

ENVIRONMENTAL
PROTECTION

00 JUN -5 AM 9: 03

**Erler &
Kalinowski, Inc.**

Consulting Engineers and Scientists

1730 So. Amphlett Blvd., Suite 320
San Mateo, California 94402
(650) 578-1172
Fax (650) 578-9131

31 May 2000

Mr. Barney Chan
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

#3586

Subject: Report on Annual Groundwater Monitoring at the
Property located at 3925 Alameda Avenue
Oakland, California
(EKI 980074.01)

Dear Mr. Chan:

Erler and Kalinowski, Inc. ("EKI") is pleased to present this letter report to the Alameda County Department of Environmental Health ("ACDEH") regarding groundwater monitoring performed at the property located at 3925 Alameda Avenue, Oakland, California ("Site", Figure 1). This report has been prepared on behalf of Smooke & Sons Investment Company.

The groundwater monitoring reported herein has been performed to address ACDEH requirements for closure of two underground storage tanks that were removed from the Site in 1988. Multiple phases of investigation have been performed at the Site since the USTs were removed. As directed by the ACDEH, the monitoring reported herein has been performed pursuant to EKI's proposal for additional soil and groundwater investigation and for annual monitoring of groundwater from existing monitoring wells, as described in the *Report Regarding the 3925 Alameda Site*, dated 19 January 1999, and addenda dated 1 March and 12 April 1999. The proposed investigations were approved by the ACDEH in a letter dated 19 November 1999. EKI completed the additional soil and groundwater investigation in January and February 2000 and reported the results in the *Report on Additional Investigation and Groundwater Monitoring* dated 15 March 2000. In this report, the results of the annual groundwater monitoring and sampling completed in March of 2000 are presented. The next annual groundwater monitoring event is scheduled for March 2001.

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 2 of 8

1.0 INTRODUCTION

1.1 Background

Several earlier investigations have been performed at the Site and were previously reported. Results of these investigations indicate that total petroleum hydrocarbons as gasoline ("TPH-g") and diesel ("TPH-d") and benzene, toluene, ethylbenzene, and xylenes ("BTEX") are present in groundwater and soil. Based on these results, a Risk-Based Corrective Action ("RBCA") assessment has been prepared for the Site. The reports providing the results of these assessments are identified in the list of references at the end of this report. Sampling locations from prior investigations are shown on Figure 2.

As reported in EKI's *Report on Additional Investigation and Groundwater Monitoring* dated 15 March 2000, soil investigation performed along the railroad tracks during February 2000 did not identify an on-site source of a release of petroleum hydrocarbons in the area. The results of groundwater sampling during January and February 2000 indicated that petroleum hydrocarbons in groundwater under the railroad tracks adjacent to the property line may have been the result of a release other than the former USTs and may have been from an off-site release. Groundwater sampling results for January 2000 for the existing monitoring wells indicate that petroleum hydrocarbon concentrations appear to be stable or decreasing in MW-1 through MW-4 over time, and that biodegradation processes are likely occurring in groundwater.

1.2 Status of ACDEH Review

On 5 April 2000, Ms. Vera Nelson and Mr. Steven Miller of EKI met with Mr. Barney Chan of ACDEH to discuss results of investigations reported in *Report on Additional Investigation and Groundwater Monitoring*, dated 15 March 2000. On the basis of the discussion at this meeting and a follow-up telephone conversation between Mr. Chan and Mr. Steve Miller on 20 April 2000, the following key points were discussed and agreed.

- The presence of elevated concentrations of petroleum hydrocarbons in groundwater at the railroad tracks appears to be the result of a release other than from the former USTs and may have been from an off-site release. Because soil investigations performed along the railroad track area did not identify a source of these chemicals, no further investigation of soil in this area is warranted.
- Continued sampling of groundwater in the vicinity of the railroad tracks is needed. Existing groundwater monitoring well MW-4 will be used for this purpose. Groundwater sampling from well MW-4 was initiated in September 1996 and will continue to be sampled on the same annual schedule as wells MW-1, MW-2, and MW-3.

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 3 of 8

- As previously proposed, annual groundwater monitoring has been performed in March 2000 and will be performed again in March 2001 to assess whether petroleum hydrocarbon concentrations continue to be stable or decreasing in MW-1 through MW-4.
- Upon completion of the annual groundwater monitoring in March 2001, and assuming that petroleum hydrocarbon concentrations continue to be stable or decreasing in MW-1 through MW-4, a mechanism will be established to provide notification to future property owners and occupants of the Site that groundwater beneath the Site contains petroleum hydrocarbons. The type of notification mechanism to be used will be proposed by Smooke & Sons Investment Co. after consultation with the ACDEH. If appropriate, a Risk Management Plan related to the remaining petroleum hydrocarbons in groundwater will also be prepared and submitted to ACDEH. With the completion of these proposed actions, approval of UST closure will be requested.

1.3 Objectives

The objectives of the annual groundwater monitoring reported herein were to measure water levels and evaluate trends in BTEX and TPH concentrations and bioattenuation parameters. The trends in BTEX and TPH concentrations are being evaluated to verify that the concentrations are stable or decreasing over time as observed based on previous sampling results. The trends in bioattenuation parameters are being evaluated to verify that biological degradation processes are occurring in the groundwater.

Groundwater monitoring was performed at monitoring wells MW-1 through MW-4. The locations of these wells are shown on Figure 2.

2.0 GROUNDWATER MONITORING

The following sections summarize the results of groundwater level monitoring and sampling performed on 28 March 2000 and 2 May 2000, provide an assessment of trends of petroleum hydrocarbon concentrations detected in groundwater samples collected from on-site monitoring wells over time, and assess bioattenuation sampling results.

2.1 Groundwater Level Monitoring

Depths to groundwater in on-site groundwater monitoring wells MW-1, MW-2, MW-3, and MW-4 were measured on 28 March 2000. The resulting data are summarized in Table 1. These data were used to develop a groundwater contour map for this date, shown on Figure 3, which indicates the direction of the hydraulic gradient was generally

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 4 of 8

towards the south. This gradient direction is consistent with prior groundwater gradient directions observed at the Site.

2.2 Groundwater Sampling

EKI collected groundwater samples on 28 March 2000 from on-site monitoring wells MW-1 through MW-4. The monitoring wells were purged and sampled in conformance with the methods and procedures described in Appendix C of the *Report Regarding the 3925 Alameda Site*, dated 19 January 1999.

Observations during purging and sampling were recorded on field forms, which are included in Appendix A. Bioattenuation parameters including dissolved oxygen, ferrous iron, redox potential, temperature, and pH were recorded during purging of the wells. Purge water was contained in two-55 gallon drums and kept on-site pending arrangements for proper disposal off-site.

Chemical analyses of the groundwater samples were performed by Sequoia Analytical, San Carlos, California. Groundwater samples were analyzed for TPH-g using the DHS LUFT Method, TPH-d using the DHS LUFT Method with silica gel cleanup, BTEX and MTBE using EPA Method 8260A, and nitrate and sulfate using EPA Method 300.0. Laboratory reports from Sequoia are enclosed in Appendix A.

2.2.1 TPH, BTEX and MTBE Concentrations

The results of groundwater sample analyses are summarized in Table 1 and on Figure 2.

Consistent with the results of previous sampling, the groundwater samples from well MW-1, the nearest downgradient well from the former UST area, had the highest concentrations of TPH-g (11.5 mg/l), TPH-d (1.77 mg/l), benzene (4.09 mg/l), and toluene (0.076 mg/l). The maximum concentrations of ethylbenzene (0.944 mg/l) and MTBE (0.0441 mg/l) were detected at wells MW-4 and MW-2, respectively, similar to the last sampling event. The highest concentrations of total xylenes were detected in groundwater samples from wells MW-2 (0.167 mg/l) and MW-4 (0.165 mg/l and 0.173 mg/l-dup). Concentrations were lowest in groundwater samples from well MW-3, the upgradient well from the former UST area.

Figures B1-1 through B1-4, included in Appendix B, present analytical data for TPH-g and TPH-d concentrations in each monitoring well as a function of time. Figures B2-1 through B2-4, also included in Appendix B, present analytical data for BTEX and MTBE concentrations in each monitoring well as a function of time. As depicted in these figures, groundwater concentrations of petroleum hydrocarbons have increased in all the wells since the last sampling event in January 2000. However, these concentrations generally fall in the lower end of the range of values detected for each of these wells over

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 5 of 8

time. The higher concentrations in March 2000 compared to January 2000 may be related to the higher groundwater table elevation in March 2000. The groundwater table was approximately 0.65 feet higher in March than in January. This is probably due to the heavy rains received in the area during February. As the water table rose into its capillary fringe, additional chemicals in the moisture of the capillary fringe (from previous periods of higher groundwater level) may have entered the groundwater.

2.2.2 Bioattenuation Data

The results of analyses of groundwater samples for bioattenuation parameters are summarized in Table 2 for the groundwater samples collected on 28 March 2000, and 2 May 2000. These data include dissolved oxygen, nitrate, sulfate, ferrous iron, redox potential, pH, and temperature.

As indicated in Table 2, dissolved oxygen concentrations measured in samples of groundwater collected from wells MW-1, MW-2, and MW-4, located downgradient (i.e., southwest to southeast) of the former USTs, have not changed since the last sampling event in January 2000. A slight decrease in dissolved oxygen was noted in water from well MW-3.

The oxidation-reduction potentials measured in groundwater samples collected from all the wells have decreased since the last sampling event. In addition, the oxidation-reduction potentials measured in groundwater samples from wells MW-1, MW-2 and MW-4 are at the minimum 150 millivolts lower than the oxidation-reduction potential level measured in the sample of groundwater collected from well MW-3.

3.0 SCHEDULE FOR NEXT GROUNDWATER MONITORING EVENT

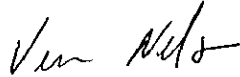
The next groundwater monitoring event is scheduled for March 2001. A report on the results of groundwater monitoring will be provided to the ACDEH by the end of May 2001. This report will include an update of the Mann-Kendall statistical analysis of trends (EKI 1999b) based the groundwater monitoring data from all the wells at the Site through March 2001. Also, EKI will provide recommendations regarding closure of the former USTs and related to groundwater in the area of well MW-4 along the railroad tracks.

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 6 of 8

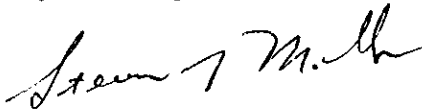
Please contact us if you have any questions.

Very truly yours,

ERLER & KALINOWSKI, INC.



Vera H. Nelson, P.E.
Project Manager



Steven G. Miller, P.E.
Project Engineer

cc: Smooke & Sons Investment Co.

LIST OF TABLES

Table 1 Summary of Analytical Data for Groundwater Samples from Monitoring Wells
Table 2 Summary of Bioattenuation Data

LIST OF FIGURES

Figure 1 Site Location Map
Figure 2 Sampling Locations and Groundwater Sampling Results for 28 March 2000
Figure 3 Groundwater Elevation Contour Map

LIST OF APPENDICES

Appendix A Laboratory Reports from Sequoia Analytical dated 7 April 2000, Chain of
Custody Documents, Groundwater Purge and Level Survey Records
Appendix B Graphical Presentation of Analytical Groundwater Data

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 7 of 8

REFERENCES

Alameda County Health Care Agency, Environmental Health Services, 1998, Letter to Smooke & Son Investment, 2 November 1998.

Alameda County Health Care Agency, Environmental Health Services, 1999, Letter to Smooke & Son Investment, 19 November 1999.

ENGEO Incorporated, 1992: *Phase One Environmental Site Assessment for 3925 Alameda Avenue, Oakland, California*, prepared for Mr. John Swickard, San Leandro, California, 18 December 1992.

ENGEO Incorporated, 1994: *Report on Soil and Ground-Water Sampling with Laboratory Testing for 3925 Alameda Avenue, Oakland, California*, prepared for Smooke & Sons Investment Company, 13 May 1994.

Erler & Kalinowski, Inc., 1999a: *Report Regarding the 3925 Alameda Avenue Site, Oakland, California*, addressed to the Alameda County Department of Environmental Health, 19 January 1999.

