25.0	24.7		ug/L		99	80 - 120	3	20
Toluene	25.0	25.1		ug/L		100	78 - 120	1	20
m-Xylene & p-Xylene	50.0	49.8		ug/L		100	70 - 142	1	20
o-Xylene	25.0	25.8		ug/L		103	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	102		67 - 130
1,2-Dichloroethane-d4 (Surr)	90		75 - 138
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: LCSD 720-123045/9**

**Matrix: Water**

**Analysis Batch: 123045**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	500	501		ug/L		100	62 - 120	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	103		67 - 130
1,2-Dichloroethane-d4 (Surr)	96		75 - 138
Toluene-d8 (Surr)	101		70 - 130

**Lab Sample ID: MB 720-123157/6**

**Matrix: Water**

**Analysis Batch: 123157**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/16/12 10:03	1
Benzene	ND		0.50		ug/L			10/16/12 10:03	1
Ethylbenzene	ND		0.50		ug/L			10/16/12 10:03	1
Toluene	ND		0.50		ug/L			10/16/12 10:03	1
Xylenes, Total	ND		1.0		ug/L			10/16/12 10:03	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/16/12 10:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		67 - 130		10/16/12 10:03	1
1,2-Dichloroethane-d4 (Surr)	94		75 - 138		10/16/12 10:03	1
Toluene-d8 (Surr)	101		70 - 130		10/16/12 10:03	1

**Lab Sample ID: LCS 720-123157/7**

**Matrix: Water**

**Analysis Batch: 123157**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	25.0	25.4		ug/L		101	62 - 130
Benzene	25.0	26.2		ug/L		105	79 - 130

# QC Sample Results

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Lab Sample ID: LCS 720-123157/7**

**Matrix: Water**

**Analysis Batch: 123157**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	25.0	25.5		ug/L		102	80 - 120
Toluene	25.0	26.1		ug/L		105	78 - 120
m-Xylene & p-Xylene	50.0	50.5		ug/L		101	70 - 142
o-Xylene	25.0	26.6		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	95		75 - 138
Toluene-d8 (Surr)	101		70 - 130

**Lab Sample ID: LCS 720-123157/9**

**Matrix: Water**

**Analysis Batch: 123157**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	477		ug/L		95	62 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		75 - 138
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: LCSD 720-123157/10**

**Matrix: Water**

**Analysis Batch: 123157**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	500	491		ug/L		98	62 - 120	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	102		67 - 130
1,2-Dichloroethane-d4 (Surr)	97		75 - 138
Toluene-d8 (Surr)	102		70 - 130

**Lab Sample ID: LCSD 720-123157/8**

**Matrix: Water**

**Analysis Batch: 123157**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	25.0	25.3		ug/L		101	62 - 130	0	20
Benzene	25.0	25.6		ug/L		102	79 - 130	2	20
Ethylbenzene	25.0	25.4		ug/L		102	80 - 120	0	20
Toluene	25.0	26.0		ug/L		104	78 - 120	0	20
m-Xylene & p-Xylene	50.0	50.5		ug/L		101	70 - 142	0	20
o-Xylene	25.0	26.8		ug/L		107	70 - 130	1	20

# QC Sample Results

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-123157/8

Matrix: Water

Analysis Batch: 123157

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	93		75 - 138
Toluene-d8 (Surr)	101		70 - 130

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Association Summary

Client: Environmental Risk Services, Corp.  
 Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## GC/MS VOA

### Analysis Batch: 123045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-45227-1	MW-1	Total/NA	Water	8260B/CA_LUFT MS	
720-45227-4	MW-5	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-123045/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-123045/8	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-123045/7	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-123045/9	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-123045/5	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

### Analysis Batch: 123157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-45227-2	MW-3	Total/NA	Water	8260B/CA_LUFT MS	
720-45227-3	MW-4	Total/NA	Water	8260B/CA_LUFT MS	
720-45227-5	MW-6	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-123157/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-123157/9	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-123157/10	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-123157/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-123157/6	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

