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15 March 2000

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

Subject: Report on Additional Investigations and Groundwater Monitoring
Regarding the Property at 3925 Alameda Avenue Site,
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 investigations 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 investigations reported herein have been performed to address ACDEH requirements for closure of two underground storage tanks removed from the Site in 1988. Multiple phases of investigation have been performed at the Site since the USTs were removed. The investigations reported herein have been performed as proposed in EKI's *Report Regarding the 3925 Alameda Site*, dated 19 January 1999, and addenda dated 1 March and 12 April 1999. The proposed investigation was approved by the ACDEH in a letter dated 19 November 1999. The outstanding issues to complete closure of the USTs were described in these documents and tasks to address these issues were identified. With the completion of the investigations reported herein, the remaining task is annual groundwater monitoring to be completed in this month and again in March 2001.

1.0 INTRODUCTION

1.1 Background

Several earlier investigations have been performed at the Site and were previously reported. Previous investigations and removal activities at the Site have included:

- Soil sampling during underground storage tank ("UST") removal in 1988,
- Soil sampling in the UST excavation area in 1994,

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- Installation of three groundwater monitoring wells (MW-1 through MW-3) in 1995 and a fourth well (MW-4) in 1996,
- Soil and grab groundwater samples collected from six on-site locations (G-1 through G-6) in 1996, and
- Quarterly sampling of groundwater from monitoring wells from June 1995 to March 1997, and sampling of groundwater in December 1998.

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.

1.2 Objectives

The primary objectives of the investigations reported herein were as follows:

1. Further evaluate the potential for sources of releases of petroleum hydrocarbons along the southeastern boundary of the Site. In particular, an additional investigation was proposed to confirm the results of previous investigations in this area (particularly at G-6) and to evaluate the potential for impacts from the linear anomaly (i.e., potentially a pipeline) that was identified by a magnetometer survey in this area.
2. Perform groundwater monitoring 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.) DO low, ORP(-).

The investigations performed to accomplish these objectives were proposed by EKI in the *Report Regarding the 3925 Alameda Site*, dated 19 January 1999, and subsequent addenda, dated 1 March and 12 April 1999. The proposed investigation was approved by the ACDEH in a letter dated 19 November 1999. The investigation consisted of the following:

1. Collection and analysis of soil samples at four locations (SB-1 through SB-4) and grab groundwater samples from two of these locations (SB-2 and SB-3). The samples were analyzed for petroleum hydrocarbons. The results of these investigations are presented in Section 2 of this report.

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2. Collection of groundwater samples from the four on-site monitoring wells during January 2000. These samples were analyzed for petroleum hydrocarbons and constituents and bioattenuation parameters. The results of these investigations are presented in Section 3.

Sampling locations are shown on Figure 2.

2.0 ADDITIONAL SOIL AND GROUNDWATER INVESTIGATIONS

Additional soil and groundwater investigations were performed by EKI along the railroad tracks at the southeastern boundary of the Site to further evaluate the potential for sources of releases of petroleum hydrocarbons in this area of the Site.

The additional investigations were performed by EKI on 2 February 2000 and included the collection of samples at four locations, SB-1 through SB-4 (Figure 2). At location SB-2, a shallow soil sample and a grab groundwater sample were collected at former sampling location G-6 to verify the presence of petroleum hydrocarbon concentrations previously detected at this location. At location SB-3, one soil sample and one grab groundwater sample were collected near the identified linear anomaly. At locations SB-1 and SB-4, shallow soil samples were collected along the railroad spur to evaluate the presence of chemically impacted soils along the tracks.

Soil borings were completed by Gregg Drilling and Testing, Inc. using hollow stem augers. Soil and grab groundwater samples were collected in general conformance with the methods and procedures described in Appendix C of the *Report Regarding the 3925 Alameda Site*, dated 19 January 1999. A brief summary of field observations follows:

Location	Depth of Soil Sample Analyzed (ft bgs)	Total Depth of Boring (ft bgs)	Predominate Soil Type (ft bgs)		Depth to Groundwater in Auger (ft bgs)
SB-1	3.5 to 4	5	Surface 0 to 3 3 to 5	Asphalt Sand Silty Clay	4
SB-2	3.5 to 4	15	Surface 0 to 3 3 to 15	Asphalt/Gravel Sand Silty Clay	13
SB-3	3.5 to 4	15	Surface 0 to 2 2 to 15	Gravel Sand Silty Clay	None
SB-4	3.5 to 4	5	Surface to 2 2 to 5	Gravel Silty Clay	12

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Soil cuttings and investigation related wastes were contained in two-55 gallon drums and kept on-site pending arrangements for proper disposal.

Soil and groundwater samples were analyzed for TPH-g using the DHS LUFT Method, TPH-d and petroleum hydrocarbons as motor oil ("TPH-m") using the DHS LUFT Method with silica gel cleanup, and BTEX and MTBE using EPA Method 8260A. Sequoia Analytical ("Sequoia"), a State of California certified laboratory, performed chemical analyses of the soil and groundwater samples. Laboratory reports from Sequoia are enclosed in Appendix A

The locations of the soil borings (also monitoring wells and selected physical features) were surveyed by Kister, Savio & Rei, Inc. on 10 February 2000.

2.1 Results of Soil Sampling

The results of analyses for soil samples from borings SB-1 through SB-4 are presented in Table 1 and shown on Figure 3. Only TPH-g was detected in the four soil samples analyzed, at concentrations ranging from 1.65 mg/kg to 4.37 mg/kg. The presence of gasoline in the soil samples may be attributable to capillary or vapor movement of these hydrocarbons upward from the contaminated groundwater table. Because no THP-d, TPH-m, BTEX or MTBE were detected and the detected concentrations of TPH-g are relatively low in all the soil samples, this investigation does not indicate the presence of a source of petroleum hydrocarbons in shallow soil in this area. Based on these results, no further investigation of shallow soil for the presence of a source of petroleum hydrocarbons in this area appears to be warranted.

2.2 Results of Grab Groundwater Sampling

The results of analyses of grab groundwater samples collected from SB-2 and SB-3 are presented in Table 1 and on Figure 4. TPH-m and MTBE were not detected but BTEX, TPH-g and TPH-d were detected.

Location	Concentration Detected in Groundwater (mg/l)					
	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylene
SB-2	44.2	114	1.2	25	3.08	2.2
SB-3	67.4	145	2.56	0.113	2.87	0.24

These tests confirm the presence of petroleum hydrocarbons along the southeastern boundary of the Site. These concentrations are significantly lower than the concentrations previously detected in a grab groundwater sample at location G-6, which had benzene at 15 mg/l and TPH-g at 4,200 mg/l. Sample SB-2, installed at the same location at G-6, had significantly lower concentrations of all detected hydrocarbons. Therefore, the concentrations of petroleum hydrocarbons previously detected at G-6 appear to be an

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or due to sampling technique
anomaly in that they do not appear to be representative. This conclusion is further supported by the similarity of concentrations between groundwater samples collected at SB-2 and SB-3.

~~Based on these data, the source of the petroleum hydrocarbons detected in groundwater along the southeastern boundary is not obvious.~~ Furthermore, there are indications that the source of the petroleum hydrocarbons may not be from the former Site USTs. One indication is the difference in concentrations of petroleum hydrocarbons between MW-4 compared to SB-2 and SB-3. The petroleum hydrocarbons detected at well MW-4 (See Figure 4 and Section 3) are significantly lower than the results for SB-2 and SB-3. This difference is likely at least partly due to the different sampling techniques. Well MW-4 has ten feet of submerged well screen and was purged before sampling, whereas, the samples at SB-2 and SB-3 are collected from inside augers at discrete depths. The higher concentrations detected in groundwater at SB-2 and SB-3 may also be related to their proximity to the property boundary. *cannot argue*

Another indication that the petroleum hydrocarbons along the southeastern boundary may not be from the former Site USTs is the distribution of TPH-d concentrations. Shown on Figure 5 are the historically high concentrations of TPH-d in groundwater from grab sampling locations and groundwater monitoring wells. The distribution of TPH-d concentrations indicate an area of higher TPH-d concentration located at the southeastern boundary of the Site. However, similar concentrations of TPH-d have not been found in groundwater in the vicinity of the former Site USTs, thereby, suggesting a possible separate source near the boundary of the Site. *purge still may have another non UST source.*

Also, because the results of soil sampling along the southeastern boundary (Section 1.1) did not indicate that a source of TPH-d or other petroleum hydrocarbons is present in shallow soil on-site in this area, the source of the elevated petroleum hydrocarbons detected in groundwater samples at SB-2 and SB-3 may be from off-site.

3.0 GROUNDWATER MONITORING

The following sections summarize the results of groundwater level monitoring and sampling performed on 20 January 2000, provide an assessment of trends of petroleum hydrocarbon concentrations detected in on-site monitoring wells over time, and assess bioattenuation sampling results.

3.1 Groundwater Level Monitoring

Depths to groundwater in on-site groundwater monitoring wells MW-1, MW-2, MW-3, and MW-4 were measured on 20 January 2000. The resulting data are summarized in Table 2. These data were used to develop a groundwater contour map for this date,

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shown on Figure 6, which indicates the direction of the hydraulic gradient was towards the south. This gradient direction is consistent with prior groundwater gradient directions observed at the Site.

3.2 Groundwater Sampling

EKI collected groundwater samples on 20 January 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 were recorded during purging of the wells including dissolved oxygen, ferrous iron, redox potential, temperature, and pH. Purge water was contained in two-55 gallon drums and kept on-site pending arrangements for proper disposal.

Sequoia performed chemical analyses of the groundwater samples. 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.

3.2.1 TPH, BTEX and MTBE Concentrations

The results of groundwater sample analyses are summarized in Table 2 and on Figure 4.

Consistent with the results of previous sampling, the groundwater samples from well MW-4, the nearest downgradient well from the former UST area, had concentrations of petroleum hydrocarbons that were higher than at the other wells. Concentrations were lowest in groundwater samples from well MW-3, the upgradient well. The maximum concentrations of TPH-g (5.5 mg/l), TPH-d (1.0 mg/l), benzene (1.88 mg/l), toluene (0.041 mg/l), and total xylenes (0.053 mg/l) were all detected at well MW-1. The maximum concentrations of ethylbenzene (0.067 mg/l) and MTBE (0.017 mg/l) were detected at wells MW-4 and MW-2, respectively.

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 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 can be seen on these figures, groundwater concentrations of petroleum hydrocarbons appear to be stable or decreasing in MW-1 through MW-4 over time.

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3.2.2 Bioattenuation Data

The results of analyses of groundwater samples for bioattenuation parameters are summarized in Table 3 for the samples collected on 20 January 2000. These data include dissolved oxygen, nitrate, sulfate, ferrous iron, redox potential, pH, and temperature.

As indicated in Table 3, dissolved oxygen concentrations measured in samples collected from wells MW-1, MW-2, and MW-4, located downgradient (i.e., southwest to southeast) of the former USTs, are slightly lower than concentrations measured in samples collected from well MW-3, located upgradient of the former USTs. These relative dissolved oxygen concentrations, although low, are consistent with the occurrence of biodegradation of petroleum hydrocarbons in groundwater. In addition, the oxidation-reduction potential measured in samples collected from wells MW-2 and MW-4 is negative (i.e., less than -100 millivolts) relative to upgradient levels at MW-3.

These trends indicate that biodegradation processes are likely occurring in groundwater. The bioattenuation data support the appearance of stable and potentially decreasing concentrations of petroleum hydrocarbons in groundwater.

4.0 RECOMMENDED ADDITIONAL INVESTIGATIONS

EKI recommends that groundwater monitoring be performed as previously proposed. The proposed groundwater monitoring consists of water level measurements and sampling of groundwater from wells MW-1 through MW-4 during March 2000 and March 2001. Annual monitoring is the last identified task for completion of closure of the former USTs at the Site.) not so fast.

The next groundwater monitoring event is scheduled for the week of 27 March 2000. A report on the results of monitoring will be provided to the ACDEH by 15 May 2000.

Please contact us if you have any questions.

Very truly yours,
ERLER & KALINOWSKI, INC.

VH
for Vera H. Nelson, P.E.
Project Manager

SGM
Steven G. Miller, P.E.
Project Engineer

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cc: Smooke & Sons Investment Co.