Erler & Kalinowski, Inc., 1999b: *Addendum to the Report Regarding the 3925 Alameda Avenue Site, Oakland, California*, addressed to the Alameda County Department of Environmental Health, 1 March 1999.

Erler & Kalinowski, Inc., 1999c: *Addendum #2 to the Report Regarding the 3925 Alameda Avenue Site, Oakland, California*, addressed to the Alameda County Department of Environmental Health, 12 April 1999.

Erler & Kalinowski, Inc., 1999d: Letter of Transmittal with attachments, addressed to the Alameda County Department of Environmental Health, 17 January 2000.

Erler & Kalinowski, Inc., 2000: *Report on Additional Investigation and Groundwater Monitoring Regarding the Property at the 3925 Alameda Avenue Site, Oakland, California*, 15 March 2000.

Harding Lawson Associates, 1987: *Soil and Ground-Water Contamination Investigation, 569 High Street, Oakland, California*, prepared for the City of Oakland Real Estate Division, 24 July 1987.

Smith-Emery GeoServices, 1995: *Well Installation and Environmental Sampling, 3925 Alameda Avenue, Oakland, California*, prepared for Smooke & Sons Investment Company, 21 July 1995.

Letter to Mr. Chan
Alameda County Department of Environmental Health
31 May 2000
Page 8 of 8

Smith-Emery GeoServices, 1996: *Monitoring Well MW4 Installation and Geoprobe Sampling, 3925 Alameda Avenue, Oakland, California* , prepared for Smooke & Sons Investment Company, 16 December 1996.

Smith-Emery GeoServices, 1997: *Tier-1 Risk Based Corrective Action Avenue, Oakland, California*, prepared for Smooke & Sons Investment Company, 15 May 1997.

Table 1
Summary of Analytical Data for Groundwater Samples from Monitoring Wells
3925 Alameda Avenue, Oakland, California

Date	Elev (ft msl)	Analytical Data from MW-1 (mg/L)							
		TPHG	Diesel	Kerosene	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
6/21/95 (a)	-0.57	81	9.8	8.2	11	0.72	1.8	3.9	NA (b)
9/22/95 (Q3 '95) (c)	-1.78	11.0	5	3	2.3	0.081	0.390	0.560	NA
12/7/95 (Q4 '95)	-1.59	6	<0.5	<0.5	0.343	0.032	0.133	0.184	NA
3/29/96 (Q1 '96)	-0.85	12	<0.05	4	0.730	0.089	0.300	0.180	0.270
6/26/96 (Q2 '96)	-1.23	7	<0.05	3	2.3	0.062	0.230	0.160	0.093
9/20/96 (Q3 '96)	-0.95	2.2	NA	NA	0.570	0.030	0.110	0.800	0.070
12/11/96 (Q4 '96)	-0.63	8.1	4.0	NA	2.60	0.073	0.300	0.200	0.340
3/24/97 (Q1 '97)	-0.66	11	NA	NA	2.8	0.055	0.34	0.16	0.029
12/17/98	-1.50	6	2.5	NA	2.2	0.046	0.31	<0.04	<0.04
1/20/00	-1.71	5.5	1.00	NA	1.88	0.041	<0.04	0.053	<0.04
3/28/00	-1.03	11.5	1.77	NA	4.09	0.0758	0.44	0.1	<0.05
Date	Elev (ft msl)	Analytical Data from MW-2 (mg/L)							
		TPHG	Diesel	Kerosene	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
6/21/95 (a)	-0.47	7.6	5.9	4.9	1.5	0.18	0.072	1.1	NA
9/22/95 (Q3 '95)	-1.27	7.2	3.5	2	1.2	0.560	0.250	1.0	NA
12/7/95 (Q4 '95)	-1.41	8	<0.5	<0.5	0.240	0.200	0.108	0.402	NA
3/29/96 (Q1 '96)	-0.78	6	<0.05	2	0.640	0.300	0.190	0.490	0.078
6/26/96 (Q2 '96)	-1.15	5	<0.05	1	1.0	0.170	0.150	0.290	0.120
9/20/96 (Q3 '96)	-0.92	11.0	NA	NA	2.7	0.600	0.500	1.500	0.370
12/11/96 (Q4 '96)	-0.58	5.2	3.0	NA	2.1	0.340	0.400	1.500	0.170
3/24/97 (Q1 '97)	-0.65	10	NA	NA	3.3	0.44	0.8	2	0.015
12/17/98	-1.43	3.7	1.3	NA	0.9	0.053	0.19	0.46	0.08
1/20/00	-1.61	0.51	0.36	NA	0.275	0.007	0.055	0.039	0.017
3/28/00	-0.98	1.94	0.94	NA	1.28	0.0392	0.155	0.167	0.0441
Date	Elev (ft msl)	Analytical Data from MW-3 (mg/L)							
		TPHG	Diesel	Kerosene	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
6/21/95 (a)	-0.49	0.14	1.9	<0.5	0.00054	0.00052	0.0017	0.005	NA
9/22/95 (Q3 '95)	-0.62	0.130	1.9	<0.5	0.001	0.001	0.012	0.013	NA
12/7/95 (Q4 '95)	-1.38	<1	<0.5	<0.5	<0.005	<0.005	0.013	0.013	NA
3/29/96 (Q1 '96)	-0.69	0.3	<0.05	0.2	0.002	0.002	0.015	0.009	0.006
6/26/96 (Q2 '96)	-1.59	0.4	<0.05	0.6	0.004	0.004	0.025	0.012	0.009
9/20/96 (Q3 '96)	-0.67	0.37	NA	NA	0.004	<0.0005	0.026	0.013	0.006
12/11/96 (Q4 '96)	-0.40	0.39	0.1	NA	0.003	0.002	0.020	0.012	0.005
3/24/97 (Q1 '97)	-0.62	0.26	NA	NA	0.002	0.0007	0.016	0.008	<0.0005
12/17/98	-1.35	0.15	1.1	NA	0.00071	<0.0005	0.0074	0.0031	<0.0025
1/20/00	-1.52	<0.05	0.22	NA	<0.002	<0.002	<0.002	<0.002	<0.002
1/20/00 (dup)	-1.52	0.063	0.20	NA	<0.002	<0.002	<0.002	<0.002	<0.002
3/28/00	-0.92	0.221	0.79	NA	<0.002	<0.002	0.011	0.0028	<0.002
Date	Elev (ft msl)	Analytical Data from MW-4 (mg/L)							
		TPHG	Diesel	Kerosene	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
9/6/96 (a)	NA	11	330	NA	0.31	0.053	0.47	1.1	0.17
9/20/96 (Q3 '96)	-1.34	12.0	NA	NA	0.890	0.120	1.100	2.000	0.260
12/11/96 (Q4 '96)	-0.98	2.4	2.0	NA	0.390	0.070	0.540	0.840	0.160
3/24/97 (Q1 '97)	-0.99	15	NA	NA	1	0.15	1.6	1.1	0.042
12/17/98	-1.85	2.5	0.88	NA	0.074	0.013	0.18	0.093	0.0046
1/20/00	-2.05	0.77	0.50	NA	0.036	0.006	0.067	0.019	0.006
3/28/00	-1.39	6	0.753	NA	0.242	0.0458	0.944	0.165	<0.0143
3/28/00 (dup)	-1.39	5.3	0.698	NA	0.269	0.0503	1	0.173	<0.0143

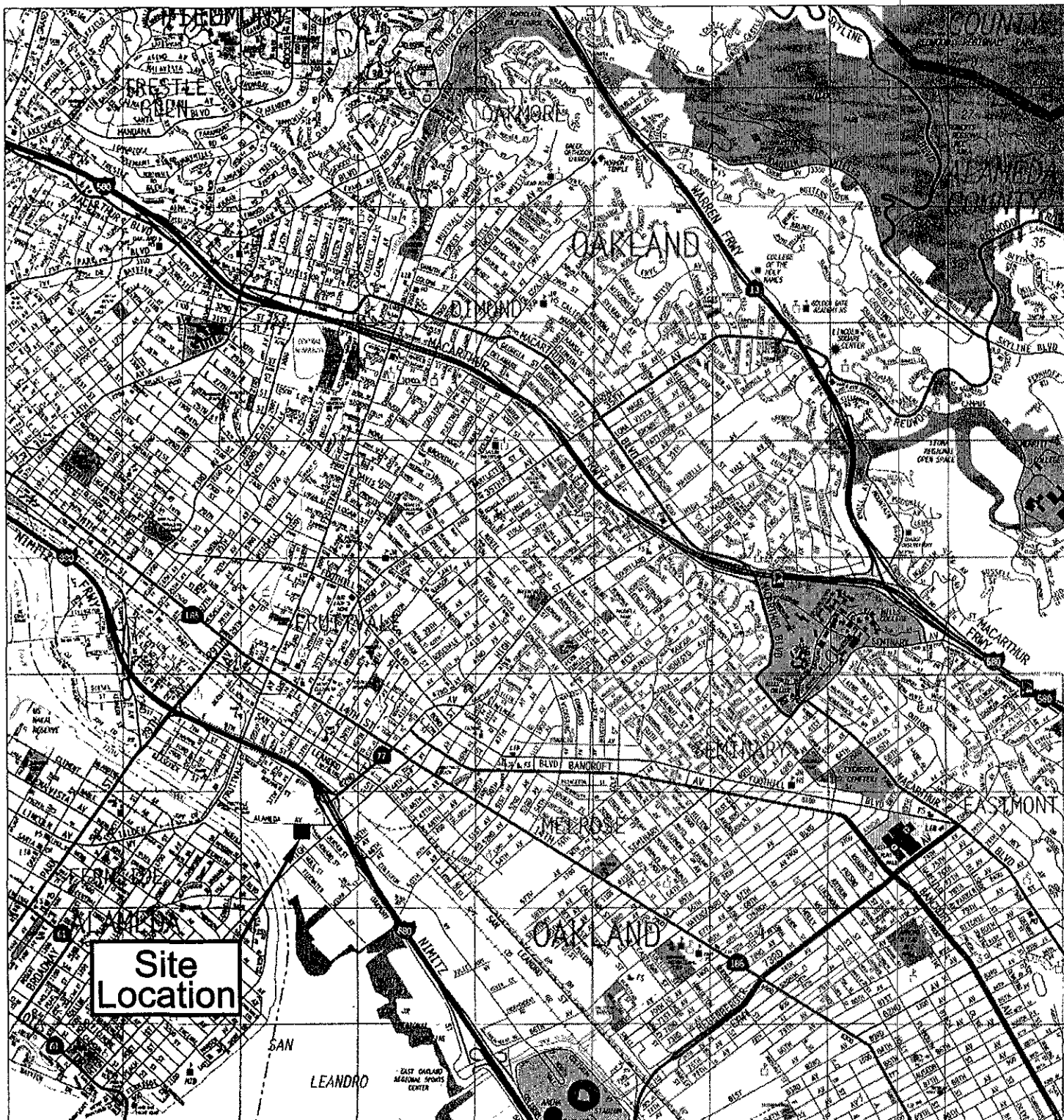
- (a) Corresponds to first sampling event after well installation.
- (b) "NA" indicates the compound was not analyzed or data not obtained.
- (c) Quarterly monitoring reports were prepared by Smith-Emery GeoServices

Table 2
Summary of Bioattenuation Data
3925 Alameda Avenue, Oakland, California

Groundwater Sampling of MW-1							
Date	Dissolved oxygen (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous iron (mg/L)	Oxidation reduction potential (mv)	pH	Temperature
12/17/98	1.3	5.9	34	3.3	5.6	6.7	21.1
1/20/00	0.0	<1.0	30.8	1.9	-114	6.8	21.1
3/28/00	NA	<1.0	13.7	2.2	-136	6.8	20.0
5/2/00	0.0	NA	NA	NA	-265	6.7	19.8
Groundwater Sampling of MW-2							
Date	Dissolved oxygen (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous iron (mg/L)	Oxidation reduction potential (mv)	pH	Temperature
12/17/98	1.9	7.3	39	3	-116	7.0	20.8
1/20/00	0.0	4.03	31.8	0.9	-179	6.8	21.0
3/28/00	NA	<1.0	24.8	0.4	-239	6.9	19.9
5/2/00	0.0	NA	NA	NA	-266	NA	NA
Groundwater Sampling of MW-3							
Date	Dissolved oxygen (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous iron (mg/L)	Oxidation reduction potential (mv)	pH	Temperature
12/17/98	3.1	<1.0	28	3.3	26.0	6.8	19.7
1/20/00	0.2	<1.0	32.6	1	-65	6.8	20.9
3/28/00	NA	<1.0	19.5	1	-56	6.8	19.6
5/2/00	0.0	NA	NA	NA	-106	NA	NA
Groundwater Sampling of MW-4							
Date	Dissolved oxygen (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous iron (mg/L)	Oxidation reduction potential (mv)	pH	Temperature
12/17/98	0.8	<1.0	31	3.3	-117	6.6	21.2
1/20/00	0.0	<1.0	24.8	5.2	-152	6.8	20.5
3/28/00	NA	<1.0 (22.1)	26.9 (26.4)	4.8	-173	6.8	19.2
5/2/00	0.0	NA	NA	NA	-261	NA	NA

Notes:

(1) For MW-4 the data that appear in parenthesis indicate results from a duplicate sample.