# Lab Chronicle

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

**Client Sample ID: MW-1**

Date Collected: 10/10/12 14:55

Date Received: 10/11/12 17:15

**Lab Sample ID: 720-45227-1**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		100	123045	10/15/12 14:46	AC	TAL SF

**Client Sample ID: MW-3**

Date Collected: 10/10/12 15:30

Date Received: 10/11/12 17:15

**Lab Sample ID: 720-45227-2**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		10	123157	10/16/12 16:01	AC	TAL SF

**Client Sample ID: MW-4**

Date Collected: 10/10/12 14:15

Date Received: 10/11/12 17:15

**Lab Sample ID: 720-45227-3**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		10	123157	10/16/12 16:30	AC	TAL SF

**Client Sample ID: MW-5**

Date Collected: 10/10/12 16:35

Date Received: 10/11/12 17:15

**Lab Sample ID: 720-45227-4**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		100	123045	10/15/12 16:12	AC	TAL SF

**Client Sample ID: MW-6**

Date Collected: 10/10/12 16:05

Date Received: 10/11/12 17:15

**Lab Sample ID: 720-45227-5**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	123157	10/16/12 14:35	AC	TAL SF

**Laboratory References:**

TAL SF = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# Certification Summary

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

## Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Method Summary

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL SF

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SF = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



# Sample Summary

Client: Environmental Risk Services, Corp.  
Project/Site: 1700 Jefferson, Oakland

TestAmerica Job ID: 720-45227-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-45227-1	MW-1	Water	10/10/12 14:55	10/11/12 17:15
720-45227-2	MW-3	Water	10/10/12 15:30	10/11/12 17:15
720-45227-3	MW-4	Water	10/10/12 14:15	10/11/12 17:15
720-45227-4	MW-5	Water	10/10/12 16:35	10/11/12 17:15
720-45227-5	MW-6	Water	10/10/12 16:05	10/11/12 17:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



**San Francisco**

1220 Quarry Lane

Pleasanton, CA 94566

phone 925.484.1919 fax 925.600.3002

# 720-45227

## Chain of Custody Record

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

14/501

<b>Client Contact</b> Environmental Risk Services 1600 Riviera Avenue Walnut Creek, CA 94596 (925) 938-1600 x106 Phone (925) 938-1610 FAX		<b>Project Manager: STEVE MICHELSON</b> Tel/Fax: 925-938-1600		<b>Site Contact: Yola Bayram</b> Lab Contact: Yola Bayram		<b>Date: 10-10-12</b> Carrier:		COC No: _____ of _____ COCs	
<b>Analysis Turnaround Time</b> Calendar (C) or Work Days (W) _____ TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day								Job No. _____ SDG No. _____	
Project Name: 1700 JEFFERSON Site: 1700 JEFFERSON P O # _____								Sample Specific Notes:	
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	TPHG, BTEX, MTBE (\$260)		
MW-1	10/10/12	1455	GW	W	3	x			
MW-3	10/10/12	1530	GW	W	3	x			
MW-4	10/10/12	1415	GW	W	3	x			
MW-5	10/10/12	1635	GW	W	3	x			
MW-6	10/10/12	1605	GW	W	3	x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____									
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For 0.5 Months				
Special Instructions/QC Requirements & Comments:  Please email analytical results to ybayram@erscorp.us and smichelson@erscorp.us Please issue GEOTRACKER EDF									
Relinquished by: <i>Tyson Fulmer</i>		Company: <i>ERS</i>		Date/Time: <i>10-11-12-900</i>		Received by: <i>[Signature]</i>		Company: <i>TASR</i>	
Relinquished by: <i>[Signature]</i>		Company: <i>TASR</i>		Date/Time: <i>10/12/12 1715</i>		Received by: <i>[Signature]</i>		Company: <i>TASR</i>	
Relinquished by: _____		Company: _____		Date/Time: _____		Received by: _____		Company: _____	

Page 17 of 18

01/10/2012



## Login Sample Receipt Checklist

Client: Environmental Risk Services, Corp.

Job Number: 720-45227-1

**Login Number: 45227**

**List Number: 1**

**Creator: Mullen, Joan**

**List Source: TestAmerica Pleasanton**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	