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Table 1
Summary of Soil and Grab Groundwater Sampling Results
3925 Alameda Avenue, Oakland, California

Sample	Date	Soil Sampling Results (mg/kg)							
		TPHG	Diesel	Motor Oil	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
SB-1-3.5-4	2/2/00	1.65	<1	<10	<0.1	<0.1	<0.1	<0.1	<0.1
SB-2-3.5-4	2/2/00	4.37	<1	<10	<0.1	<0.1	<0.1	<0.1	<0.1
SB-3-3.5-4	2/2/00	3.15	<1	<10	<0.1	<0.1	<0.1	<0.1	<0.1
SB-4-3.5-4	2/2/00	2.18	<1	<10	<0.1	<0.1	<0.1	<0.1	<0.1

Sample	Date	Grab Groundwater Sampling Results (mg/L)							
		TPHG	Diesel	Motor Oil	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
SB-2	2/2/00	44.20	114	<25	1.20	0.25	3.08	2.20	<0.0667
SB-3	2/2/00	67.40	145	<25	2.56	0.11	2.87	0.24	<0.0556

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Table 2
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
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
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
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

- (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

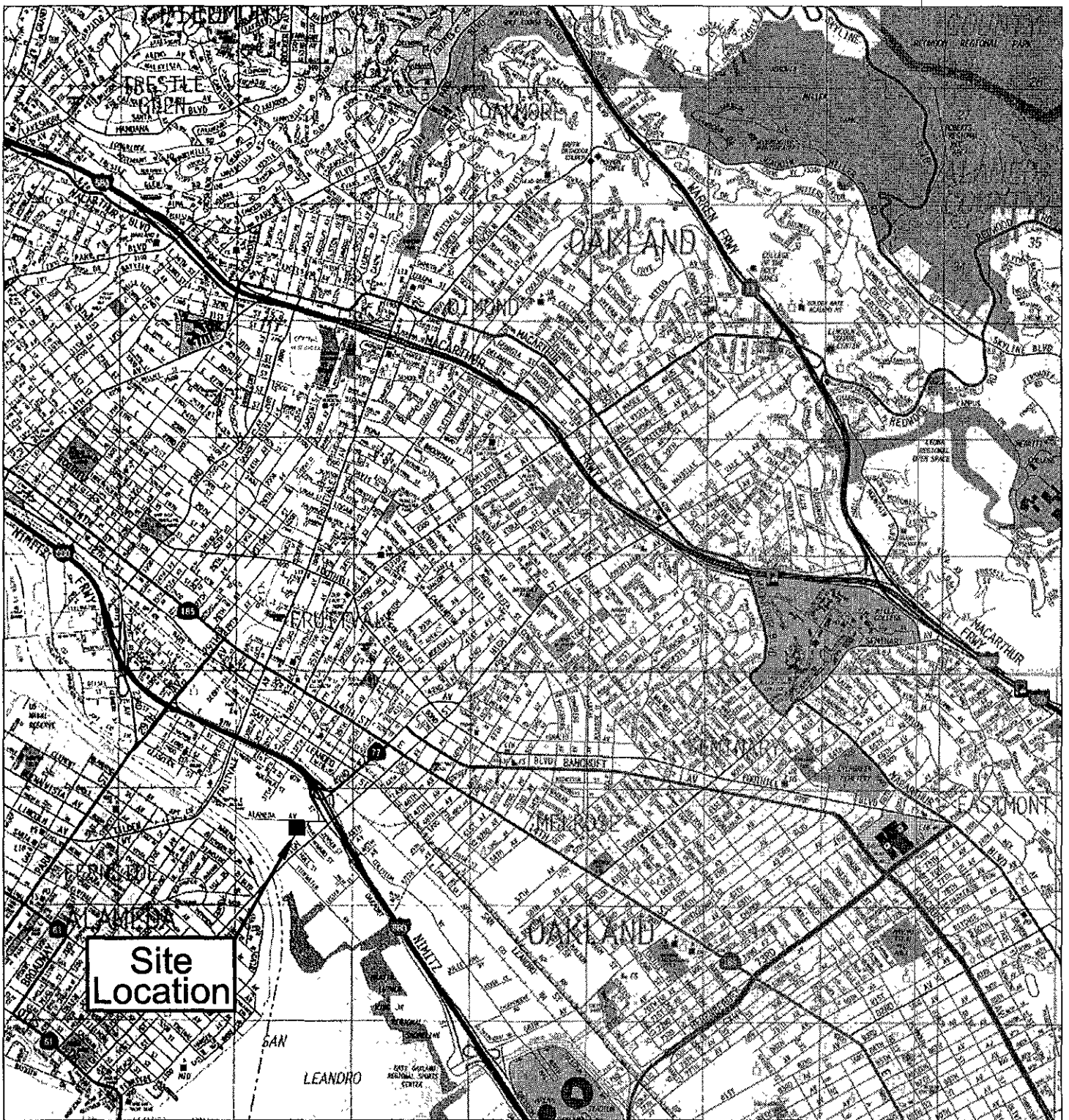
Table 3
Summary of Bioattenuation Data
3925 Alameda Avenue, Oakland, California

December 1998 Groundwater Sampling (1)				
Compound	MW-1	MW-2	MW-3	MW-4
dissolved oxygen (mg/L)	1.3	1.9	3.1	0.8
nitrate (mg/L)	5.9	7.3	<1.0	<1.0
sulfate (mg/L)	34	39	28	31
ferrous iron (mg/L)	3.3	3	3.3	3.3
oxidation reduction potential (mv)	5.6	-116	26.0	-117
pH	6.7	7.0	6.8	6.6
temperature	21.1	20.8	19.7	21.2

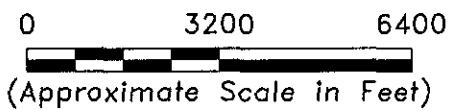
January 2000 Groundwater Sampling (2)				
Compound	MW-1	MW-2	MW-3	MW-4
dissolved oxygen (mg/L)	0.0	0.0	0.2	0.0
nitrate (mg/L)	<1.0	4.03	<1.0	<1.0
sulfate (mg/L)	30.8	31.8	32.6	24.8
ferrous iron (mg/L)	1.9	0.9	1	5.2
oxidation reduction potential (mv)	-114	-179	-65	-152
pH	6.8	6.8	6.8	6.8
temperature	21.1	21.0	20.9	20.5

Notes:

- (1) December 1998 groundwater samples were collected by EKI on 17 December 1998.
- (2) January 2000 groundwater samples were collected by EKI on 20 January 2000.



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



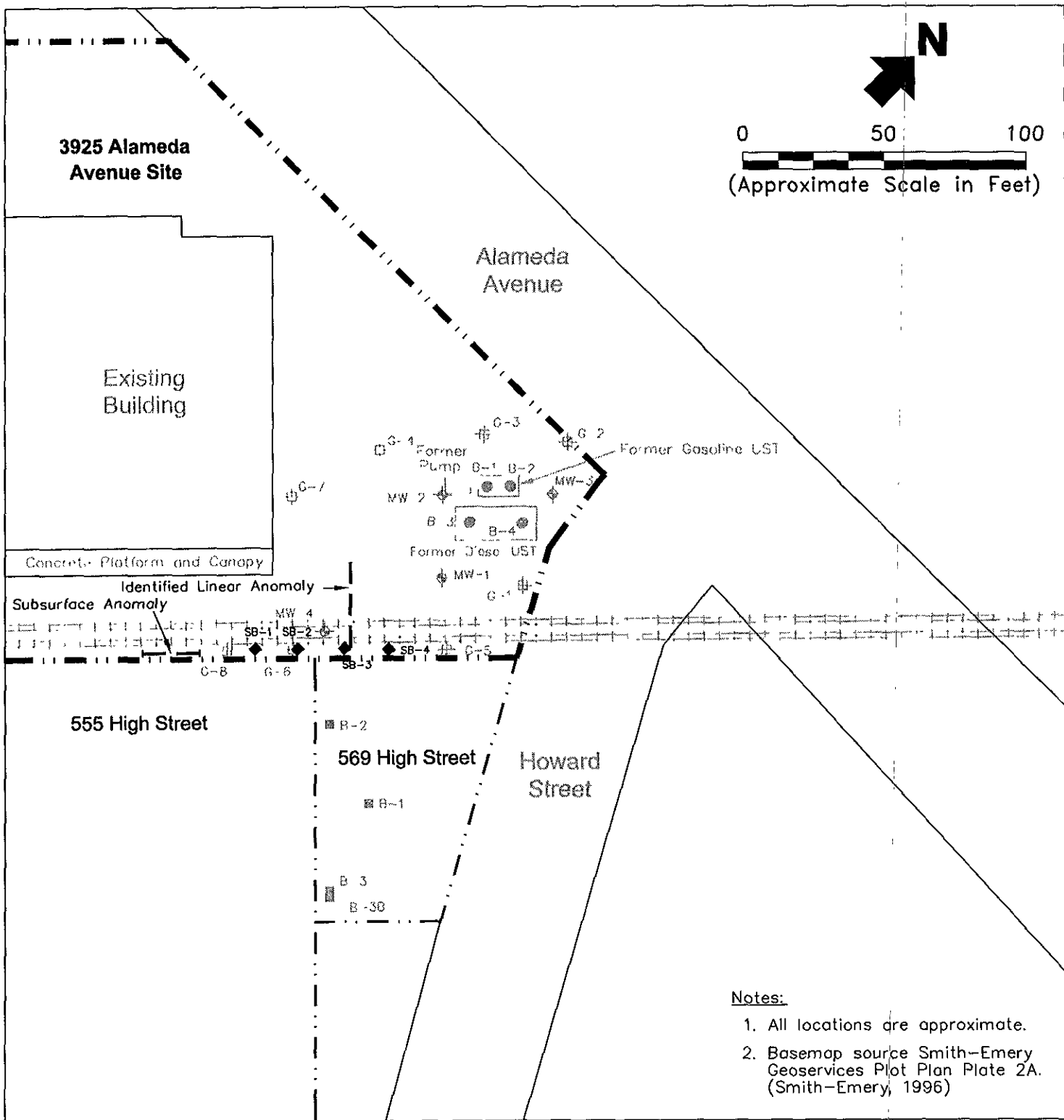
Erler & Kalinowski, Inc.

Site Location Map

3925 Alameda Ave.
Oakland, CA

March 2000
EKI 980074.01

Figure 1



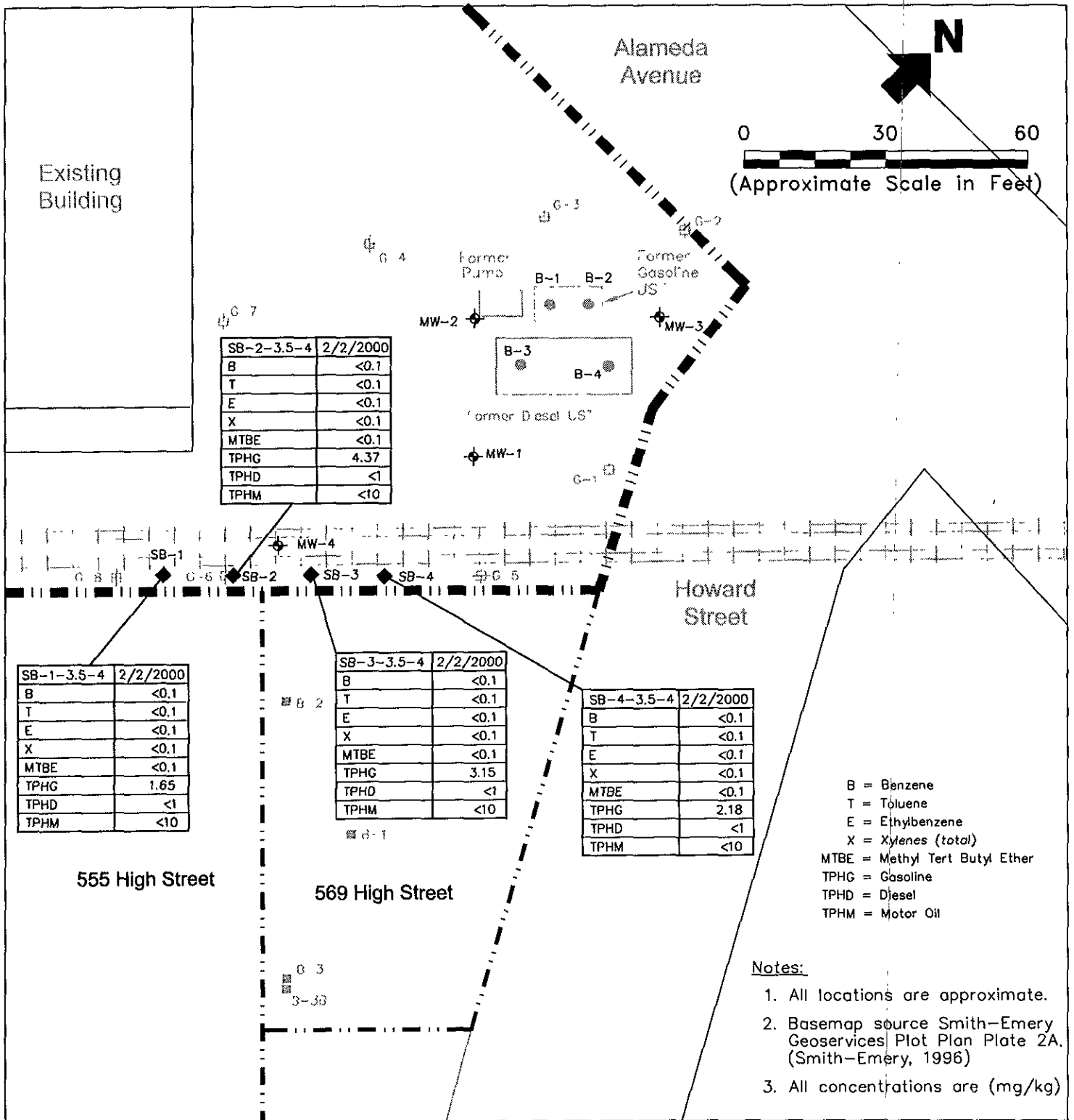
LEGEND

- — — — — 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

Erler & Kalinowski, Inc.