Basemap source: 1997 Thomas Guide for Alameda/Contra Costa Counties.

Site Location



0 3200 6400



(Approximate Scale in Feet)

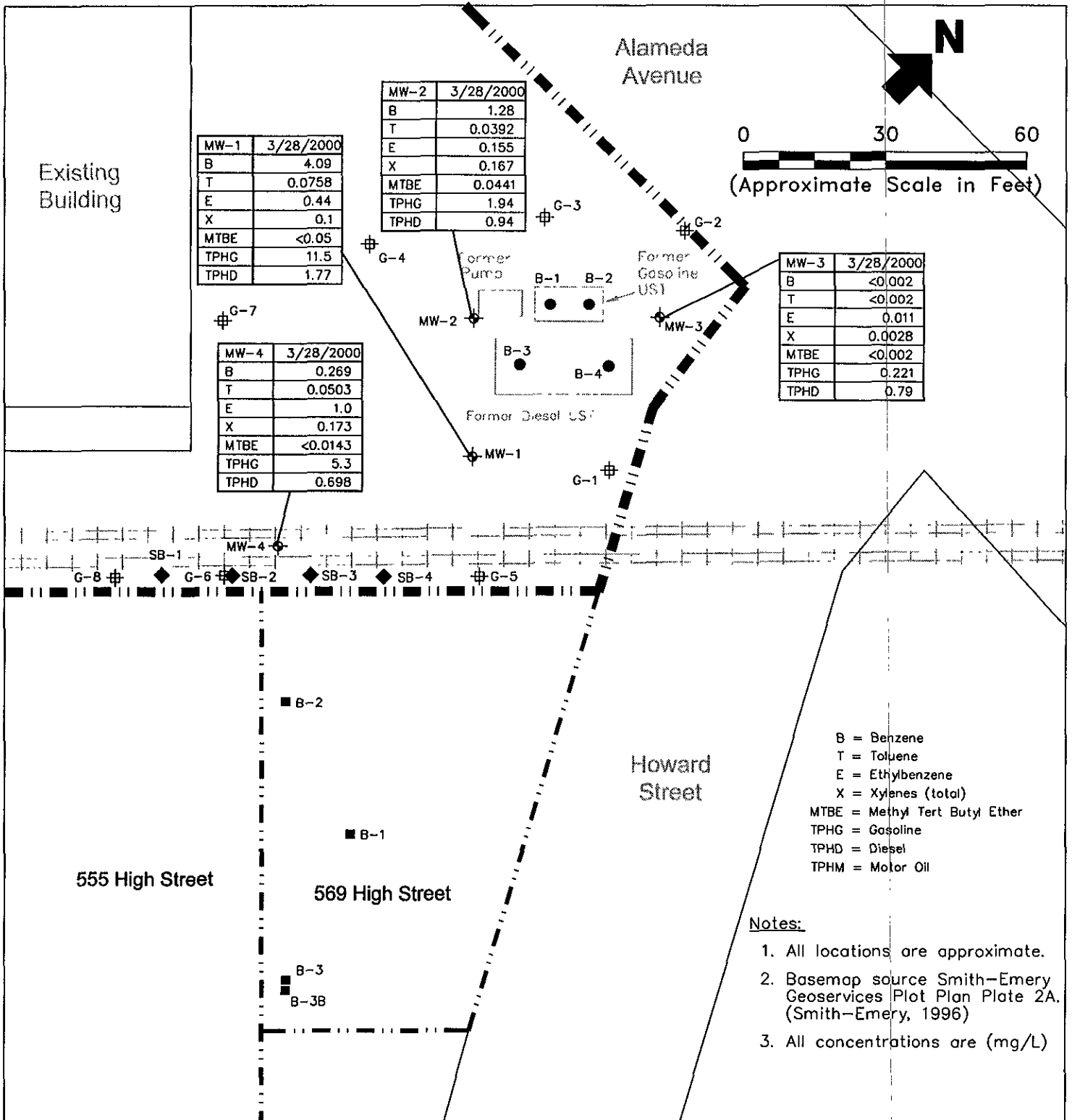
**Erler &
Kalinowski, Inc.**

Site Location Map

3925 Alameda Ave.
Oakland, CA

May 2000
EKI 980074.01

Figure 1



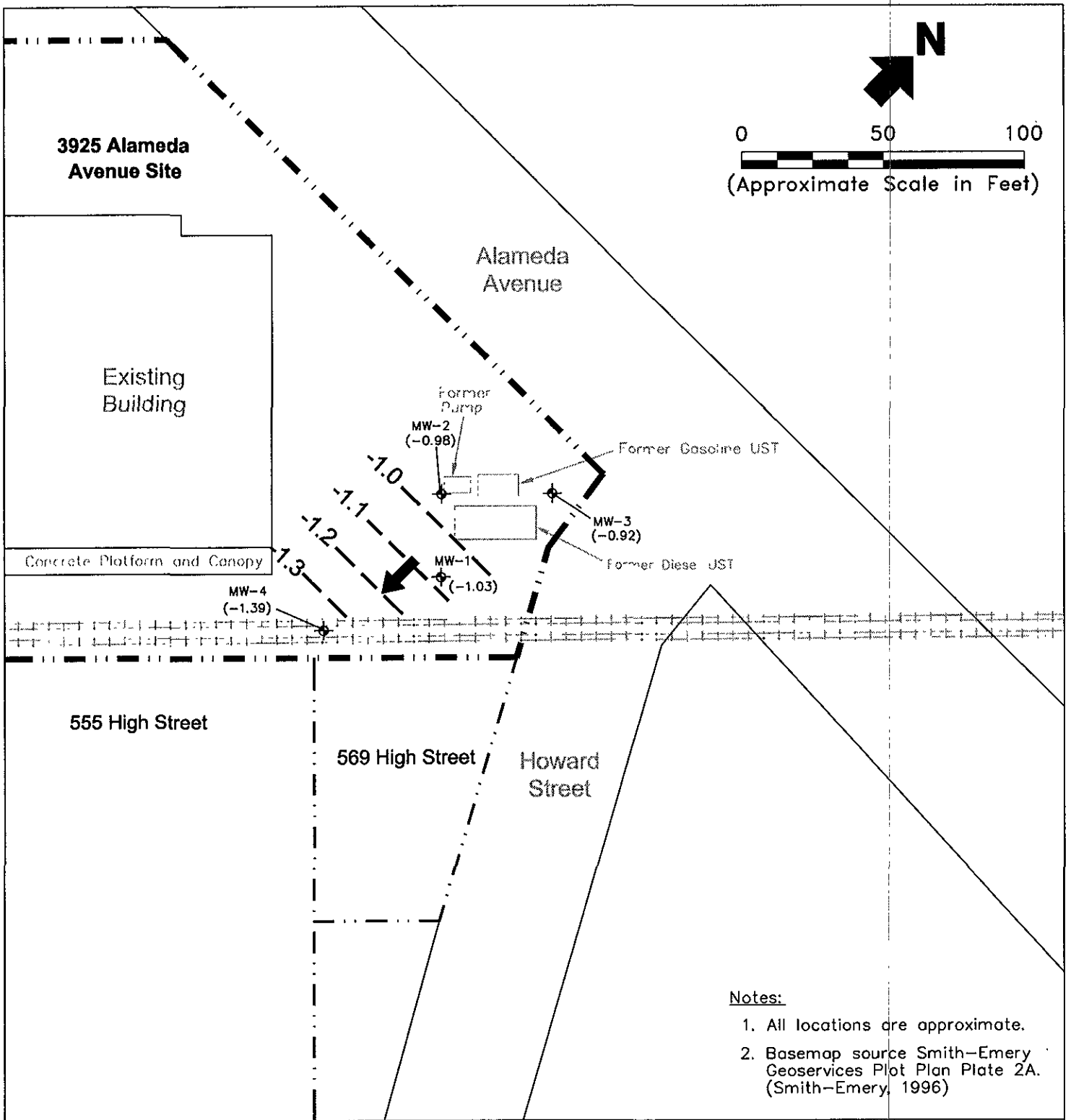
LEGEND

- — — — — Approximate Site Boundary
- — — — — Railroad Tracks
- ⊕ On-Site Monitoring Well Location
- ⊕ On-Site Geoprobe Location
- On-Site Soil Boring Location Collected at Former USTs in 1994
- Off-Site Soil Boring/Grab Groundwater Location
- ◆ On-Site Soil Boring/Grab Groundwater Location February 2000

Erlar & Kalinowski, Inc.

Groundwater Sampling Results for 28 March 2000

3925 Alameda Ave.
Oakland, CA
May 2000
EKI 980074.01
Figure 2



Notes:

1. All locations are approximate.
2. Basemap source Smith-Emery Geoservices Plot Plan Plate 2A. (Smith-Emery, 1996)

LEGEND

- Approximate Site Boundary
- Railroad Tracks
- On-Site Monitoring Well Location
- Groundwater Elevation Contour (feet msl)
- (-1.39) Groundwater Elevation (feet msl)
- Approximate Groundwater Gradient Direction

Erler & Kalinowski, Inc.

Groundwater Elevation Contour Map For
 28 March 2000
 3925 Alameda Ave.
 Oakland, CA
 May 2000
 EKI 980074.01
 Figure 3

APPENDIX A

**Laboratory Reports from Sequoia Analytical dated 7 April 2000,
Chain of Custody Documents, and Groundwater Purge and Level Survey Records**



Sequoia
Analytical

COPY

1551 Industrial Road
San Carlos, CA 94070-4111
(650) 232-9600
FAX (650) 232-9612

April 7, 2000

Steve Miller
Erler & Kalinowski, Inc.
1730 South Amphlett, Suite 320
San Mateo, CA 94402

RE: EKI/L003241

Dear Steve Miller:

Enclosed are the results of analyses for sample(s) received by the laboratory on March 28, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Project Manager

CA ELAP Certificate Number I-2360





Erler & Kalinowski, Inc.
1730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

ANALYTICAL REPORT FOR L003241

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	L003241-01	Water	3/28/00
MW-2	L003241-02	Water	3/28/00
MW-3	L003241-03	Water	3/28/00
MW-4	L003241-04	Water	3/28/00
MW-4 DUPE	L003241-05	Water	3/28/00





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project:	EKI	Sampled:	3/28/00
	Project Number:	EKI 980074.01/3925 Alameda Ave	Received:	3/28/00
	Project Manager:	Steve Miller	Reported:	4/7/00

Sample Description: MW-1
Laboratory Sample Number: L003241-01

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Sequoia Analytical - San Carlos								
Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0040018	4/5/00	4/6/00		5000	11500	ug/l	I
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		92.1	%	
Volatile Organic Compounds by EPA Method 8260A								
Benzene	0030157	3/30/00	3/30/00		50.0	4090	ug/l	
Toluene	"	"	"		50.0	75.8	"	
Ethylbenzene	"	"	"		50.0	440	"	
Xylenes (total)	"	"	"		50.0	100	"	
Methyl tert-butyl ether	"	"	"		50.0	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		101	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		99.2	"	
Diesel Hydrocarbons (C9-C24) by DHS LUFT								
Diesel Range Hydrocarbons	0D03029	4/3/00	4/6/00	DHS LUFT	0.0500	1.77	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	50-150		98.4	%	
Anions by EPA Method 300.0								
Nitrate as NO3	0C31029	3/29/00	3/29/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	13.7	"	





Erler & Kalinowski, Inc. 730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Steve Miller	Sampled: 3/28/00 Received: 3/28/00 Reported: 4/7/00
--	---	---

Sample Description: MW-2
Laboratory Sample Number: L003241-02

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
---------	--------------	---------------	---------------	--------------------------------------	-----------------	--------	-------	--------

Sequoia Analytical - San Carlos

Total Purgeable Hydrocarbons by DHS LUFT

Purgeable Hydrocarbons as Gasoline	0040025	4/6/00	4/6/00		1000	1940	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		104	%	

Volatile Organic Compounds by EPA Method 8260A

Benzene	0040016	4/5/00	4/5/00		20.0	1280	ug/l	
Toluene	"	"	"		20.0	39.2	"	
Ethylbenzene	"	"	"		20.0	155	"	
Xylenes (total)	"	"	"		20.0	167	"	
Methyl tert-butyl ether	"	"	"		20.0	44.1	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		96.4	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		96.8	"	

Diesel Hydrocarbons (C9-C24) by DHS LUFT

Diesel Range Hydrocarbons	0D03029	4/3/00	4/6/00	DHS LUFT	0.0500	0.940	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	50-150		113	%	

Anions by EPA Method 300.0

Nitrate as NO3	0C31029	3/29/00	3/29/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	24.8	"	





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI	Sampled: 3/28/00
	Project Number: EKI 980074.01/3925 Alameda Ave	Received: 3/28/00
	Project Manager: Steve Miller	Reported: 4/7/00

Sample Description: MW-3
Laboratory Sample Number: L003241-03

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
---------	--------------	---------------	---------------	--------------------------------------	-----------------	--------	-------	--------

Sequoia Analytical - San Carlos

Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0040019	4/5/00	4/5/00		50.0	221	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		120	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0030157	3/30/00	3/30/00		2.00	ND	ug/l	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	11.0	"	
Xylenes (total)	"	"	"		2.00	2.80	"	
Methyl tert-butyl ether	"	"	"		2.00	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		98.8	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		95.0	"	

Diesel Hydrocarbons (C9-C24) by DHS LUFT								
Diesel Range Hydrocarbons	0D03029	4/3/00	4/6/00	DHS LUFT	0.0500	0.790	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	50-150		131	%	

Anions by EPA Method 300.0								
Nitrate as NO3	0C31029	3/29/00	3/29/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	19.5	"	





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI	Sampled: 3/28/00
	Project Number: EKI 980074.01/3925 Alameda Ave	Received: 3/28/00
	Project Manager: Steve Miller	Reported: 4/7/00

Sample Description: MW-4
Laboratory Sample Number: L003241-04

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
---------	--------------	---------------	---------------	--------------------------------------	-----------------	--------	-------	--------

Sequoia Analytical - San Carlos

<u>Total Purgeable Hydrocarbons by DHS LUFT</u>								
Purgeable Hydrocarbons as Gasoline	0040018	4/5/00	4/5/00		2500	6000	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		108	%	

<u>Volatile Organic Compounds by EPA Method 8260A</u>								
Benzene	0030157	3/30/00	3/31/00		14.3	242	ug/l	
Toluene	"	"	"		14.3	45.8	"	
Ethylbenzene	"	"	"		14.3	944	"	
Xylenes (total)	"	"	"		14.3	165	"	
Methyl tert-butyl ether	"	"	"		14.3	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		98.0	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		95.4	"	

<u>Diesel Hydrocarbons (C9-C24) by DHS LUFT</u>								
Diesel Range Hydrocarbons	0D03029	4/3/00	4/6/00	DHS LUFT	0.0500	0.753	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	50-150		109	%	

<u>Anions by EPA Method 300.0</u>								
Nitrate as NO3	0C31029	3/29/00	3/29/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	26.9	"	





Sequoia Analytical

1551 Industrial Road
San Carlos, CA 94070-4111
(650) 232-9600
FAX (650) 232-9612

Erler & Kalinowski, Inc.
730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

Sample Description:
Laboratory Sample Number:

MW-4 DUPE
L003241-05

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>Sequoia Analytical - San Carlos</u>								
Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0040018	4/5/00	4/6/00		2500	5300	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		94.1	%	
Volatile Organic Compounds by EPA Method 8260A								
Benzene	0030157	3/30/00	3/31/00		14.3	269	ug/l	
Toluene	"	"	"		14.3	50.3	"	
Ethylbenzene	"	"	"		14.3	1000	"	
Xylenes (total)	"	"	"		14.3	173	"	
Methyl tert-butyl ether	"	"	"		14.3	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		97.4	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		94.6	"	
Diesel Hydrocarbons (C9-C24) by DHS LUFT								
Diesel Range Hydrocarbons	0D03029	4/3/00	4/6/00	DHS LUFT	0.0500	0.698	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	50-150		104	%	
Anions by EPA Method 300.0								
Nitrate as NO3	0C31029	3/29/00	3/29/00	EPA 300.0	1.00	22.1	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	26.4	"	





Erler & Kalinowski, Inc.
1730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

Total Purgeable Hydrocarbons by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0040018		Date Prepared: 4/5/00		Extraction Method: EPA 5030B (P/T)						
Blank	0040018-BLK1									
Purgeable Hydrocarbons as Gasoline	4/5/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.88	"	60.0-140	98.8			
LCS		0040018-BS2								
Purgeable Hydrocarbons as Gasoline	4/5/00	250		211	ug/l	70.0-130	84.4			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.8	"	60.0-140	108			
Matrix Spike		0040018-MS1		L003234-03						
Purgeable Hydrocarbons as Gasoline	4/5/00	250	ND	245	ug/l	60.0-140	98.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.99	"	60.0-140	99.9			
Matrix Spike Dup		0040018-MSD1		L003234-03						
Purgeable Hydrocarbons as Gasoline	4/5/00	250	ND	238	ug/l	60.0-140	95.2	25.0	2.90	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.94	"	60.0-140	89.4			
Batch: 0040019		Date Prepared: 4/5/00		Extraction Method: EPA 5030B (P/T)						
Blank	0040019-BLK1									
Purgeable Hydrocarbons as Gasoline	4/5/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.6	"	60.0-140	106			
LCS		0040019-BS2								
Purgeable Hydrocarbons as Gasoline	4/5/00	250		278	ug/l	70.0-130	111			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.6	"	60.0-140	116			
Matrix Spike		0040019-MS1		L003234-10						
Purgeable Hydrocarbons as Gasoline	4/5/00	250	ND	271	ug/l	60.0-140	108			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.6	"	60.0-140	106			
Matrix Spike Dup		0040019-MSD1		L003234-10						
Purgeable Hydrocarbons as Gasoline	4/5/00	250	ND	264	ug/l	60.0-140	106	25.0	1.87	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.6	"	60.0-140	106			
Batch: 0040025		Date Prepared: 4/6/00		Extraction Method: EPA 5030B (P/T)						
Blank	0040025-BLK1									
Purgeable Hydrocarbons as Gasoline	4/6/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.61	"	60.0-140	96.1			
LCS		0040025-BS2								
Purgeable Hydrocarbons as Gasoline	4/6/00	250		220	ug/l	70.0-130	88.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.1	"	60.0-140	101			





Erler & Kalinowski, Inc.
730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

Volatile Organic Compounds by EPA Method 8260A/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0030157		Date Prepared: 3/30/00			Extraction Method: EPA 5030B [P/T]					
Blank 0030157-BLK1										
Benzene	3/30/00			ND	ug/l	2.00				
Toluene	"			ND	"	2.00				
Ethylbenzene	"			ND	"	2.00				
Xylenes (total)	"			ND	"	2.00				
Methyl tert-butyl ether	"			ND	"	2.00				
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.4	"	76.0-114	98.8			
Surrogate: Toluene-d8	"	50.0		48.6	"	88.0-110	97.2			
LCS 0030157-BS1										
Benzene	3/30/00	50.0		49.2	ug/l	70.0-130	98.4			
Toluene	"	50.0		45.1	"	70.0-130	90.2			
Methyl tert-butyl ether	"	50.0		47.0	"	70.0-130	94.0			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		48.9	"	76.0-114	97.8			
Surrogate: Toluene-d8	"	50.0		47.9	"	88.0-110	95.8			
Matrix Spike 0030157-MS1 L003242-01										
Benzene	3/30/00	50.0	ND	32.3	ug/l	60.0-140	64.6			
Toluene	"	50.0	ND	29.6	"	60.0-140	59.2			2
Methyl tert-butyl ether	"	50.0	ND	40.3	"	60.0-140	80.6			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		48.9	"	76.0-114	97.8			
Surrogate: Toluene-d8	"	50.0		49.7	"	88.0-110	99.4			
Matrix Spike Dup 0030157-MSD1 L003242-01										
Benzene	3/30/00	50.0	ND	34.6	ug/l	60.0-140	69.2	25.0	6.88	
Toluene	"	50.0	ND	31.6	"	60.0-140	63.2	25.0	6.54	
Methyl tert-butyl ether	"	50.0	ND	42.6	"	60.0-140	85.2	25.0	5.55	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		47.8	"	76.0-114	95.6			
Surrogate: Toluene-d8	"	50.0		47.1	"	88.0-110	94.2			
Batch: 0040016		Date Prepared: 4/5/00			Extraction Method: EPA 5030B [MeOH]					
Blank 0040016-BLK1										
Benzene	4/5/00			ND	ug/l	2.00				
Toluene	"			ND	"	2.00				
Ethylbenzene	"			ND	"	2.00				
Xylenes (total)	"			ND	"	2.00				
Methyl tert-butyl ether	"			ND	"	2.00				
Surrogate: 1,2-Dichloroethane-d4	"	50.0		51.9	"	76.0-114	104			
Surrogate: Toluene-d8	"	50.0		48.7	"	88.0-110	97.4			





Erler & Kalinowski, Inc.
1730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

Volatile Organic Compounds by EPA Method 8260A/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
LCS <u>0040016-BS1</u>										
Benzene	4/5/00	50.0		48.3	ug/l	70.0-130	96.6			
Toluene	"	50.0		46.2	"	70.0-130	92.4			
Methyl tert-butyl ether	"	50.0		44.4	"	70.0-130	88.8			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		50.2	"	76.0-114	100			
Surrogate: Toluene-d8	"	50.0		49.2	"	88.0-110	98.4			
Matrix Spike <u>0040016-MS1</u> <u>L004013-01</u>										
Benzene	4/5/00	50.0	ND	51.2	ug/l	60.0-140	102			
Toluene	"	50.0	ND	44.5	"	60.0-140	89.0			
Methyl tert-butyl ether	"	50.0	ND	46.5	"	60.0-140	93.0			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		52.7	"	76.0-114	105			
Surrogate: Toluene-d8	"	50.0		48.2	"	88.0-110	96.4			
Matrix Spike Dup <u>0040016-MSD1</u> <u>L004013-01</u>										
Benzene	4/5/00	50.0	ND	50.8	ug/l	60.0-140	102	25.0	0	
Toluene	"	50.0	ND	47.0	"	60.0-140	94.0	25.0	5.46	
Methyl tert-butyl ether	"	50.0	ND	46.5	"	60.0-140	93.0	25.0	0	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		51.8	"	76.0-114	104			
Surrogate: Toluene-d8	"	50.0		48.8	"	88.0-110	97.6			





Erler & Kalinowski, Inc.
1730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

**Diesel Hydrocarbons (C9-C24) by DHS LUFT/Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0D03029		Date Prepared: 4/3/00			Extraction Method: EPA 3510B					
Blank		0D03029-BLK1								
Diesel Range Hydrocarbons	4/3/00			ND	mg/l	0.0500				
Surrogate: n-Pentacosane	"	0.100		0.0828	"	50-150	82.8			
LCS		0D03029-BS1								
Diesel Range Hydrocarbons	4/3/00	1.00		0.804	mg/l	60-140	80.4			
Surrogate: n-Pentacosane	"	0.100		0.106	"	50-150	106			
LCS Dup		0D03029-BSD1								
Diesel Range Hydrocarbons	4/3/00	1.00		0.813	mg/l	60-140	81.3	50	1.11	
Surrogate: n-Pentacosane	"	0.100		0.109	"	50-150	109			