Site Features and Sampling Locations

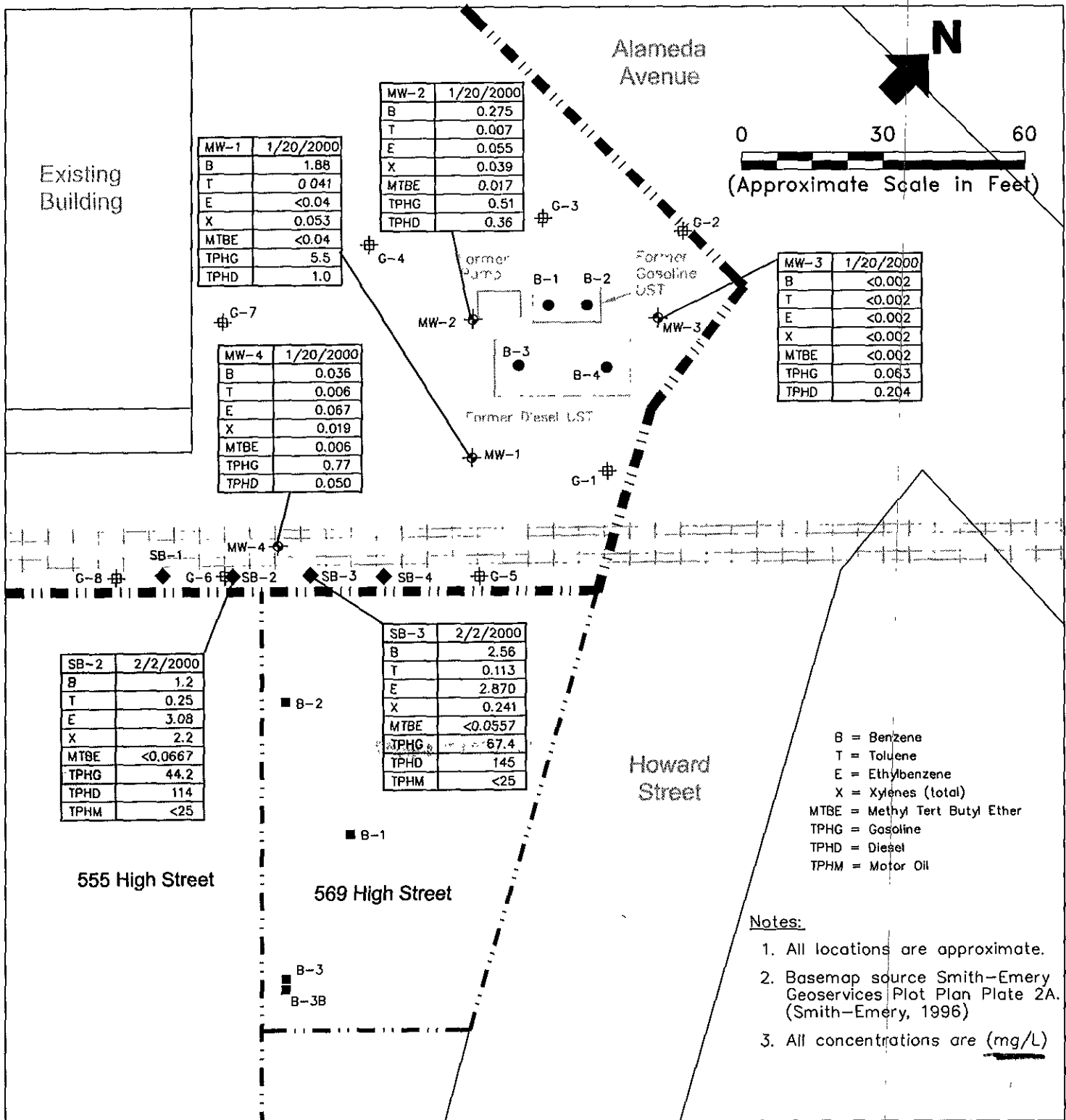
3925 Alameda Ave.
Oakland, CA
March 2000
EKI 980074.01
Figure 2



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

Erler & Kalinowski, Inc.
 Soil Sampling Results
 2 February 2000
 3925 Alameda Ave.
 Oakland, CA
 March 2000
 EKI 980074.01
Figure 3



MW-1	1/20/2000
B	1.88
T	0.041
E	<0.04
X	0.053
MTBE	<0.04
TPHG	5.5
TPHD	1.0

MW-2	1/20/2000
B	0.275
T	0.007
E	0.055
X	0.039
MTBE	0.017
TPHG	0.51
TPHD	0.36

MW-3	1/20/2000
B	<0.002
T	<0.002
E	<0.002
X	<0.002
MTBE	<0.002
TPHG	0.063
TPHD	0.204

MW-4	1/20/2000
B	0.036
T	0.006
E	0.067
X	0.019
MTBE	0.006
TPHG	0.77
TPHD	0.050

SB-2	2/2/2000
B	1.2
T	0.25
E	3.08
X	2.2
MTBE	<0.0667
TPHG	44.2
TPHD	114
TPHM	<25

SB-3	2/2/2000
B	2.56
T	0.113
E	2.870
X	0.241
MTBE	<0.0557
TPHG	67.4
TPHD	145
TPHM	<25

- B = Benzene
- T = Toluene
- E = Ethylbenzene
- X = Xylenes (total)
- MTBE = Methyl Tert Butyl Ether
- TPHG = Gasoline
- TPHD = Diesel
- TPHM = Motor Oil

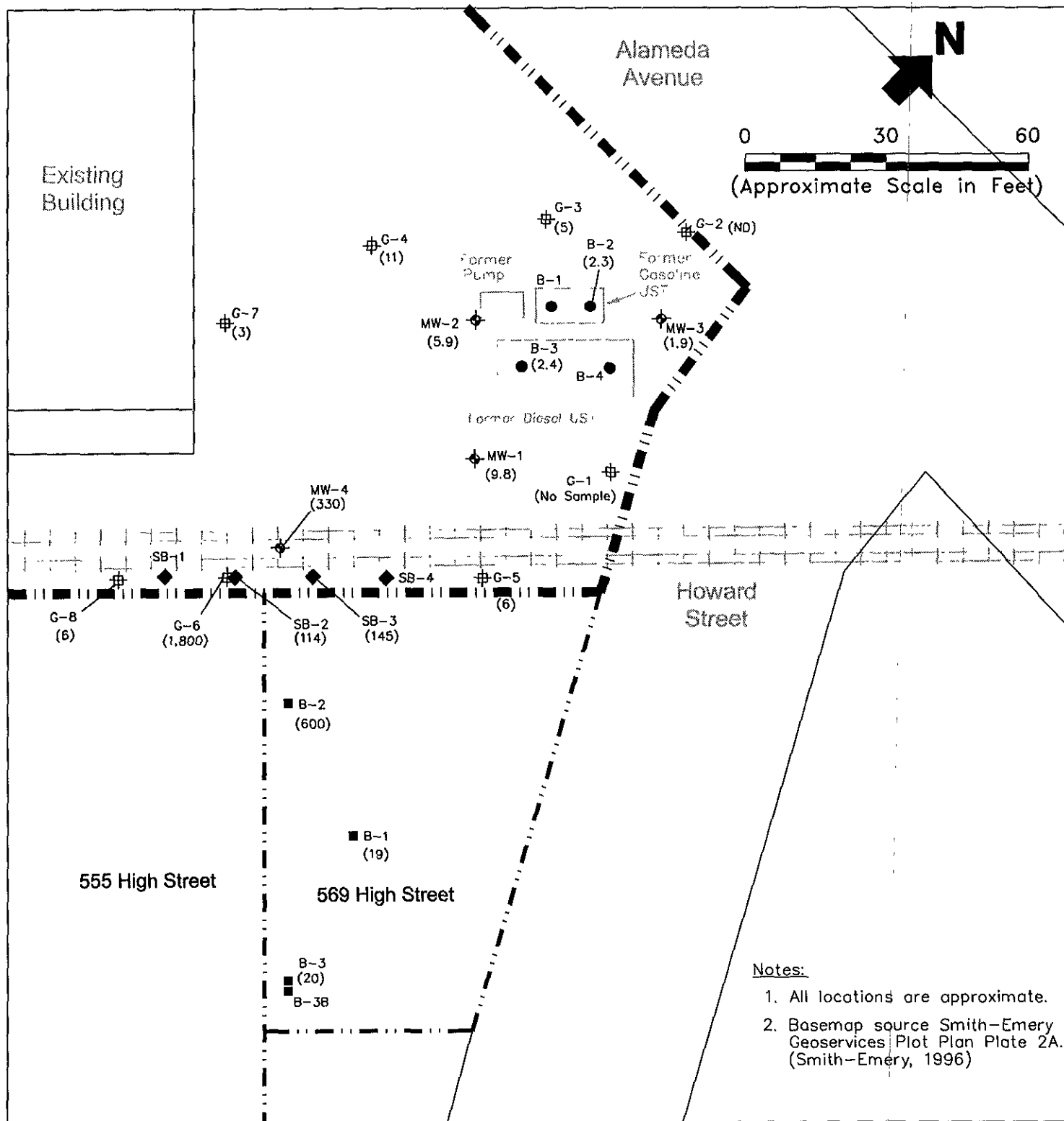
- Notes:**
1. All locations are approximate.
 2. Basemap source Smith-Emery Geoservices Plot Plan Plate 2A. (Smith-Emery, 1996)
 3. All concentrations are (mg/L)

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

Erler & Kalinowski, Inc.