Erler & Kalinowski, Inc.
1730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

**Anions by EPA Method 300.0/Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0C31029			Date Prepared: 3/29/00			Extraction Method: General Preparation				
Blank			0C31029-BLK1							
Nitrate as NO3	3/29/00			ND	mg/l	0.100				
Sulfate as SO4	"			ND	"	0.500				
LCS			0C31029-BS1							
Nitrate as NO3	3/29/00	10.0		9.49	mg/l	90-110	94.9			
Sulfate as SO4	"	10.0		9.28	"	90-110	92.8			
Matrix Spike			0C31029-MS1 L003241-01							
Nitrate as NO3	3/29/00	100	ND	95.2	mg/l	80-120	95.2			
Sulfate as SO4	"	100	13.7	107	"	80-120	93.3			
Matrix Spike Dup			0C31029-MSD1 L003241-01							
Nitrate as NO3	3/29/00	100	ND	95.4	mg/l	80-120	95.4	20	0.210	
Sulfate as SO4	"	100	13.7	107	"	80-120	93.3	20	0	





Erler & Kalinowski, Inc.
730 South Amphlett, Suite 320
San Mateo, CA 94402

Project: EKI
Project Number: EKI 980074.01/3925 Alameda Ave
Project Manager: Steve Miller

Sampled: 3/28/00
Received: 3/28/00
Reported: 4/7/00

Notes and Definitions

Note

D-15 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24

Chromatogram Pattern: Gasoline C6-C12

2 Toluene recovery in the matrix spike was below the QC limit by 0.8%. The LCS, however, have acceptable recoveries and validates this batch.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

Recov. Recovery

RPD Relative Percent Difference



CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Page / of /

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 980074.01

Date Sampled: 28 MARCH 2000

Project Name: 3925 Alameda Avenue

Sampled By: R-D Lewis

Source of Samples: groundwater monitoring wells

Report Results To: Steve Miller

Location: Oakland, CA

L003241

Phone Number: 650) 578-1172

Lab Sample I D	Field Sample I D	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results equired By Date/Time)
01	MW-1	water	4-VOAs +HCl 1-1 L. amber glass, 1-1 L. plastic	13:40	EPA 8260 for BTEX & MTBE only EPA 8015M for TPHg & TPHd, nitrate & sulphate	10 day TAT
02	MW-2	water	4-VOAs +HCl 1-1 L. amber glass, 1-1 L. plastic	12:55	EPA 8260 for BTEX & MTBE only EPA 8015M for TPHg & TPHd, nitrate & sulphate	10 day TAT
03	MW-3	water	4-VOAs +HCl 1-1 L. amber glass, 1-1 L. plastic	10:30	EPA 8260 for BTEX & MTBE only EPA 8015M for TPHg & TPHd, nitrate & sulphate	10 day TAT
04	MW-4	water	4-VOAs +HCl 1-1 L. amber glass, 1-1 L. plastic	11:15	EPA 8260 for BTEX & MTBE only EPA 8015M for TPHg & TPHd, nitrate & sulphate	10 day TAT
05	MW- 4 dupe	water	4-VOAs +HCl 1-1 L. amber glass, 1-1 L. plastic	11:15	EPA 8260 for BTEX & MTBE only EPA 8015M for TPHg & TPHd, nitrate & sulphate	10 day TAT
	ERB	water	4-VOAs +HCl 1-1 L. amber glass, 1-1 L. plastic		HOLD	

Special Instructions:

Relinquished By:

Received By:

Name / Signature / Affiliation

Date

Time

Name / Signature / Affiliation

Rover Lewis <i>Rover Lewis</i>	EKI	3/28/00	16:45	Tim Costello <i>Tim Costello</i>	SEQUOIA

Daily Inspection Report No. _____

Sheet:	1	of	_____
Date:	3/28/08		
Project:	3925 ALAMONT AV		
EKI Job No.:	980074.d		

Contractor: _____

EKI Staff On-site: ROGER LEVIN

Weather: _____

Temperature: _____ F Max _____ F Min

Work Hours: 08:30 to 14:30 Memos Issued: _____

Photos: _____

Special Conditions, Delays, Changes _____

Accidents, Damage: _____

Sampling, Testing: PURGED/SAMPLE WELLS MW-1 -> MW-4

Visitors to Site: STEVE MILLER - EKI

Work Report (Work done, Personnel/Equipment working): 08:30 I ARRIVED ON SITE, REVIEWED THE HEALTH & SAFETY PLAN & OPENED WELLS FOR A WATER LEVEL SURVEY.

09:00 I COMPLETED A SURVEY OF WATER LEVELS.

09:09 I STARTED PURGING MW-3 WITH A PERISTALTIC PUMP, THEN CALIBRATED FIELD INSTRUMENTS. I WAS UNABLE TO CALIBRATE THE DISSOLVED OXYGEN METER EVEN AFTER CLEANING ELECTRODES & REPLACING THE MEMBRANE, SEND DROPPINGS WERE TAKEN.

09:53 I STARTED PURGING MW-4 WITH A SECOND PERISTALTIC PUMP.

10:30 I COLLECTED SAMPLES FROM MW-3 (VOLS FILLED W/ A DISPOSABLE BAILET, LITER BOTTLES FROM THE PERISTALTIC PUMP) SAMPLES WERE PLACED IN A COOLER W/ ICE.

10:40 I STARTED PURGING MW-2, THEN SAMPLED MW-4, AS ABOVE.

12:30 I STARTED PURGING MW-1, THEN SAMPLED MW-2, AS ABOVE.

13:10 I SAMPLED MW-1, AS ABOVE. I SECURED THE WELLS, PLACED THE PURGE WATER IN DRUMS ON THE SITE, DISCONNECTED EQUIPMENT & LEFT. SAMPLES WERE TAKEN TO SEDONA ANALYTICAL IN SAN CARLOS AT 16:45

Distribution: Project Inspection File (orig)
Project Manager

By: Roger Levin

Job Name: SMOKEDate: 3/28/00EKI Job No.: 980074.01Personnel: R. Dillon

Well Number:									
Condition of well:	MW-1		MW-2		MW-3		MW-4		
Type of Cover	FLUSH BOLTED		FLUSH BOLTED		FLUSH BOLTED		FLUSH BOLTED		
Covered?	YES		YES		YES		YES		
Locked?	YES		YES		YES		YES		
Sealed?	YES		YES		YES				
Standing water?	YES		YES		YES		NO		
Dia. of casing	4 INCH		4 INCH		4 INCH		4 INCH		
Measuring point									
Elevation of well									
Time opened	08:48		08:45		08:41		08:51		
Time of measurement	09:00		08:58		08:56		08:57		
Depth probe used	#5		#5		#5		#5		
Depth to water'	9.76		9.40		10.18		9.83		
Depth of well									
Conductivity vs. Depth, mMhos/cm									
Temperature vs. Depth, Deg. C.									
COMMENTS:									

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 3/28/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-1 PERSONNEL: R.D. Lion

WELL VOLUME CALCULATION:

Depth of Well (ft.) 19.70 - Depth to Water (ft.) 9.76 = Water Column (ft) 9.94 * Multiplier (below) 0.64 = Casing Vol (gallons) 6.36
Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC Pump (S)
PUMP INLET DEPTH: 11 FT
START TIME: 12:30 END TIME: 13:33
TOTAL GALLONS PURGED: 20.3
NOTES/SAMPLES COLLECTED: @ 13:40
4 Vials + HCL - by BAILEY
1-1L. Amber, 1-1L. PLASTIC - by PERISTALTIC Pump

INSTRUMENT CALIBRATION
Field Standard
measure measure
Instrument
Specific Conductance
pH
pH (see mw-3)
Turbidity
ORP
Temperature
Depth Probe

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, mS/cm	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Ferrous Iron
13:23	15.5	20.0	1.202	-136	6.86	1.42	9.90	0.29	2.44		
13:28	19.4	19.9	1.182	-133	6.82	1.52	9.90	0.78	3.05		2.6
13:33	20.3	20.0	1.191	-136	6.83	0.92	9.85	0.18	3.19		2.2

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 3/28/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-2 PERSONNEL: R.O. Lwin

WELL VOLUME CALCULATION:
 Depth of Well (ft.) 19.92 - Depth to Water (ft.) 9.40 = Water Column (ft. below) 10.52 * Multiplier 0.64 = Casing Vol. (gallons) 6.73
 Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: Peristaltic Pump
 PUMP INLET DEPTH: 11:00
 START TIME: 10:40 END TIME: 12:52
 TOTAL GALLONS PURGED: 20.3
 NOTES/SAMPLES COLLECTED: @ 12:55
 4 VOLS + HCL, 4 DAWER
 1-1L PLASTIC, 1-1L Amber,

INSTRUMENT CALIBRATION

Instrument	Field measure	Standard measure
Specific Conductance		
pH		
pH		(SEE MW-3)
Turbidity		
ORP		
Temperature		
Depth Probe		

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, mS/cm	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Ferrous Iron
11:44	4	19.4	1.340	-137	6.84	0.60	9.72	0.19	1.78		
12:33	16	19.8	1.350	-232	6.80	0.60	9.75	0.08	2.38		0.0
12:48	19	19.9	1.349	-239	6.89	0.46	9.78	0.20	2.82		0.4
12:52	20.3	19.9	1.351	—	6.88	—	—	0.33	3.02		

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 3/28/00
 PROJECT NUMBER: 980074.00 WELL NAME: MW-3 PERSONNEL: R.D. Lion

WELL VOLUME CALCULATION:
 Depth of Well (ft.) Depth to Water (ft.) Water Column (ft. (below)) Multiplier Casing Vol. (gallons)
 19.95 - 10.18 = 9.77 * 0.64 = ~~6.25~~ 6.25
 Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC Pump
 PUMP INLET DEPTH: ≈ 11 ft
 START TIME: 9:09 END TIME: 10:24
 TOTAL GALLONS PURGED: 19.5
 NOTES/SAMPLES COLLECTED: @ 10:30
 4 VOLS + HCL - w/BAILER
 1 P. Amber, 1 P. Plastic w/PERISTALTIC Pump

INSTRUMENT CALIBRATION		
Instrument	Field measure	Standard measure
Specific Conductance	1.038	1.000
pH	7.01	7.01
pH	4.01	4.01
Turbidity	0.02	0.02
DISSOLVED OXYGEN: CONSTANT CALIBRATE INSTRUMENT		
ORP BEHRELL SOLN.		188 mv
Temperature		
Depth Probe	#5	

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, mS/cm	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	By Hach Kit	Ferrous Iron, mg/L
09:34	6.5	19.5	1.417	-0.15	6.74	9.34	10.73	0.26	1.04			
09:42	9.0	19.5	1.410	-0.48	6.74	1.96	10.72	0.31	1.44			
09:57	12.5	19.5	1.408	-0.53	6.75	1.29	10.65	0.23	2.00			1.0 mg/L
10:16	18.0	19.6	1.409	-0.54	6.76	0.31	10.68	0.23	2.72			
10:24	19.5	19.6	1.408	-0.56	6.77	0.30	10.68	0.32	3.12			1.0 mg/L

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 3/28/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-4 PERSONNEL: R.D. Leon

WELL VOLUME CALCULATION:
Depth of Well (ft) 19.73 - Depth to Water (ft) 9.83 = Water Column (ft) 9.90 * Multiplier (below) 0.64 = Casing Vol. (gallons) 6.336
Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC Pump
PUMP INLET DEPTH: 10.5
START TIME: 09:53 END TIME: 11:13
TOTAL GALLONS PURGED: 19.8
NOTES/SAMPLES COLLECTED: @ 11:15
MW-4 4 VIALS BY BAKER
MW 4 DUPE 1-1.2 PLASTIC & 1-1.2 AMBLY BY PMP

INSTRUMENT CALIBRATION
Field Standard
Instrument measure measure
Specific Conductance
pH (SEE MW-3)
pH
Turbidity
ORP
Temperature
Depth Probe

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, mS/cm	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Ferrous Iron
10:55	14.8	19.1	1.179	-146	6.77	0.66	9.95	0.24	2.34		5.2
11:02	16.8	19.2	1.181	-161	6.78	0.64	9.95	0.29	2.65		-
11:13	19.8	19.2	1.195	-173	6.80	0.52	9.95	0.27	3.13		4.8

Daily Inspection Report No. _____

Sheet:	1	of	_____
Date:	5/2/00		
Project:	3925 ALAMEDA AV.		
EKI Job No:	980074.00		

Contractor: _____

EKI Staff On-site: ROGER LION

Weather: OVERCAST

Temperature: _____ F Max _____ F Min

Work Hours _____ to _____ Memos Issued: _____

Photos: _____

Special Conditions, Delays, Changes: _____

Accidents, Damage: _____

Sampling, Testing: PURGE WELLS, RECORD FIELD PARAMETERS

Visitors to Site: _____

Work Report (Work done, Personnel/Equipment working): I ARRIVED ON SITE & CALIBRATED

FIELD INSTRUMENTS & OPENED MW-3.
11:58 I STARTED PURGING MW-3. AFTER PURGING 2 CASING VOLUMES & MEASURING
FIELD PARAMETERS IN A FLOW THROUGH CELL, I CHECKED INSTRUMENT CALIB-
RATION

12:57 I PURGED MW-2 AS ABOVE, THEN RECHECKED CALIBRATION

13:55 I PURGED MW-1 AS ABOVE, THEN CHECKED CALIBRATION.