Groundwater Sampling Results
for 20 January and
2 February 2000
3925 Alameda Ave.
Oakland, CA
March 2000
EKI 980074.01
Figure 4



Notes:

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

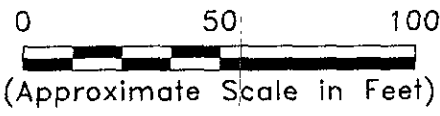
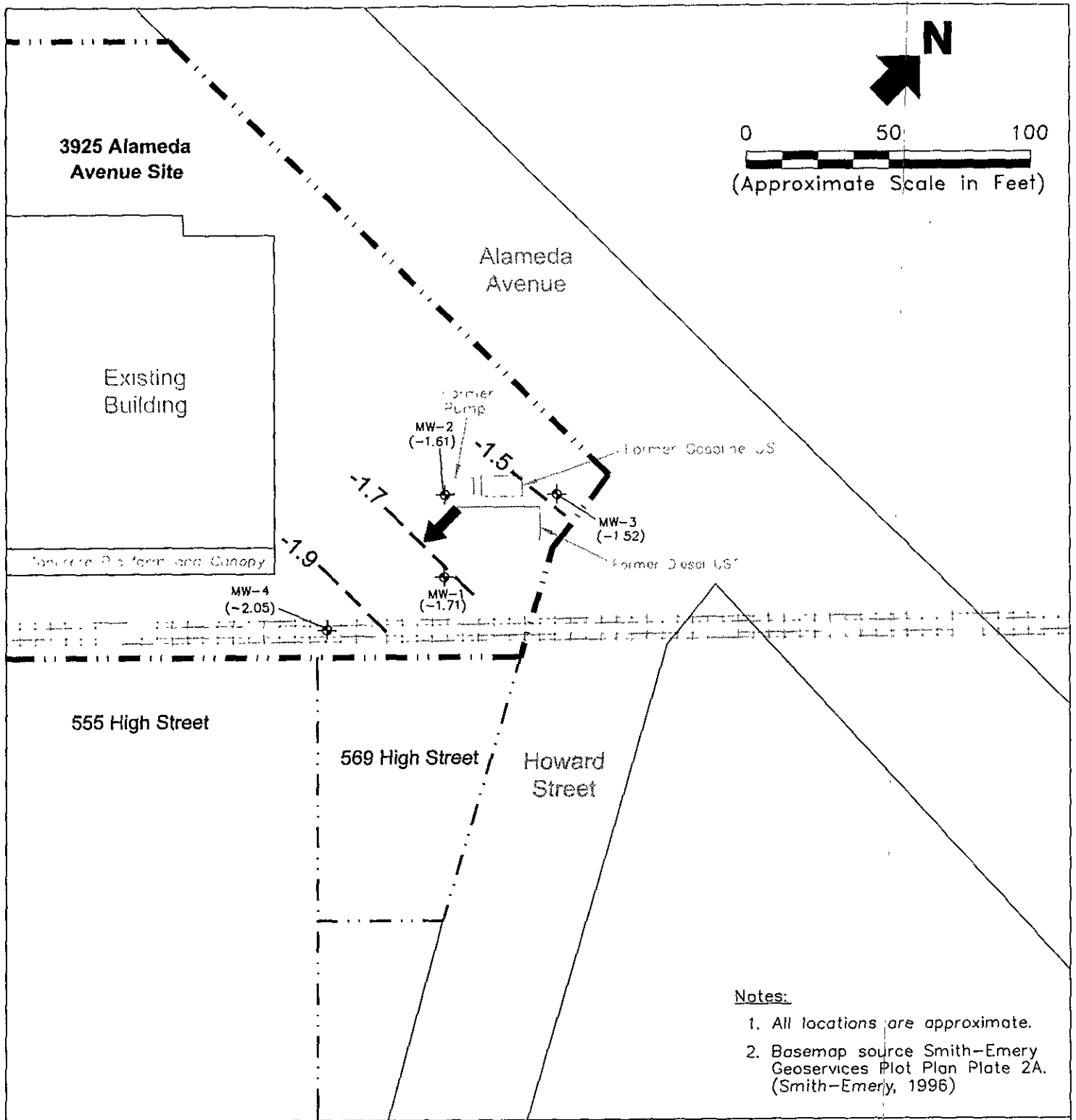
LEGEND

- Approximate Site Boundary
- +--+ Railroad Tracks
- ⊕ On-Site Monitoring Well Location
- ⊕ On-Site Geoprobe Location in 1996
- On-Site Soil Boring Location Collected at Former USTs in 1994
- Off-Site Soil Boring/Grab Groundwater Location in 1987
- ◆ On-Site Soil Boring/Grab Groundwater Location February 2000
- (600) Concentration of Diesel in Groundwater (mg/L)

Erler & Kalinowski, Inc.

(Highest) Historical Concentrations of Diesel in Groundwater Samples

3925 Alameda Ave.
Oakland, CA
March 2000
EKI 980074.01
Figure 5



- 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)
- (-1.71) Groundwater Elevation (feet msl) Measured on 20 January 2000
- Approximate Groundwater Gradient Direction

Erler & Kalinowski, Inc.

Groundwater Elevation Contour Map

3925 Alameda Ave.
Oakland, CA
March 2000
EKI 980074.01
Figure 6

APPENDIX A

**Laboratory Reports from Sequoia Analytical dated 7 and 17 February 2000,
Chain of Custody Documents, and Groundwater Purge and Level Survey Records**



Sequoia Analytical

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

February 7, 2000

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

RE: EKI/L001155

Dear Mike Beck:

Enclosed are the results of analyses for sample(s) received by the laboratory on January 20, 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





Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
--	--	---

ANALYTICAL REPORT FOR L001155

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	L001155-01	Water	1/20/00
MW-2	L001155-02	Water	1/20/00
MW-3	L001155-03	Water	1/20/00
MW-4	L001155-04	Water	1/20/00
MW-3DUPE	L001155-05	Water	1/20/00
ERB	L001155-06	Water	1/20/00





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1551 Industrial Road
San Carlos, CA 94070-4111
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Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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Sample Description: **MW-1**
Laboratory Sample Number: **L001155-01**

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

<u>Total Purgeable Hydrocarbons by DHS LUFT</u>								
Purgeable Hydrocarbons as Gasoline	0010159	1/31/00	2/1/00		2500	5500	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		90.9	%	

<u>Volatile Organic Compounds by EPA Method 8260A</u>								
Benzene	0010150	1/27/00	1/28/00		40.0	1880	ug/l	
Toluene	"	"	"		40.0	40.9	"	
Ethylbenzene	"	"	"		40.0	ND	"	
Xylenes (total)	"	"	"		40.0	52.6	"	
Methyl tert-butyl ether	"	"	"		40.0	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		95.2	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		99.8	"	

<u>Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT</u>								
Diesel Range Hydrocarbons	0A28028	1/28/00	2/1/00	DHS LUFT	0.0500	0.997	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	40-140		111	%	

<u>Anions by EPA Method 300.0</u>								
Nitrate as NO3	0010604	1/21/00	1/21/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	30.8	"	





Sequoia Analytical

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

Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
--	--	---

Sample Description: **MW-2**
Laboratory Sample Number: **L001155-02**

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

<u>Total Purgeable Hydrocarbons by DHS LUFT</u>								
Purgeable Hydrocarbons as Gasoline	0020003	2/1/00	2/2/00		200	505	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		107	%	

<u>Volatile Organic Compounds by EPA Method 8260A</u>								
Benzene	0010150	1/27/00	1/28/00		4.00	275	ug/l	
Toluene	"	"	"		4.00	7.12	"	
Ethylbenzene	"	"	"		4.00	54.9	"	
Xylenes (total)	"	"	"		4.00	39.2	"	
Methyl tert-butyl ether	"	"	"		4.00	17.4	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		94.8	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		99.4	"	

<u>Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT</u>								
Diesel Range Hydrocarbons	0A28028	1/28/00	2/1/00	DHS LUFT	0.0500	0.361	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	40-140		112	%	

<u>Anions by EPA Method 300.0</u>								
Nitrate as NO3	0010604	1/21/00	1/21/00	EPA 300.0	1.00	4.03	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	31.8	"	





Sequoia Analytical

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 San Carlos, CA 94070-4111
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Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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Sample Description: MW-3
Laboratory Sample Number: L001155-03

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

Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0020001	2/1/00	2/1/00		50.0	ND	ug/l	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	60.0-140		79.2	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0010150	1/27/00	1/27/00		2.00	ND	ug/l	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		2.00	ND	"	
Methyl tert-butyl ether	"	"	"		2.00	ND	"	
Surrogate: <i>1,2</i> -Dichloroethane- <i>d4</i>	"	"	"	76.0-114		96.2	%	
Surrogate: Toluene- <i>d8</i>	"	"	"	88.0-110		103	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT								
Diesel Range Hydrocarbons	0A28028	1/28/00	2/1/00	DHS LUFT	0.0500	0.220	mg/l	D-15
Surrogate: <i>n</i> -Pentacosane	"	"	"	40-140		107	%	

Anions by EPA Method 300.0								
Nitrate as NO3	0010604	1/21/00	1/21/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	24.4	"	





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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Sample Description: MW-4
Laboratory Sample Number: L001155-04

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

<u>Total Purgeable Hydrocarbons by DHS LUFT</u>								
Purgeable Hydrocarbons as Gasoline	0010159	1/31/00	2/1/00		500	767	ug/l	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		99.3	%	

<u>Volatile Organic Compounds by EPA Method 8260A</u>								
Benzene	0010150	1/27/00	1/28/00		2.00	36.2	ug/l	
Toluene	"	"	"		2.00	5.74	"	
Ethylbenzene	"	"	"		2.00	66.5	"	
Xylenes (total)	"	"	"		2.00	18.6	"	
Methyl tert-butyl ether	"	"	"		2.00	6.33	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		92.4	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		98.0	"	

<u>Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT</u>								
Diesel Range Hydrocarbons	0A28028	1/28/00	2/1/00	DHS LUFT	0.0500	0.504	mg/l	D-15
Surrogate: n-Pentacosane	"	"	"	40-140		107	%	

<u>Anions by EPA Method 300.0</u>								
Nitrate as NO3	0010604	1/21/00	1/21/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	32.6	"	





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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Sample Description: MW-3DUPE
Laboratory Sample Number: L001155-05

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

Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0020001	2/1/00	2/1/00		50.0	63.1	ug/l	2
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	60.0-140		91.7	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0010150	1/27/00	1/28/00		2.00	ND	ug/l	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		2.00	ND	"	
Methyl tert-butyl ether	"	"	"		2.00	ND	"	
Surrogate: <i>1,2-Dichloroethane-d4</i>	"	"	"	76.0-114		96.2	%	
Surrogate: <i>Toluene-d8</i>	"	"	"	88.0-110		98.4	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT								
Diesel Range Hydrocarbons	0A28028	1/28/00	2/1/00	DHS LUFT	0.0500	0.204	mg/l	D-15
Surrogate: <i>n</i> -Pentacosane	"	"	"	40-140		105	%	

Anions by EPA Method 300.0								
Nitrate as NO3	0010604	1/21/00	1/21/00	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 Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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Sample Description: **ERB**
Laboratory Sample Number: **L001155-06**

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

Total Purgeable Hydrocarbons by DHS LUFT

Purgeable Hydrocarbons as Gasoline	0010159	1/31/00	2/1/00		50.0	ND	ug/l	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	60.0-140		99.2	%	

Volatile Organic Compounds by EPA Method 8260A

Benzene	0010150	1/27/00	1/28/00		2.00	ND	ug/l	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		2.00	ND	"	
Methyl tert-butyl ether	"	"	"		2.00	ND	"	
Surrogate: <i>1,2</i> -Dichloroethane- <i>d4</i>	"	"	"	76.0-114		94.4	%	
Surrogate: Toluene- <i>d8</i>	"	"	"	88.0-110		101	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT

Diesel Range Hydrocarbons	0A28028	1/28/00	2/1/00	DHS LUFT	0.0500	ND	mg/l	
Surrogate: <i>n</i> -Pentacosane	"	"	"	40-140		114	%	

Anions by EPA Method 300.0

Nitrate as NO3	0010604	1/21/00	1/21/00	EPA 300.0	1.00	ND	mg/l	
Sulfate as SO4	"	"	"	EPA 300.0	5.00	5.85	"	





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
---	--	---

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: 0010159			Date Prepared: 1/31/00		Extraction Method: EPA 5030B [P/T]					
Blank			0010159-BLK1							
Purgeable Hydrocarbons as Gasoline	1/31/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.44	"	60.0-140	84.4			
LCS			0010159-BS1							
Surrogate: a,a,a-Trifluorotoluene	1/31/00	10.0		8.39	ug/l	60.0-140	83.9			
LCS			0010159-BS2							
Purgeable Hydrocarbons as Gasoline	1/31/00	250		230	ug/l	70.0-130	92.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.87	"	60.0-140	88.7			
Matrix Spike			0010159-MS1 L001247-01							
Surrogate: a,a,a-Trifluorotoluene	1/31/00	10.0		8.92	ug/l	60.0-140	89.2			
Matrix Spike Dup			0010159-MSD1 L001247-01							
Surrogate: a,a,a-Trifluorotoluene	1/31/00	10.0		7.95	ug/l	60.0-140	79.5			
Batch: 0020001			Date Prepared: 2/1/00		Extraction Method: EPA 5030B [P/T]					
Blank			0020001-BLK1							
Purgeable Hydrocarbons as Gasoline	2/1/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.79	"	60.0-140	87.9			
LCS			0020001-BS1							
Surrogate: a,a,a-Trifluorotoluene	2/1/00	10.0		8.82	ug/l	60.0-140	88.2			
LCS			0020001-BS2							
Purgeable Hydrocarbons as Gasoline	2/1/00	250		213	ug/l	70.0-130	85.2			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.95	"	60.0-140	99.5			
Matrix Spike			0020001-MS1 L001205-13							
Purgeable Hydrocarbons as Gasoline	2/1/00	250	ND	225	ug/l	60.0-140	90.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.67	"	60.0-140	86.7			
Matrix Spike Dup			0020001-MSD1 L001205-13							
Purgeable Hydrocarbons as Gasoline	2/1/00	250	ND	218	ug/l	60.0-140	87.2	25.0	3.16	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.51	"	60.0-140	85.1			
Batch: 0020003			Date Prepared: 2/1/00		Extraction Method: EPA 5030B [P/T]					
Blank			0020003-BLK1							
Purgeable Hydrocarbons as Gasoline	2/1/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.85	"	60.0-140	98.5			