14:41 I PURGED MW-4 AS ABOVE.

15:30 I RECHECKED INSTRUMENT CALIBRATION.

15:50 I LEFT PURGE WATER IN A LABELLED DRUM, CLOSED & LOCKED THE WELLS,
AND LEFT THE SITE.

Distribution: Project Inspection File (orig)
Project Manager
VHW, SM

By: Roger Lion

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 5/2/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-1 PERSONNEL: R.D. Levin

WELL VOLUME CALCULATION:
 Depth of Well (ft.) Depth to Water (ft.) Water Column (ft) Multiplier (below) Casing Vol. (gallons)
 19.70 - 10.15 = 9.55 * 0.64 = 6.11
 Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC Pump
 PUMP INLET DEPTH: _____
 START TIME: 13:55 END TIME: 14:33
 TOTAL GALLONS PURGED: 13
 NOTES/SAMPLES COLLECTED:
 FIELD MEASUREMENTS ONLY

Instrument	Field measure	Standard measure
Specific Conductance		
pH	4.01	4.9
pH	7.01	7.01
Turbidity		
DO sat.	101.7%	
DO ZERO	0.0%	
ORP	+196 @ 23°C	
Temperature		
Depth Probe		

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, mS/cm	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Ferrous-Iron
14:02	2.0	19.8		-158	6.76		10.32	0.29	0.33	0.0 / 0.0	
14:06	3.5	19.8		-173	6.73		10.33	0.38	0.57	0.0% / 0.0	
14:12	6.0	19.8		-198	6.72		10.34	0.42	0.98	0.0% / 0.0	
14:17	8.0	19.8		-225	6.72		10.35	0.40	1.31	0.0% / 0.0	
14:25	10.5	19.8		-252	6.71		10.36	0.37	1.72	0.0% / 0.0	
14:33	13.0	19.8		-265	6.71		10.36	0.32	2.13	0.0% / 0.0	

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 5/2/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-2 PERSONNEL: R.D. Con

WELL VOLUME CALCULATION:
Depth of Well (ft.) 19.92 - Depth to Water (ft.) 9.76 = Water Column (ft) 10.16 * Multiplier (below) 0.64 = Casing Vol. (gallons) 6.50
Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC Pump
PUMP INLET DEPTH: _____
START TIME: 12:57 END TIME: 1:34
TOTAL GALLONS PURGED: 13.0
NOTES/SAMPLES COLLECTED:
FIELD MEASUREMENTS ONLY

INSTRUMENT CALIBRATION

Instrument	Field measure	Standard measure
Specific Conductance		
pH	4.01	4.01
pH	7.01	7.01
Turbidity		
DO. SAT		101.7%
DO. 0.0%		0.0%
ORP	203 @ 21.3	
Temperature		
Depth Probe		

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, mS/cm	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Porosity (ft)
13:12	4.0	23.9		-184	6.61		10.07	0.27	0.62	43.2%	
13:24	8.0	22.9		-248	6.62		10.07	0.33	1.23	0.6%	
13:30	10.0	19.9		-258	6.61		10.10	0.33	1.54	0.0%	
13:34	11.0	19.9		-261	6.62		10.10	0.25	1.69	0.0%	
13:40	13.0	20.0		-266	6.61		10.10	0.33	2.00	0.0%	

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 5/2/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-3 PERSONNEL: R.D. Leon

WELL VOLUME CALCULATION:
 Depth of Well (ft.) Depth to Water (ft) Water Column (ft) Multiplier (below) Casing Vol (gallons)
 19.95 - 10.44 = 9.51 * 0.64 = 6.086
 Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC PUMP
 PUMP INLET DEPTH: _____
 START TIME: 11:58 END TIME: 12:44
 TOTAL GALLONS PURGED: 12.0
 NOTES/SAMPLES COLLECTED: FIELD MEASUREMENTS ONLY

INSTRUMENT CALIBRATION		Field	Standard
Instrument		measure	measure
Specific Conductance			
pH		4.01	4.01
pH		7.01	7.01
Turbidity			
DO (SATURATED)	0	0.0%	
DO (SATURATED)		101.7%	
ORP		211 @ 20.8	
Temperature			
Depth Probe			

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance, $\mu S/cm$	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Ferrous-Iron
12:06	2.0	19.6		-068.	6.41		16.05	0.25	0.33	3.0% 0.3	-
12:12	3.5	19.7		-81.	6.48		11.06	0.25	0.58	0.3% 0.0	-
12:21	6.0	19.7		-90.	6.45		11.08	0.28	0.99	0.0%	-
12:29	8.0	19.7		-95.	6.44		11.04	0.25	1.31	0.0% 0.0	-
12:36	10.0	19.7		-106.	6.96		11.02	0.29	1.64	0.0% 0.0	-
12:41	11.0	19.7		-105.	6.89		11:02	0.20	1.81	0.0% 0.0	-
12:44	12.0	19.7		-106	6.89		11:02	0.33	1.97	0.0% 0.0	-

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 5/2/00
PROJECT NUMBER: 980074.00 WELL NAME: MW-4 PERSONNEL: R.D. Leon

WELL VOLUME CALCULATION:

Depth of Well (ft.) Depth to Water (ft.) Water Column (ft.) Multiplier (below) Casing Vol. (gallons)

19.73 - 10.21 = 9.52 * 0.64 = 6.09

Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC Pump

PUMP INLET DEPTH: _____

START TIME: 14:41 END TIME: 15:24

TOTAL GALLONS PURGED: 14

NOTES/SAMPLES COLLECTED:
FIELD MEASUREMENTS ONLY

INSTRUMENT CALIBRATION

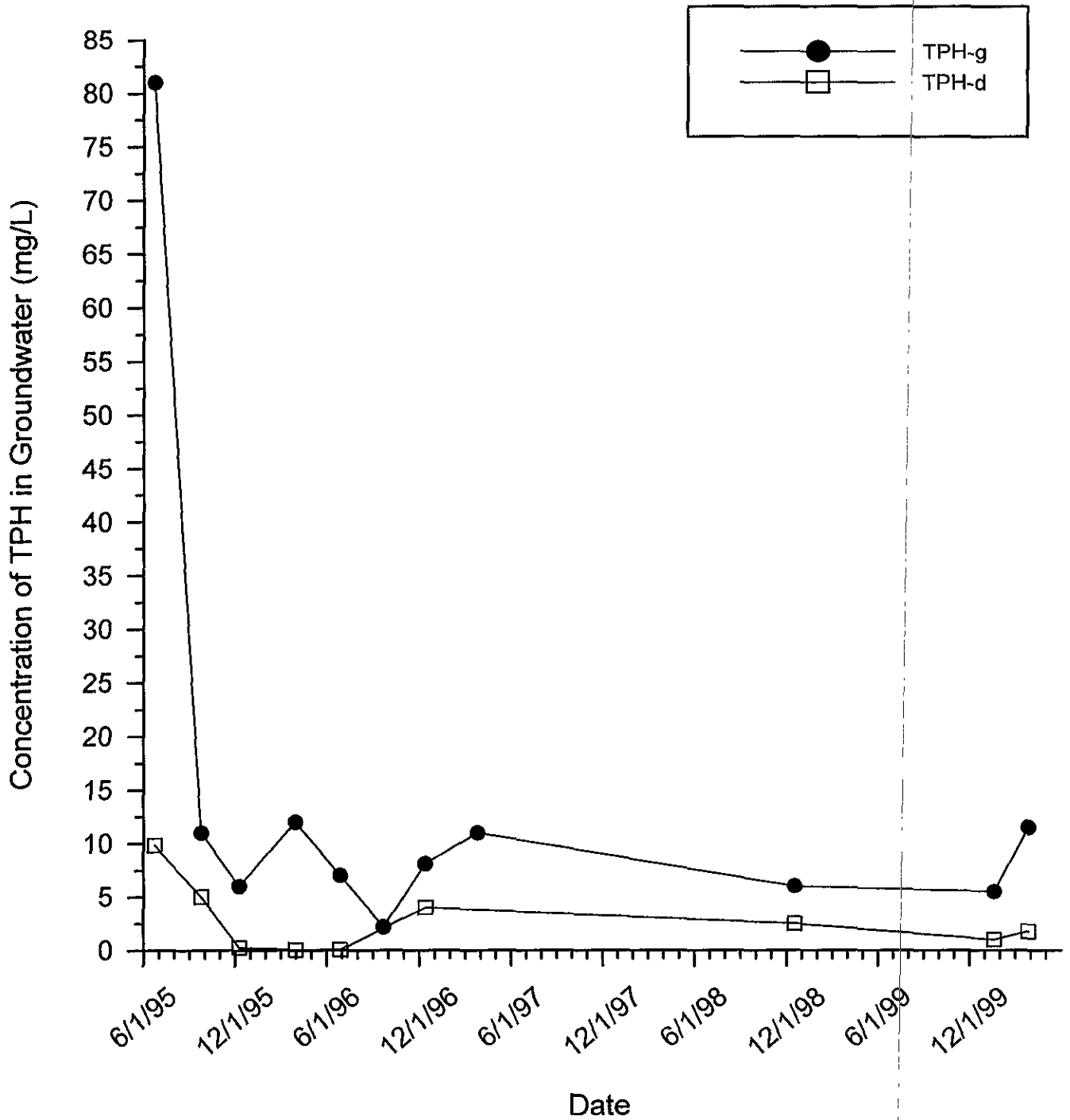
Instrument	Field measure	Standard measure
Specific Conductance		
pH	7.01	7.01
pH	4.01	4.01
Turbidity		
DO SAT.:	101.7%	
DO	0.0%	
ORP	202 mv @ 21.3°C	
Temperature		
Depth Probe		

Time	Volume Purged (gallons)	Temperature (C)	Specific Conductance (µS/cm)	Oxidation Reduction Potential, mv	pH	Turbidity (NTU)	Depth to water (feet)	Purge Rate (gpm)	Casing Volumes removed	Dissolved Oxygen	Temperature
14:50	3.0	19.2		-178	6.73		10.28	0.33	0.49	0.0% 0.0	
14:58	5.0	19.2		-210	-		10.28	0.25	0.82	0.0% 0.0	
15:07	8.0	19.3		-238	6.14		10.28	0.33	1.31	0.0% 0.0	
15:15	11.0	19.3		-256	6.38		10.29	0.38	1.81	0.0% 0.0	
15:24	14.0	19.3		-261	6.55		10.29	0.33	2.30	0.0% 0.0	
CALIBRATION CHECK										0.0%	
15:30				+202	6.95					105.1%	

APPENDIX B

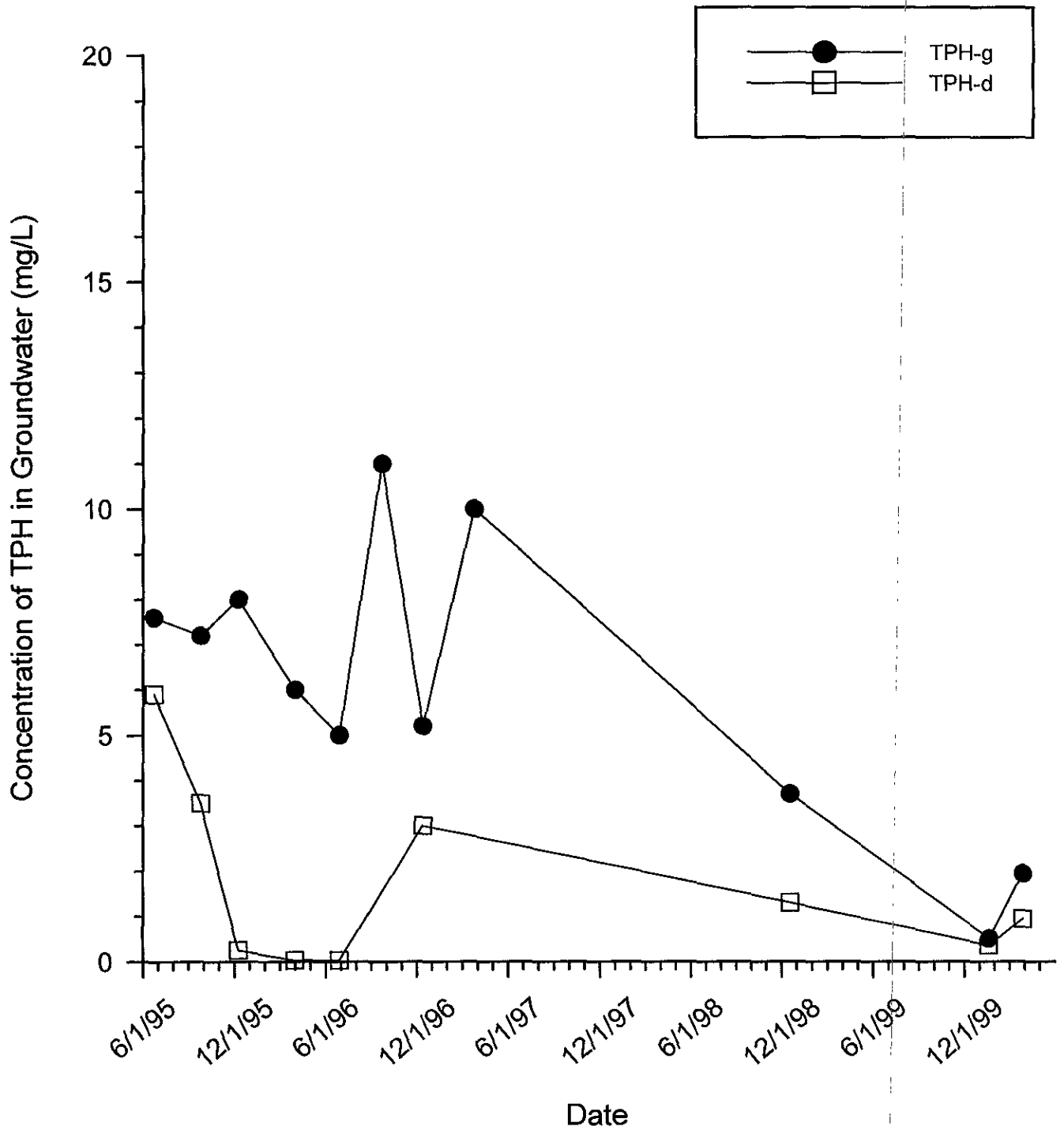
Graphical Presentation of Analytical Groundwater Data

Figure B1-1
Concentration of TPH in Groundwater Over Time: MW-1
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)



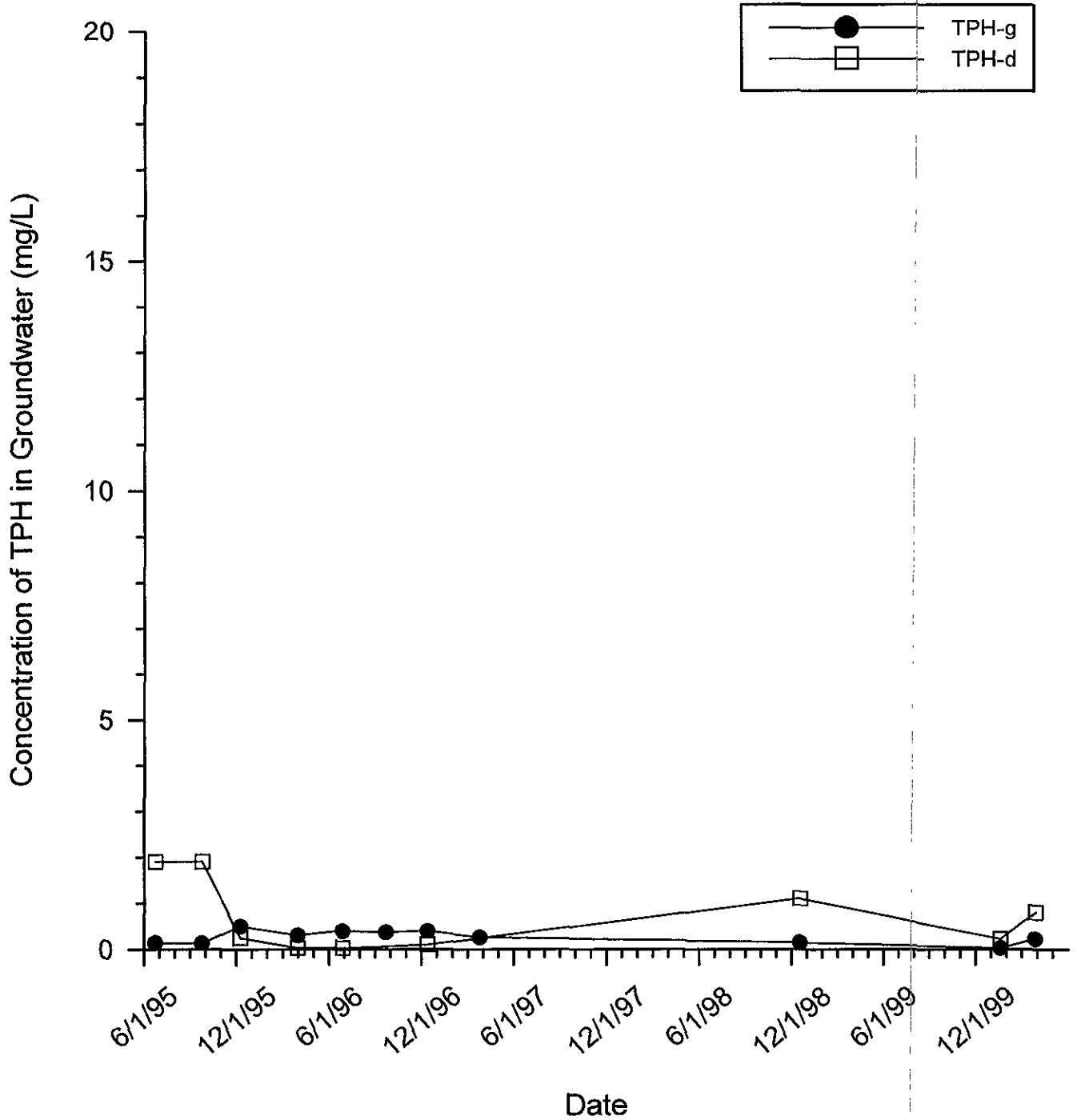
Note: If not detected, results are plotted as one-half of the method detection limit.

Figure B1-2
Concentration of TPH in Groundwater Over Time: MW-2
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)



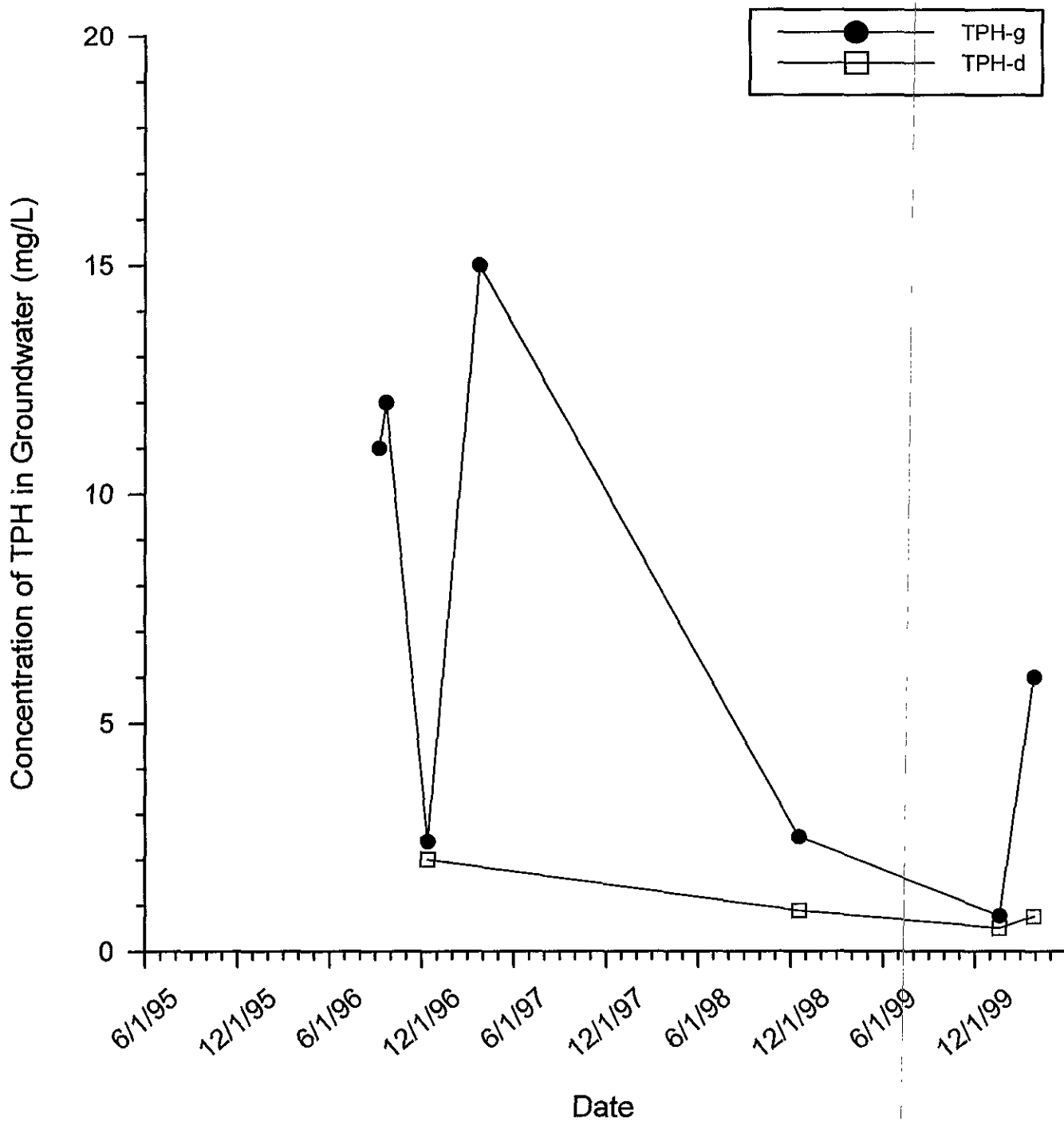
Note: If not detected, results are plotted as one-half of the method detection limit.