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
---	--	---

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*
LCS										
<u>0020003-BS1</u>										
Surrogate: a,a,a-Trifluorotoluene	2/1/00	10.0		10.5	ug/l	60.0-140	105			
LCS										
<u>0020003-BS2</u>										
Purgeable Hydrocarbons as Gasoline	2/1/00	250		266	ug/l	70.0-130	106			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		12.6	"	60.0-140	126			
Matrix Spike										
<u>0020003-MS1</u> <u>L001205-09</u>										
Purgeable Hydrocarbons as Gasoline	2/1/00	250	ND	238	ug/l	60.0-140	95.2			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.7	"	60.0-140	117			
Matrix Spike Dup										
<u>0020003-MSD1</u> <u>L001205-09</u>										
Purgeable Hydrocarbons as Gasoline	2/1/00	250	ND	249	ug/l	60.0-140	99.6	25.0	4.52	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		12.4	"	60.0-140	124			





Erler & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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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*
Batch: 0010150			Date Prepared: 1/27/00			Extraction Method: EPA 5030B (P/T)				
Blank										
0010150-BLK1										
Benzene	1/27/00			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		48.1	"	76.0-114	96.2			
Surrogate: Toluene-d8	"	50.0		49.8	"	88.0-110	99.6			
LCS										
0010150-BS1										
Benzene	1/27/00	50.0		52.4	ug/l	70.0-130	105			
Toluene	"	50.0		49.0	"	70.0-130	98.0			
Methyl tert-butyl ether	"	50.0		50.5	"	70.0-130	101			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.5	"	76.0-114	99.0			
Surrogate: Toluene-d8	"	50.0		52.0	"	88.0-110	104			
Matrix Spike										
0010150-MS1 L001203-09										
Benzene	1/27/00	50.0	ND	44.0	ug/l	60.0-140	88.0			
Toluene	"	50.0	ND	38.3	"	60.0-140	76.6			
Methyl tert-butyl ether	"	50.0	24.1	70.4	"	60.0-140	92.6			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		48.2	"	76.0-114	96.4			
Surrogate: Toluene-d8	"	50.0		47.6	"	88.0-110	95.2			
Matrix Spike Dup										
0010150-MSD1 L001203-09										
Benzene	1/27/00	50.0	ND	44.1	ug/l	60.0-140	88.2	25.0	0.227	
Toluene	"	50.0	ND	41.5	"	60.0-140	83.0	25.0	8.02	
Methyl tert-butyl ether	"	50.0	24.1	70.0	"	60.0-140	91.8	25.0	0.868	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.6	"	76.0-114	99.2			
Surrogate: Toluene-d8	"	50.0		51.9	"	88.0-110	104			





Mer & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EK1 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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**Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup 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: 0A28028		Date Prepared: 1/28/00			Extraction Method: EPA 3510B					
Blank		0A28028-BLK1								
Diesel Range Hydrocarbons	1/31/00			ND	mg/l	0.0500				
Surrogate: n-Pentacosane	"	0.100		0.109	"	40-140	109			
CS		0A28028-BS1								
Diesel Range Hydrocarbons	2/1/00	1.00		0.847	mg/l	40-140	84.7			
Surrogate: n-Pentacosane	"	0.100		0.108	"	40-140	108			
Matrix Spike		0A28028-MS1		L001155-01						
Diesel Range Hydrocarbons	2/1/00	1.00	0.997	1.12	mg/l	40-140	12.3			A-01
Surrogate: n-Pentacosane	"	0.100		0.108	"	40-140	108			
Matrix Spike Dup		0A28028-MSD1		L001155-01						
Diesel Range Hydrocarbons	2/1/00	1.00	0.997	1.20	mg/l	40-140	20.3	50	6.90	A-01a
Surrogate: n-Pentacosane	"	0.100		0.103	"	40-140	103			





Mer & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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**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: 0010604										
Blank										
Nitrate as NO3	1/21/00			ND	mg/l	0.100				
Sulfate as SO4	"			ND	"	0.500				
ICS										
Nitrate as NO3	1/21/00	10.0		10.1	mg/l	80-120	101			
Sulfate as SO4	"	10.0		9.94	"	80-120	99.4			
Matrix Spike										
Nitrate as NO3	1/21/00	100	ND	104	mg/l	75-125	104			
Sulfate as SO4	"	100	30.8	133	"	75-125	102			
Matrix Spike Dup										
Nitrate as NO3	1/21/00	100	ND	103	mg/l	75-125	103	20	0.966	
Sulfate as SO4	"	100	30.8	134	"	75-125	103	20	0.749	





Her & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01/3925 Alameda Ave Project Manager: Mike Beck	Sampled: 1/20/00 Received: 1/20/00 Reported: 2/7/00
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Notes and Definitions

Note

- A-01 RPD is within limits but the percent recovery for the diesel spike is low which might be due to matrix.
- 01a RPD is within limits but the percent recovery is low which might be due to the matrix.
- D-15 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
Chromatogram Pattern: Gasoline C6-C12
Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
- 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

1001155
Erler & Kalinowski, Inc.

Page 1 of 1

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 980074.01

Date Sampled: 1/20/2000

Project Name: 3925 Alameda Avenue

Sampled By: Roger D. Lion

Source of Samples: GW monitoring wells

Report Results To: Michael Beck

Location: Oakland, CA

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)
✓	MW-1	water	3-VOAs + HCl, 1-1-L. plastic 1-1 L. amber glass ✓	13:25	TPH-gasoline and TPH-diesel by EPA 8015M, nitrate & sulfate, BTEX and MTBE ONLY by EPA 8260	10 day TAT
✓	MW-2	water	3-VOAs + HCl, 1-1-L. plastic 1-1 L. amber glass ✓	12:18	TPH-gasoline and TPH-diesel by EPA 8015M, nitrate & sulfate, BTEX and MTBE ONLY by EPA 8260	10 day TAT
✓	MW-3	water	3-VOAs + HCl, 1-1-L. plastic 1-1 L. amber glass ✓	11:11	TPH-gasoline and TPH-diesel by EPA 8015M, nitrate & sulfate, BTEX and MTBE ONLY by EPA 8260	10 day TAT
✓	MW-4	water	3-VOAs + HCl, 1-1-L. plastic 1-1 L. amber glass ✓	14:45	TPH-gasoline and TPH-diesel by EPA 8015M, nitrate & sulfate, BTEX and MTBE ONLY by EPA 8260	10 day TAT
✓	MW3 dupe	water	3-VOAs + HCl, 1-1-L. plastic 1-1 L. amber glass ✓	11:11	TPH-gasoline and TPH-diesel by EPA 8015M, nitrate & sulfate, BTEX and MTBE ONLY by EPA 8260	10 day TAT
✓	ERB	water	3-VOAs + HCl, 1-1-L. plastic 1-1 L. amber glass ✓	14:35	TPH-gasoline and TPH-diesel by EPA 8015M, nitrate & sulfate, BTEX and MTBE ONLY by EPA 8260	10 day TAT

Special Instructions: Use silica gel cleanup for TPHd
Report BTEX & MTBE only, no chlorinated solvents

Relinquished By:

Received By:

Name / Signature / Affiliation

Date

Time

Name / Signature / Affiliation

✓ Roger D. Lion / Roger D. Lion / EKI	1/20/2000	15:47	Kevin Corcoran / Kevin Corcoran / Sequoia



Sequoia Analytical

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

February 17, 2000

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

RE: EK/L002018

Dear Mike Beck:

Enclosed are the results of analyses for sample(s) received by the laboratory on February 2, 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





Mer & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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ANALYTICAL REPORT FOR L002018

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
SB-1-3.5-4	L002018-01	Soil	2/2/00
SB-2-3.5-4	L002018-02	Soil	2/2/00
SB-3-3.5-4	L002018-03	Soil	2/2/00
SB-4-3.5-4	L002018-04	Soil	2/2/00
B-2	L002018-05	Water	2/2/00
SB-3	L002018-06	Water	2/2/00





Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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Sample Description: **SB-1-3.5-4**
Laboratory Sample Number: **L002018-01**

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

<u>Total Purgeable Hydrocarbons by DHS LUFT</u>								
Purgeable Hydrocarbons as Gasoline	0020068	2/14/00	2/14/00		1.00	1.65	mg/kg	1
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		71.5	%	

<u>Volatile Organic Compounds by EPA Method 8260A</u>								
Benzene	0020012	2/2/00	2/3/00		0.100	ND	mg/kg	
Toluene	"	"	"		0.100	ND	"	
Ethylbenzene	"	"	"		0.100	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	70.0-121		112	%	
Surrogate: Toluene-d8	"	"	"	81.0-117		100	"	

<u>Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT</u>								
Diesel Range Hydrocarbons	0B08014	2/8/00	2/9/00	DHS LUFT	1.00	ND	mg/kg	
Motor Oil (C16-C36)	"	"	"	DHS LUFT	10.0	ND	"	
Surrogate: n-Pentacosane	"	"	"	40-140		89.8	%	





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Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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Sample Description: **SB-2-3.5-4**
 Laboratory Sample Number: **L002018-02**

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

Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0020068	2/14/00	2/14/00		1.00	4.37	mg/kg	1
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	60.0-140		88.0	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0020012	2/2/00	2/2/00		0.100	ND	mg/kg	
Toluene	"	"	"		0.100	ND	"	
Ethylbenzene	"	"	"		0.100	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: <i>1,2</i> -Dichloroethane- <i>d4</i>	"	"	"	70.0-121		113	%	
Surrogate: Toluene- <i>d8</i>	"	"	"	81.0-117		99.2	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT								
Diesel Range Hydrocarbons	0B08014	2/8/00	2/9/00	DHS LUFT	1.00	ND	mg/kg	
Motor Oil (C16-C36)	"	"	"	DHS LUFT	10.0	ND	"	
Surrogate: <i>n</i> -Pentacosane	"	"	"	40-140		95.8	%	





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Sample Description: **SB-3-3.5-4**
 Laboratory Sample Number: **L002018-03**

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

Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0020068	2/14/00	2/14/00		1.00	3.15	mg/kg	1
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	60.0-140		83.5	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0020012	2/2/00	2/2/00		0.100	ND	mg/kg	
luene	"	"	"		0.100	ND	"	
hylbenzene	"	"	"		0.100	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: <i>1,2</i> -Dichloroethane- <i>d4</i>	"	"	"	70.0-121		120	%	
Surrogate: Toluene- <i>d8</i>	"	"	"	81.0-117		97.2	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT								
Diesel Range Hydrocarbons	0B08014	2/8/00	2/9/00	DHS LUFT	1.00	ND	mg/kg	
Motor Oil (C16-C36)	"	"	"	DHS LUFT	10.0	ND	"	
Surrogate: <i>n</i> -Pentacosane	"	"	"	40-140		95.8	%	





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Sample Description: **SB-4-3.5-4**
 Laboratory Sample Number: **L002018-04**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
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Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0020068	2/14/00	2/14/00		1.00	2.18	mg/kg	1
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	60.0-140		74.5	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0020012	2/2/00	2/3/00		0.100	ND	mg/kg	
Toluene	"	"	"		0.100	ND	"	
Ethylbenzene	"	"	"		0.100	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: <i>1,2</i> -Dichloroethane- <i>d4</i>	"	"	"	70.0-121		106	%	
Surrogate: Toluene- <i>d8</i>	"	"	"	81.0-117		90.0	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT								
Diesel Range Hydrocarbons	0B08014	2/8/00	2/9/00	DHS LUFT	1.00	ND	mg/kg	
Motor Oil (C16-C36)	"	"	"	DHS LUFT	10.0	ND	"	
Surrogate: <i>n</i> -Pentacosane	"	"	"	40-140		95.8	%	