Figure B1-3
Concentration of TPH in Groundwater Over Time: MW-3
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)



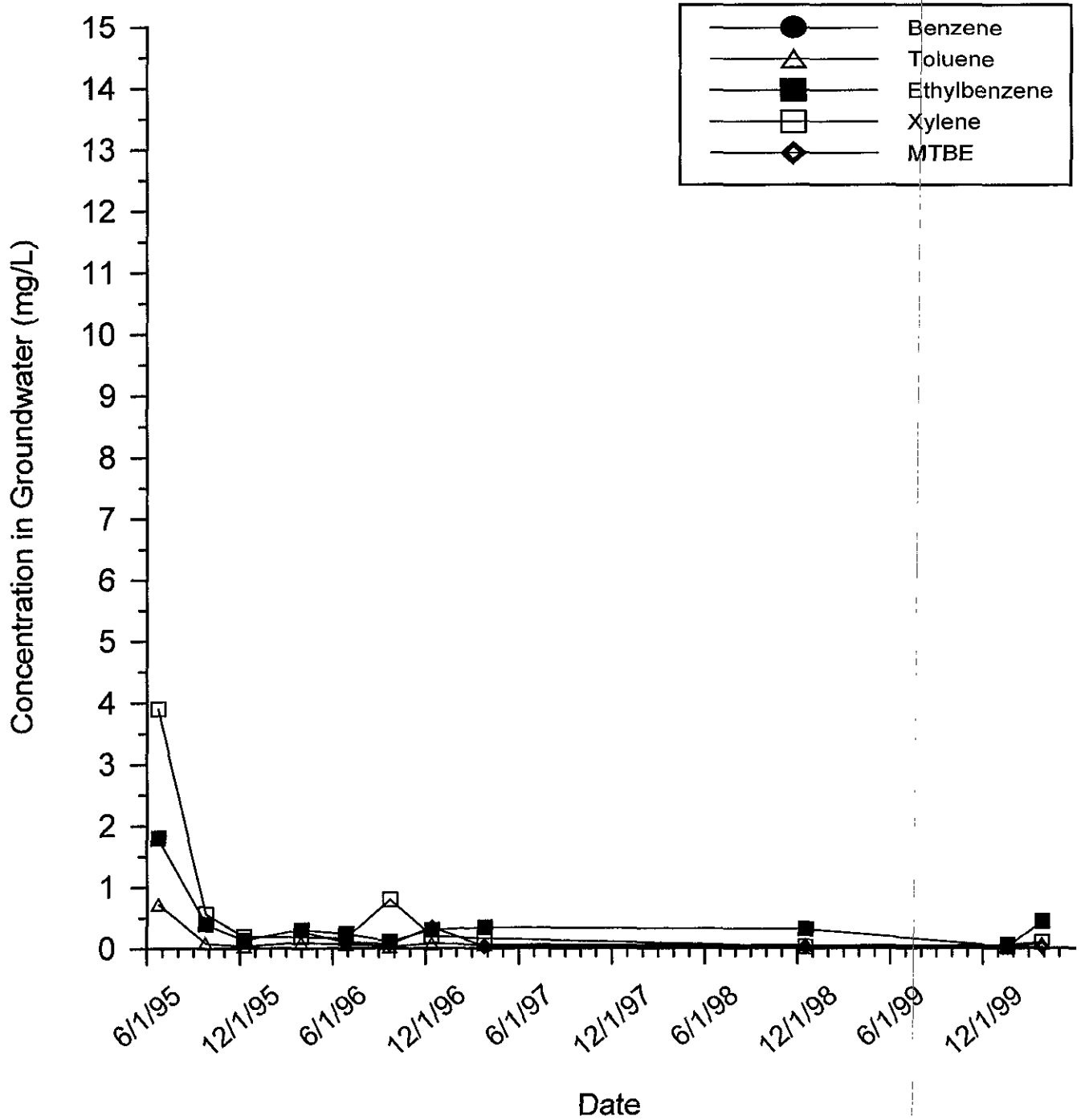
Note: If not detected, results are plotted as one-half of the method detection limit.

Figure B1-4
Concentration of TPH in Groundwater Over Time: MW-4
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)



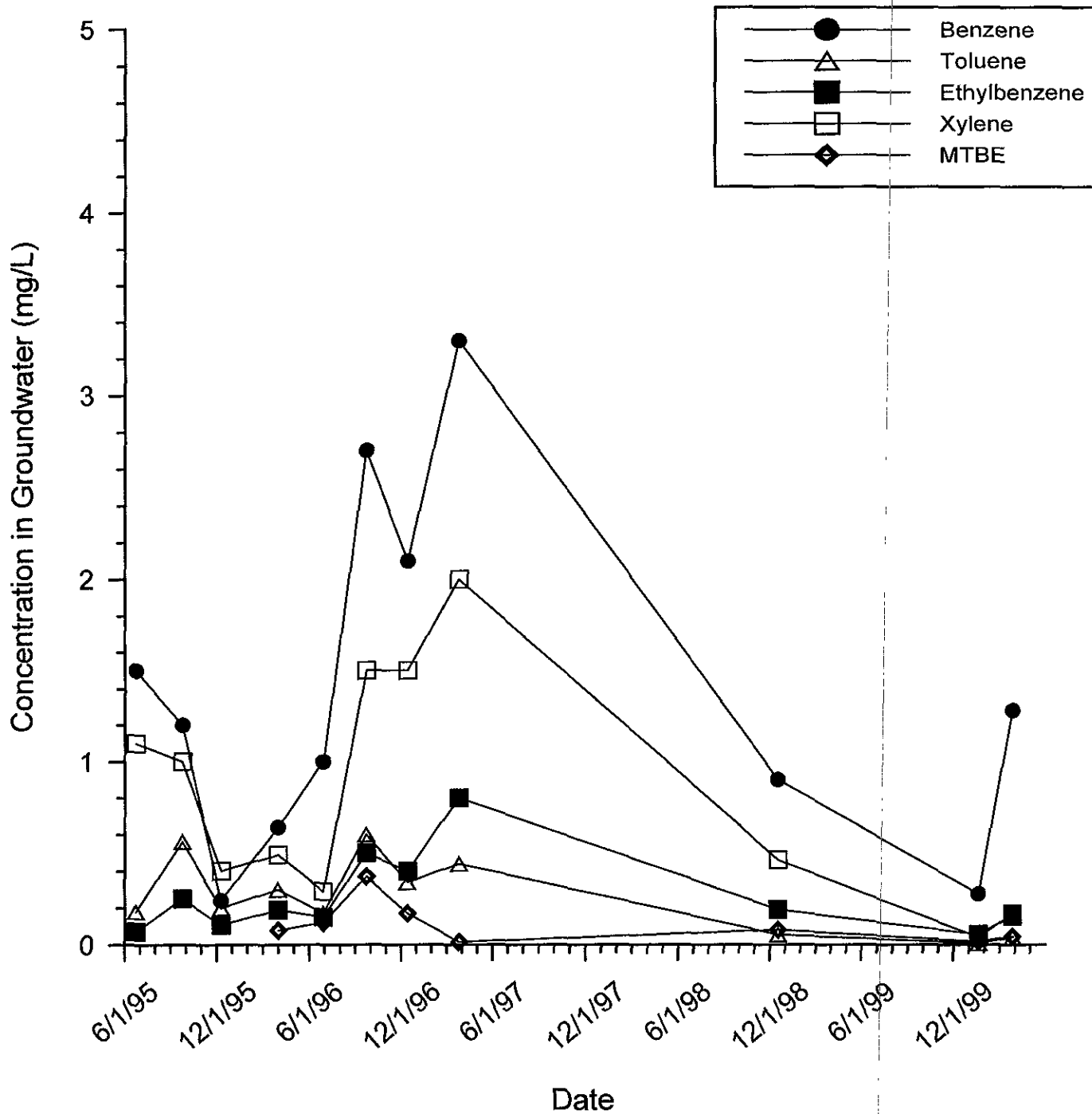
Note: Plotted data does not include diesel concentration of 330 mg/L detected on 6 September 1996 during first sampling event after installation of MW-4.

Figure B2-1
Concentration of BTEX and MTBE in Groundwater Over Time: MW-1
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)



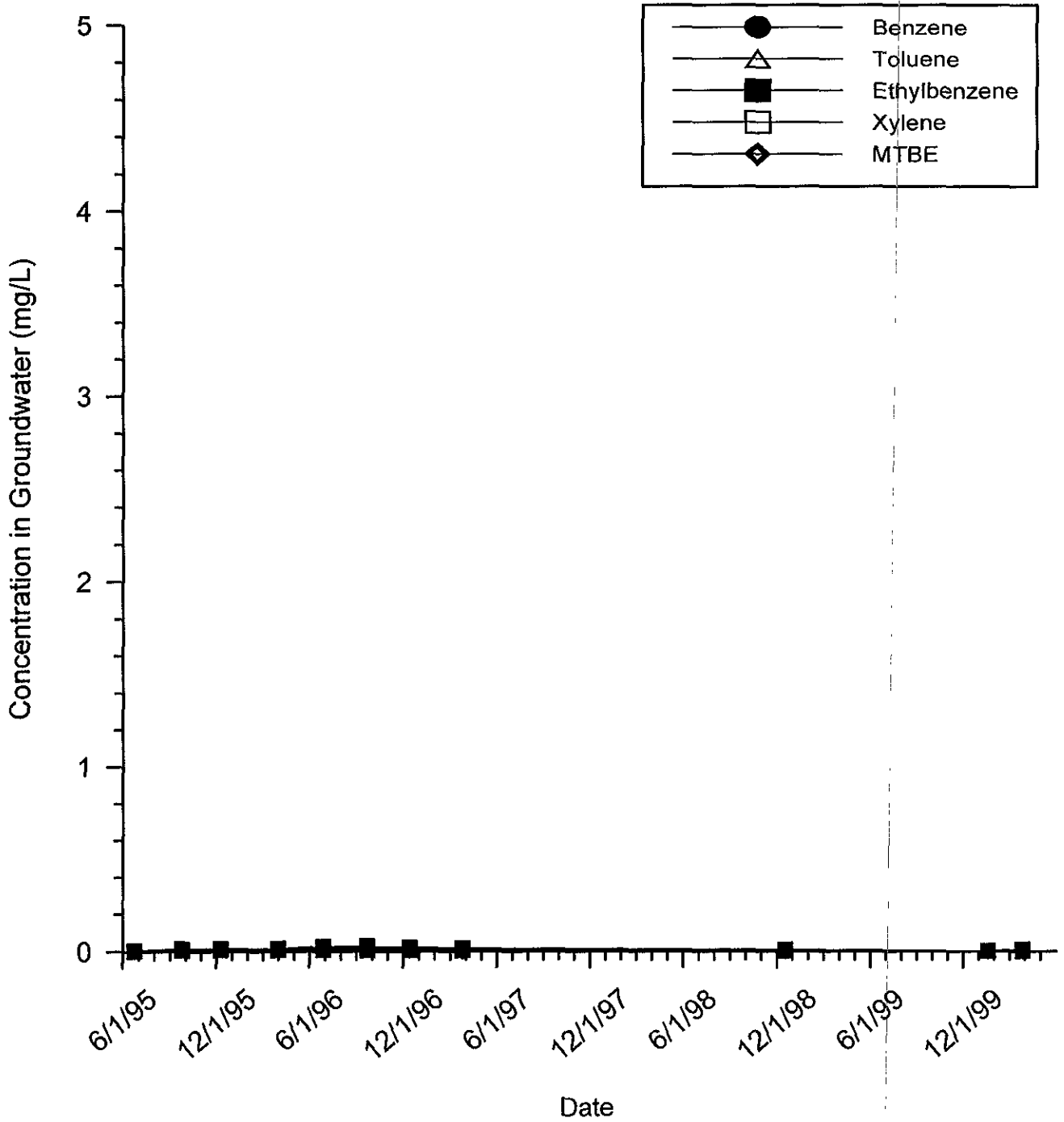
Note: If not detected, results are plotted as one-half of the method detection limit.

Figure B2-2
 Concentration of BTEX and MTBE in Groundwater Over Time: MW-2
 3925 Alameda Avenue, Oakland, California
 (EKI 980074.01)



Note: If not detected, results are plotted as one-half of the method detection limit.

Figure B2-3
Concentration of BTEX and MTBE in Groundwater Over Time: MW-3
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)



Note: If not detected, results are plotted as one-half of the method detection limit.

Figure B2-4

Concentration of BTEX and MTBE in Groundwater Over Time: MW-4
3925 Alameda Avenue, Oakland, California
(EKI 980074.01)