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Mer & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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Sample Description: **SB-2**
Laboratory Sample Number: **L002018-05**

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

<u>Total Purgeable Hydrocarbons by DHS LUFT</u>								
Purgeable Hydrocarbons as Gasoline	0020065	2/14/00	2/14/00		20000	44200	ug/l	2
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		103	%	

<u>Volatile Organic Compounds by EPA Method 8260A</u>								
Benzene	0020013	2/3/00	2/3/00		66.7	1200	ug/l	
Toluene	"	"	"		66.7	250	"	
Ethylbenzene	"	"	"		66.7	3080	"	
Xylenes (total)	"	"	"		66.7	2200	"	
Methyl tert-butyl ether	"	"	"		66.7	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		89.4	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		101	"	

<u>Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT</u>								
Diesel Range Hydrocarbons	0B11049	2/11/00	2/16/00	DHS LUFT	2.50	114	mg/l	D-15
Motor Oil (C16-C36)	"	"	"	DHS LUFT	25.0	ND	"	
Surrogate: n-Pentacosane	"	"	"	40-140		NR	%	S-06





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Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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Sample Description: **SB-3**
 Laboratory Sample Number: **L002018-06**

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

Total Purgeable Hydrocarbons by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	0020065	2/14/00	2/14/00		10000	67400	ug/l	2
Surrogate: a,a,a-Trifluorotoluene	"	"	"	60.0-140		96.8	%	

Volatile Organic Compounds by EPA Method 8260A								
Benzene	0020013	2/3/00	2/3/00		55.6	2560	ug/l	
Toluene	"	"	"		55.6	113	"	
Ethylbenzene	"	"	"		55.6	2870	"	
Xylenes (total)	"	"	"		55.6	241	"	
Methyl tert-butyl ether	"	"	"		55.6	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	76.0-114		89.0	%	
Surrogate: Toluene-d8	"	"	"	88.0-110		95.4	"	

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT								
Diesel Range Hydrocarbons	0B11049	2/11/00	2/16/00	DHS LUFT	2.50	145	mg/l	D-15
Motor Oil (C16-C36)	"	"	"	DHS LUFT	25.0	ND	"	
Surrogate: n-Pentacosane	"	"	"	40-140		170	%	S-06





er & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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**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: 0020065										
Blank										
Date Prepared: 2/14/00										
Extraction Method: EPA 5030B [P/T]										
Purgeable Hydrocarbons as Gasoline	2/14/00			ND	ug/l	50.0				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.58	"	60.0-140	95.8			
CS										
0020065-BS1										
Surrogate: a,a,a-Trifluorotoluene	2/14/00	10.0		9.08	ug/l	60.0-140	90.8			
CS										
0020065-BS2										
Purgeable Hydrocarbons as Gasoline	2/14/00	250		221	ug/l	70.0-130	88.4			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.41	"	60.0-140	94.1			
Matrix Spike										
0020065-MS1 L002099-01										
Surrogate: a,a,a-Trifluorotoluene	2/14/00	10.0		9.88	ug/l	60.0-140	98.8			
Matrix Spike Dup										
0020065-MSD1 L002099-01										
Surrogate: a,a,a-Trifluorotoluene	2/14/00	10.0		9.45	ug/l	60.0-140	94.5			
Batch: 0020068										
Blank										
Date Prepared: 2/14/00										
Extraction Method: EPA 5030B [P/T]										
Purgeable Hydrocarbons as Gasoline	2/14/00			ND	mg/kg	1.00				
Surrogate: a,a,a-Trifluorotoluene	"	0.200		0.183	"	60.0-140	91.5			
CS										
0020068-BS1										
Surrogate: a,a,a-Trifluorotoluene	2/14/00	0.200		0.171	mg/kg	60.0-140	85.5			
CS										
0020068-BS2										
Purgeable Hydrocarbons as Gasoline	2/14/00	5.00		3.85	mg/kg	70.0-130	77.0			
Surrogate: a,a,a-Trifluorotoluene	"	0.200		0.171	"	60.0-140	85.5			
Matrix Spike										
0020068-MS1 L002112-01										
Purgeable Hydrocarbons as Gasoline	2/14/00	5.00	ND	3.47	mg/kg	60.0-140	69.4			
Surrogate: a,a,a-Trifluorotoluene	"	0.200		0.157	"	60.0-140	78.5			
Matrix Spike Dup										
0020068-MSD1 L002112-01										
Purgeable Hydrocarbons as Gasoline	2/14/00	5.00	ND	3.37	mg/kg	60.0-140	67.4	25.0	2.92	
Surrogate: a,a,a-Trifluorotoluene	"	0.200		0.140	"	60.0-140	70.0			





er & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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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*
Batch: 0020012		Date Prepared: 2/2/00			Extraction Method: EPA 5030B [P/T]					
Blank		0020012-BLK1								
Benzene	2/2/00			ND	mg/kg	0.100				
Toluene	"			ND	"	0.100				
Ethylbenzene	"			ND	"	0.100				
Xylenes (total)	"			ND	"	0.100				
Methyl tert-butyl ether	"			ND	"	0.100				
Surrogate: 1,2-Dichloroethane-d4	"	2.50		2.87	"	70.0-121	115			
Surrogate: Toluene-d8	"	2.50		2.56	"	81.0-117	102			
Blank		0020012-BLK2								
Benzene	2/8/00			ND	mg/kg	0.100				
Toluene	"			ND	"	0.100				
Ethylbenzene	"			ND	"	0.100				
Xylenes (total)	"			ND	"	0.100				
Methyl tert-butyl ether	"			ND	"	0.100				
Surrogate: 1,2-Dichloroethane-d4	"	2.50		2.11	"	70.0-121	84.4			
Surrogate: Toluene-d8	"	2.50		2.15	"	81.0-117	86.0			
CS		0020012-BS1								
Benzene	2/3/00	2.50		ND	mg/kg	70.0-130	NR			
Toluene	"	2.50		ND	"	70.0-130	NR			
Methyl tert-butyl ether	"	2.50		2.24	"	70.0-130	89.6			
Surrogate: 1,2-Dichloroethane-d4	"	2.50		2.53	"	70.0-121	101			
Surrogate: Toluene-d8	"	2.50		2.58	"	81.0-117	103			
CS		0020012-BS2								
Benzene	2/8/00	2.50		2.56	mg/kg	70.0-130	102			
Toluene	"	2.50		2.60	"	70.0-130	104			
Methyl tert-butyl ether	"	2.50		2.56	"	70.0-130	102			
Surrogate: 1,2-Dichloroethane-d4	"	2.50		2.19	"	70.0-121	87.6			
Surrogate: Toluene-d8	"	2.50		2.22	"	81.0-117	88.8			
Matrix Spike		0020012-MS1		L002011-02						
Benzene	2/2/00	2.50	ND	ND	mg/kg	60.0-140	NR			
Toluene	"	2.50	ND	ND	"	60.0-140	NR			
Methyl tert-butyl ether	"	2.50	ND	2.72	"	60.0-140	109			
Surrogate: 1,2-Dichloroethane-d4	"	2.50		2.83	"	70.0-121	113			
Surrogate: Toluene-d8	"	2.50		2.58	"	81.0-117	103			
Matrix Spike Dup		0020012-MSD1		L002011-02						
Benzene	2/2/00	2.50	ND	ND	mg/kg	60.0-140	NR	25.0		





Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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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*
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<u>Matrix Spike Dup (continued)</u>										
	<u>0020012-MSD1</u>	<u>L002011-02</u>								
Benzene	2/2/00	2.50	ND	ND	mg/kg	60.0-140	NR	25.0		
Methyl tert-butyl ether	"	2.50	ND	2.66	"	60.0-140	106	25.0	2.79	
Surrogate: 1,2-Dichloroethane-d4	"	2.50		2.80	"	70.0-121	112			
Surrogate: Toluene-d8	"	2.50		2.59	"	81.0-117	104			

<u>Batch: 0020013</u>	<u>Date Prepared: 2/2/00</u>	<u>Extraction Method: EPA 5030B [P/T]</u>								
<u>Blank</u>										
	<u>0020013-BLK1</u>									
Benzene	2/2/00			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		45.9	"	76.0-114	91.8			
Surrogate: Toluene-d8	"	50.0		49.4	"	88.0-110	98.8			

<u>Blank</u>										
	<u>0020013-BLK2</u>									
Benzene	2/3/00			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		44.5	"	76.0-114	89.0			
Surrogate: Toluene-d8	"	50.0		48.9	"	88.0-110	97.8			

<u>CS</u>										
	<u>0020013-BS1</u>									
Benzene	2/2/00	50.0		44.1	ug/l	70.0-130	88.2			
Toluene	"	50.0		46.0	"	70.0-130	92.0			
Methyl tert-butyl ether	"	50.0		42.2	"	70.0-130	84.4			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		43.3	"	76.0-114	86.6			
Surrogate: Toluene-d8	"	50.0		47.6	"	88.0-110	95.2			

<u>CS</u>										
	<u>0020013-BS2</u>									
Benzene	2/3/00	50.0		42.4	ug/l	70.0-130	84.8			
Toluene	"	50.0		46.0	"	70.0-130	92.0			
Methyl tert-butyl ether	"	50.0		39.8	"	70.0-130	79.6			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		44.2	"	76.0-114	88.4			
Surrogate: Toluene-d8	"	50.0		48.4	"	88.0-110	96.8			

<u>Matrix Spike</u>										
	<u>0020013-MS1</u>	<u>L002008-01</u>								
Benzene	2/3/00	50.0	ND	36.2	ug/l	60.0-140	72.4			
Toluene	"	50.0	ND	37.2	"	60.0-140	74.4			

Sequoia Analytical - San Carlos *Refer to end of report for text of notes and definitions.





rier & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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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*
Matrix Spike (continued)										
	<u>0020013-MS1</u>		<u>L002008-01</u>							
Methyl tert-butyl ether	2/3/00	50.0	ND	40.1	ug/l	60.0-140	80.2			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		43.1	"	76.0-114	86.2			
Surrogate: Toluene-d8	"	50.0		48.0	"	88.0-110	96.0			
Matrix Spike Dup										
	<u>0020013-MSD1</u>		<u>L002008-01</u>							
Benzene	2/3/00	50.0	ND	36.5	ug/l	60.0-140	73.0	25.0	0.825	
Toluene	"	50.0	ND	36.7	"	60.0-140	73.4	25.0	1.35	
Methyl tert-butyl ether	"	50.0	ND	42.0	"	60.0-140	84.0	25.0	4.63	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		43.4	"	76.0-114	86.8			
Surrogate: Toluene-d8	"	50.0		46.7	"	88.0-110	93.4			





Miller & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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**Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup 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: 0B08014			Date Prepared: 2/8/00			Extraction Method: EPA 3580A				
Blank			0B08014-BLK1							
Diesel Range Hydrocarbons	2/9/00			ND	mg/kg	1.00				
Motor Oil (C16-C36)	"			ND	"	10.0				
Surrogate: n-Pentacosane	"	1.67		1.60	"	40-140	95.8			
LCS			0B08014-BS1							
Diesel Range Hydrocarbons	2/9/00	16.7		14.7	mg/kg	40-140	88.0			
Surrogate: n-Pentacosane	"	1.67		1.60	"	40-140	95.8			
Batch: 0B11049			Date Prepared: 2/11/00			Extraction Method: EPA 3510B				
Blank			0B11049-BLK1							
Diesel Range Hydrocarbons	2/14/00			ND	mg/l	0.0500				
Motor Oil (C16-C36)	"			ND	"	0.500				
Jet-A (C9-C17)	"			ND	"	0.0500				
Surrogate: n-Pentacosane	"	0.100		0.112	"	40-140	112			
LCS			0B11049-BS1							
Diesel Range Hydrocarbons	2/14/00	1.00		0.913	mg/l	40-140	91.3			
Surrogate: n-Pentacosane	"	0.100		0.117	"	40-140	117			
LCS Dup			0B11049-BSD1							
Diesel Range Hydrocarbons	2/14/00	1.00		0.860	mg/l	40-140	86.0	50	5.98	
Surrogate: n-Pentacosane	"	0.100		0.122	"	40-140	122			





er & Kalinowski, Inc. 1730 South Amphlett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: EKI 980074.01 Project Manager: Mike Beck	Sampled: 2/2/00 Received: 2/2/00 Reported: 2/17/00
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Notes and Definitions

Note

- D-15 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
- 06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
- Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
- 2 Chromatogram Pattern: Gasoline C6-C12
- ET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- R Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- PD Relative Percent Difference



Daily Inspection Report No. _____

Sheet: 1 of _____
Date: 1/20/2000
Project: 3925 ALAMEDA AV.
EKI Job No.: 98007401

Contractor: SUBDYNAMIC LOCATING SERVICES (PETER ETNAZ)

EKI Staff On-site: ROBERT LION

Weather: Cloudy

Temperature: _____ F Max _____ F Min

Work Hours: 08:25 to 1500 Memos Issued: _____

Photos: _____

Special Conditions, Delays, Changes: _____

Accidents, Damage: _____

Sampling, Testing: MEASURE WATER LEVELS, PURGE & SAMPLE 4 ^{GW} MONITORING WELLS, CLEAR BORING LOCATIONS

Visitors to Site: _____

Work Report (Work done, Personnel/Equipment working): I ARRIVED ON SITE & MET PATRICK KOFFMAN of BOBAC, INC., THE TENNANT. SUBDYNAMIC LOCATING SERVICES (PETER ETNAZ) THEY CLEARED LOCATIONS FOR FUTURE BORINGS.

08:45 I OPENED WELLS CALIBRATED FIELD INSTRUMENTS, THEN MEASURED WATER LEVELS

09:49 I STARTED PURGING MW-3 USING A PERISTALTIC PUMP, THEN STARTED PURGING MW-2 WITH A SECOND PERISTALTIC PUMP.

11:11 I COLLECTED ^{DUPLICATE} SAMPLES (1 L. PLASTIC VIA PERISTALTIC PUMP, 1 L. AMBER w/ VOLS w/ DISPO. BOTTLE) FROM MW-3. SAMPLES WERE PLACED IN A COOLER WITH ICE.

11:06 I STARTED PURGING MW-1 WITH A PERISTALTIC PUMP

12:18 I SAMPLED MW-2, AS ABOVE.

12:49 I STARTED PURGING MW-4, AS ABOVE.

13:25 I SAMPLED MW-1, AS ABOVE.

14:05 I SAMPLED MW-4, AS ABOVE. PURGE WATER WAS PLACED IN 2 STEEL DRUMS & LABELLED. THE WELLS WERE SEALED. (A RUSTED LOCK ON MW-1 WAS REPLACED)

15:00 I LEFT THE SITE & TOOK SAMPLES TO SEQUOIA ANALYTICAL.

Distribution: Project Inspection File (orig)
Project Manager VHN
WJB

By: Robert Lion

GROUNDWATER LEVEL SURVEY

Erler & Kalinowski, Inc.

Job Name: 3925 ALAMEDA AV, OAKLAND Date: 1/20/2000

Job No.: 980074.01 Personnel: ROBERT D. LUIS

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	YES
Standing water?	YES	YES	YES	YES
Dia. of casing	4-INCH	4-INCH	4 INCH	4 INCH
Measuring point				
Elevation of well				
Time opened	STRONG ODOR 08:53	STRONG ODOR 08:50	08:45	09:06
Time of measurement	09:36	09:35	09:34	09:41
Depth probe used	#5	#5	#5	#5
Depth to water	10.44 @ 9:36	10.03 @ 9:35	10.78 @ 9:34	10.49 @ 9:41
Depth of well				
Conductivity vs. Depth, μ mhos/cm	STRONG ODOR	STRONG ODOR		STRONG ODOR
Temperature vs. Depth, Deg. C.				

COMMENTS:

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 1/20/2000
PROJECT NUMBER: 980074.00 WELL NAME: MW-1 PERSONNEL: R.D. Lion

WELL VOLUME CALCULATION:

Depth of Well (ft.)	19.70	-	10.44	=	9.26	*	0.64	=	5.93
	Multiplier for 4-inch casing diameter = 0.64								

PURGE METHOD: PERISTALTIC PUMP
PUMP INLET DEPTH: 11 ft
START TIME: 11:06 END TIME: 13:20
TOTAL GALLONS PURGED: 19.
NOTES/SAMPLES COLLECTED: 13:25
3 Vials + HCL, 1-1 R. Amber, 1-1 P. Plastic

INSTRUMENT CALIBRATION

	Field measure	Standard measure
Instrument		
Specific Conductance		
pH		
pH		
Turbidity		(SEE MW-3)
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	mg/L Dissolved Oxygen	mg/L Ferrous Iron
13:05	16	21.1	1.320	-097.	6.83	1.68	10.55	0.13	2.7	0.4	-
13:14	18	21.2	1.319	-108.	6.82	0.84	10.55	0.22	3.03	0.1	2.1
13:20	19	21.1	1.324	-114	6.82	0.52	-	0.17	3.21	0.0	1.9

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 1/20/2000
PROJECT NUMBER: 980074.00 WELL NAME: MW-2 PERSONNEL: RDL/oa

WELL VOLUME CALCULATION:
 Depth of Well (ft.) Depth to Water (ft.) Water Column (ft. below) Multiplier Casing Vol. (gallons)
 19.92 - 10.03 = 9.89 * 0.64 = 6.33
 Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: Peristaltic Pump
 PUMP INLET DEPTH: 10.5 ft
 START TIME: 09:56 END TIME: 12:12
 TOTAL GALLONS PURGED: 19.6
 NOTES/SAMPLES COLLECTED: 12:18
3 VOA's + HCL
1 - 1 L. AMBER
1 - 1 L. PLASTIC

INSTRUMENT CALIBRATION

Instrument	Field measure	Standard measure
Specific Conductance		
pH		
pH		
Turbidity	<u>(see mw-3)</u>	
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	mg/L Dissolved Oxygen	mg/L Ferrous Iron
11:29	13	21.0	1.307	-130	6.83	-	10.21	0.39	2.05	0.0	-
11:46	15	20.8	1.298	-173	6.83	0.36	10.20	0.12	2.37	0.0	-
12:02	18	21.0	1.305	-176	6.82	3.02	10.22	0.19	2.84	0.1	1.0
12:10	19.5	21.0	1.304	-179	6.82	2.61	10.19	0.19	3.08	0.0	0.9
THERE WAS A PAUSE in PURGING from 11:04 TO 11:15 AS PUMPS WERE SWITCHED											

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 1/20/2000
PROJECT NUMBER: 980074.00 WELL NAME: MW-3 PERSONNEL: RDL/cm

WELL VOLUME CALCULATION:
Depth of Well (ft.) Depth to Water (ft.) Water Column (ft. (below)) Multiplier (below) Casing Vol. (gallons)
19.95 - 10.78 = 9.17 * 0.64 = 5.87
Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC PUMP
PUMP INLET DEPTH: 11.5 ft
START TIME: 09:49 END TIME: 11:01
TOTAL GALLONS PURGED: 18
NOTES/SAMPLES COLLECTED: 11:11
3 VOLS + HCL, 1-1L. Amber, 1-1L. PLASTIC

INSTRUMENT CALIBRATION

Instrument	Field measure	Standard measure
Specific Conductance	0.986	1.000
pH	7.01	7.01
pH	4.01	4.01
Turbidity	0.02	0.02

DO: 10.7 mg/L @ 13.5°C
ORP +232 mv in ZOBELL SOLN.
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	mg/L Dissolved Oxygen	mg/L Ferrous Iron
10:01	3.5	21.0	-	-077	6.82	-	-	0.29 0.60	0.60	0.1	-
10:10	6.0	21.0	1.473	-078	6.81	1.24	11.33	0.28	1.02	0.2	-
10:28	12.0	21.0	1.478	-068	6.81	6.26	11.34	0.33	2.04	0.1	-
10:43	15.0	20.9	1.487	-067	6.78	1.63	11.31	0.20	2.56	0.1	-
11:01	18.0	20.9	1.491	-065	6.78	0.56	11.31	0.17	3.07	0.2	-
11:20											1.0

3925 Alameda Avenue
GROUNDWATER PURGE FORM

PROJECT NAME: 3925 Alameda Avenue DATE: 1/20/2000
PROJECT NUMBER: 980074.00 WELL NAME: MW-4 PERSONNEL: RDL/lon

WELL VOLUME CALCULATION:
 Depth of Well (ft.) 19.73 - Depth to Water (ft.) 10.49 = Water Column (ft. below) 9.24 * Multiplier (below) 0.64 = Casing Vol. (gallons) 5.91
 Multiplier for 4-inch casing diameter = 0.64

PURGE METHOD: PERISTALTIC PUMP
 PUMP INLET DEPTH: 11 ft.
 START TIME: 12:49 END TIME: 14:05
 TOTAL GALLONS PURGED: 18
 NOTES/SAMPLES COLLECTED:
 ERB 3VOPS+HOL, 1-12. PLASTIC, 1-12. AMBER @14:35
 MW-4 " " " @14:45

INSTRUMENT CALIBRATION

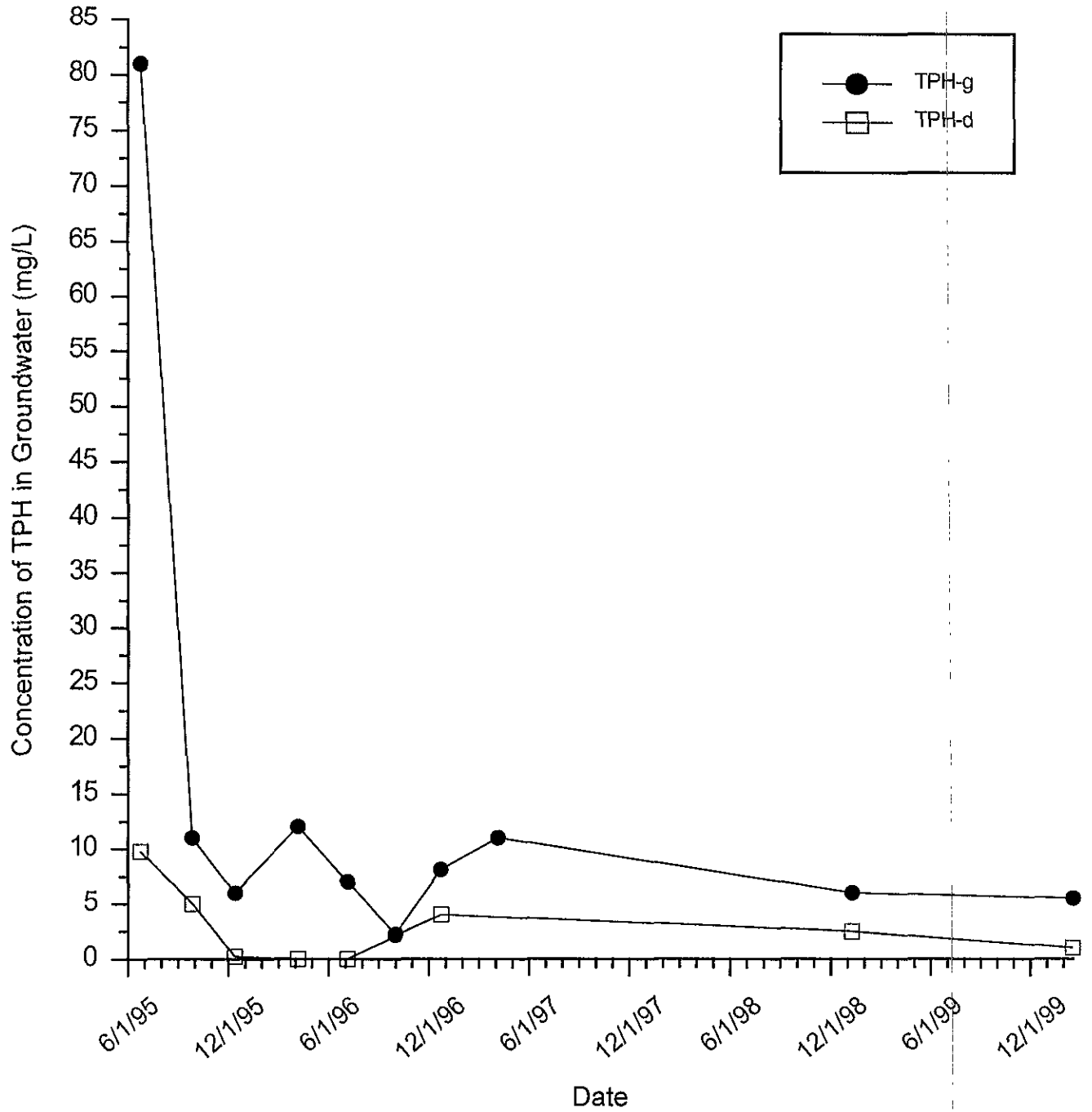
Instrument	Field measure	Standard measure
Specific Conductance		
pH		
pH		
Turbidity	(see MW-3)	
ORP		
Temperature		
Depth Probe		

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	mg/L Dissolved Oxygen	mg/L Ferrous Iron
13:44	14	20.6	1.225	-147	6.78	0.63	10:55	0.25	2.37	0.0	6.0
13:51	16	20.5	1.213	-151	6.79	0.25	10:55	0.29	2.71	0.0	5.2
14:05	18	20.5	1.211	-152	6.81	0.18	10:55	0.14	3.04	0.0	-

APPENDIX B

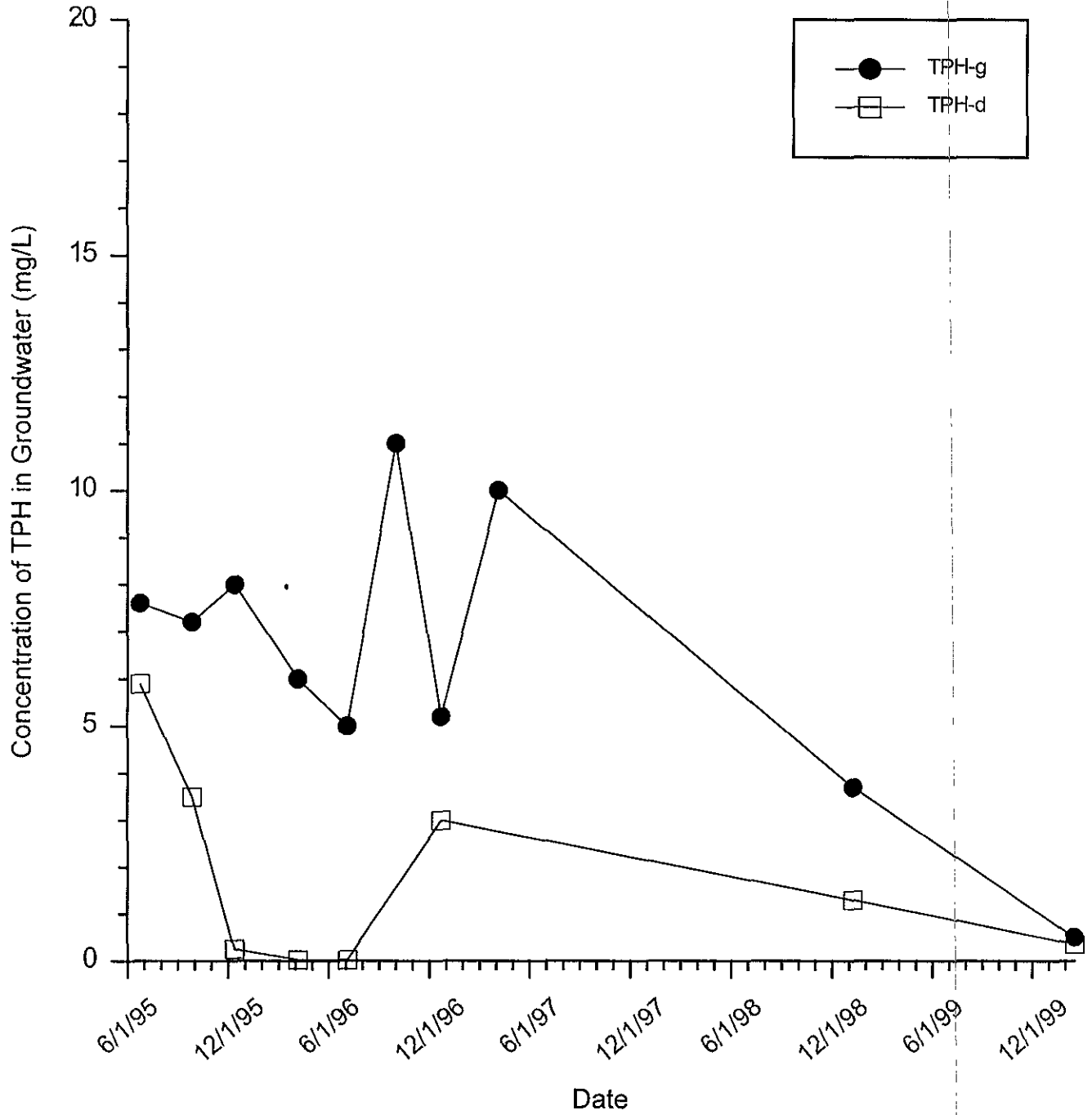
Graphical Presentation of Analytical Groundwater Data

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



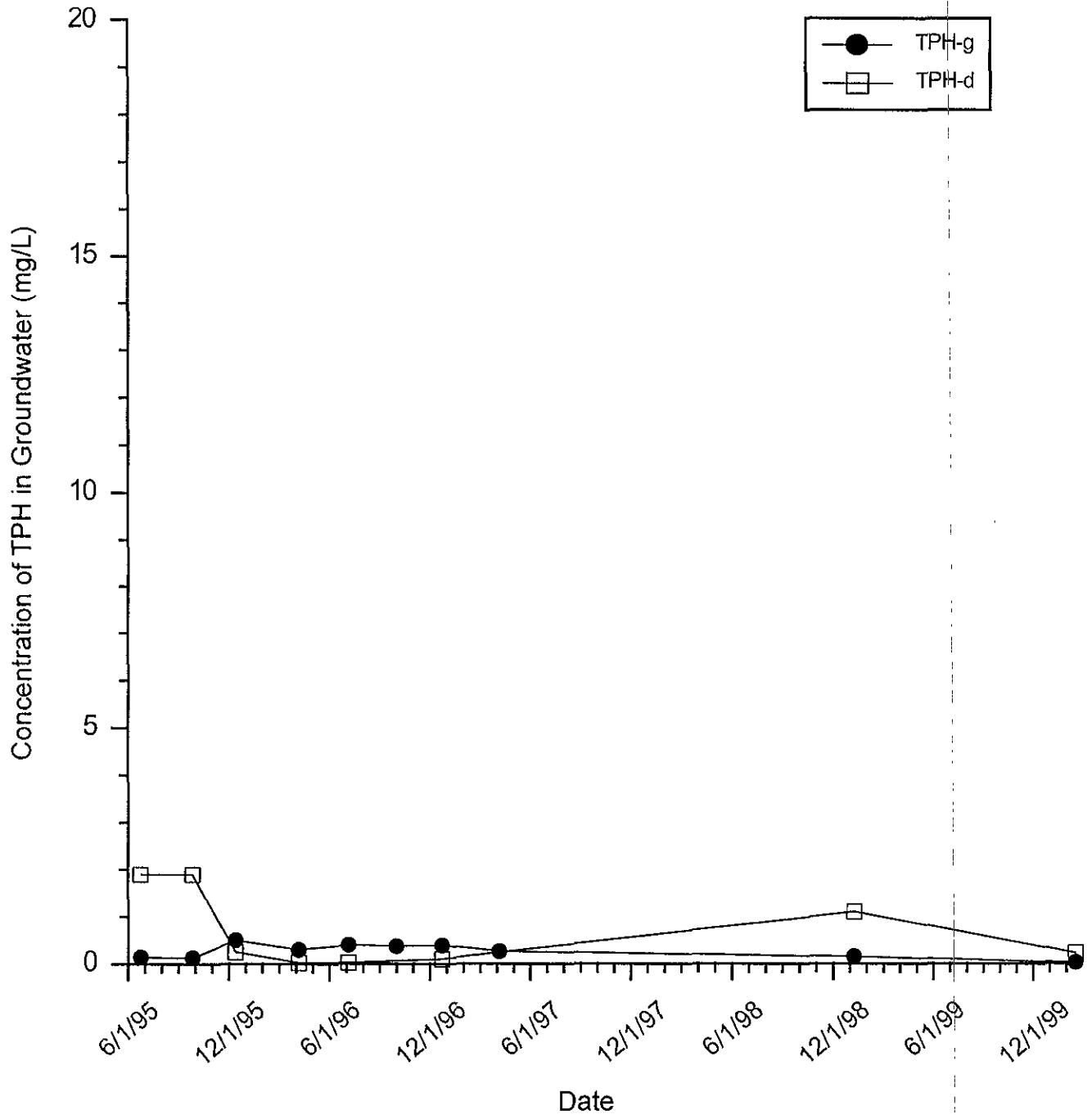
Note: If not detected, results are plotted as one-half of the method detection limit.

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



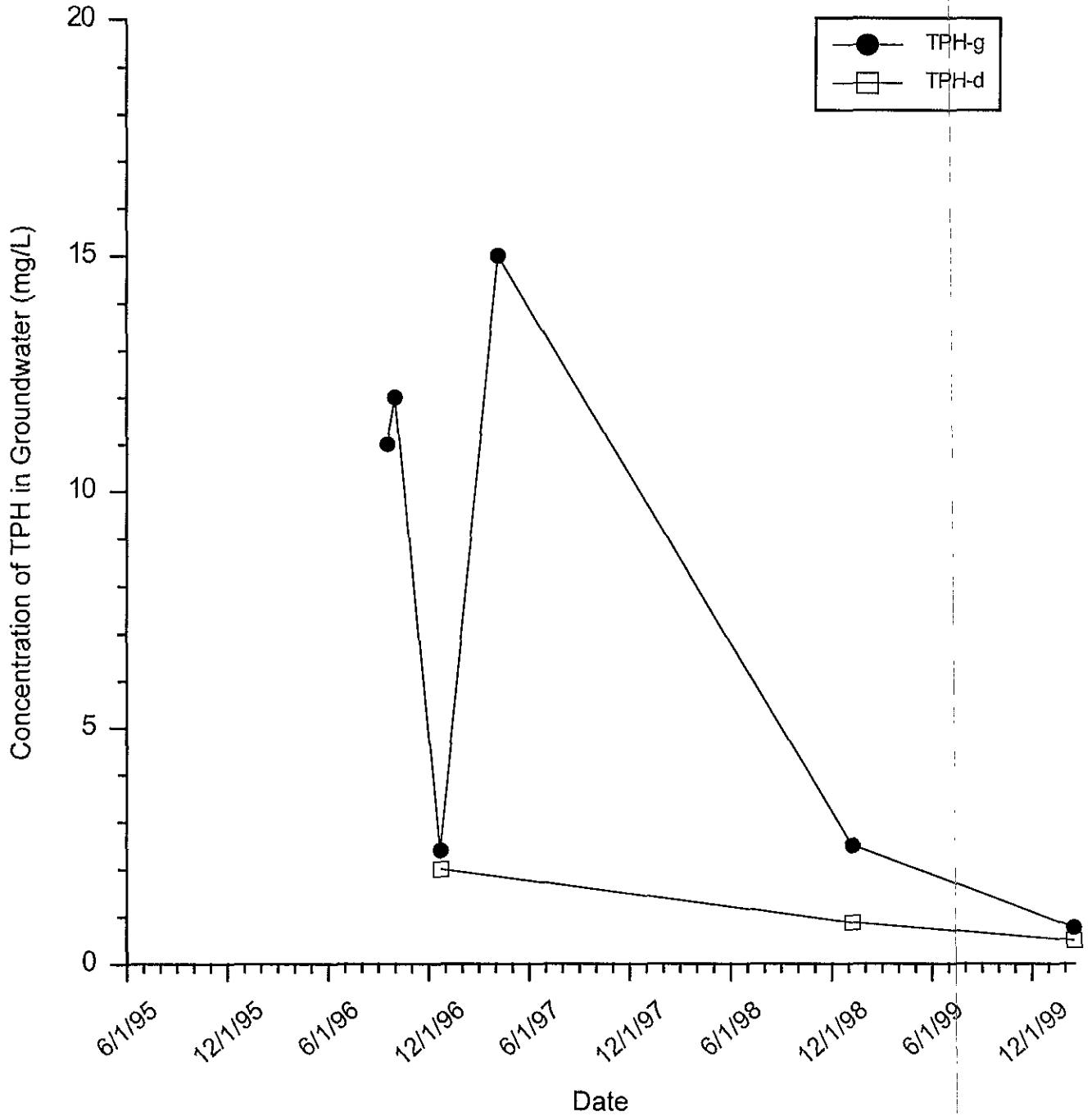
Note: If not detected, results are plotted as one-half of the method detection limit.

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



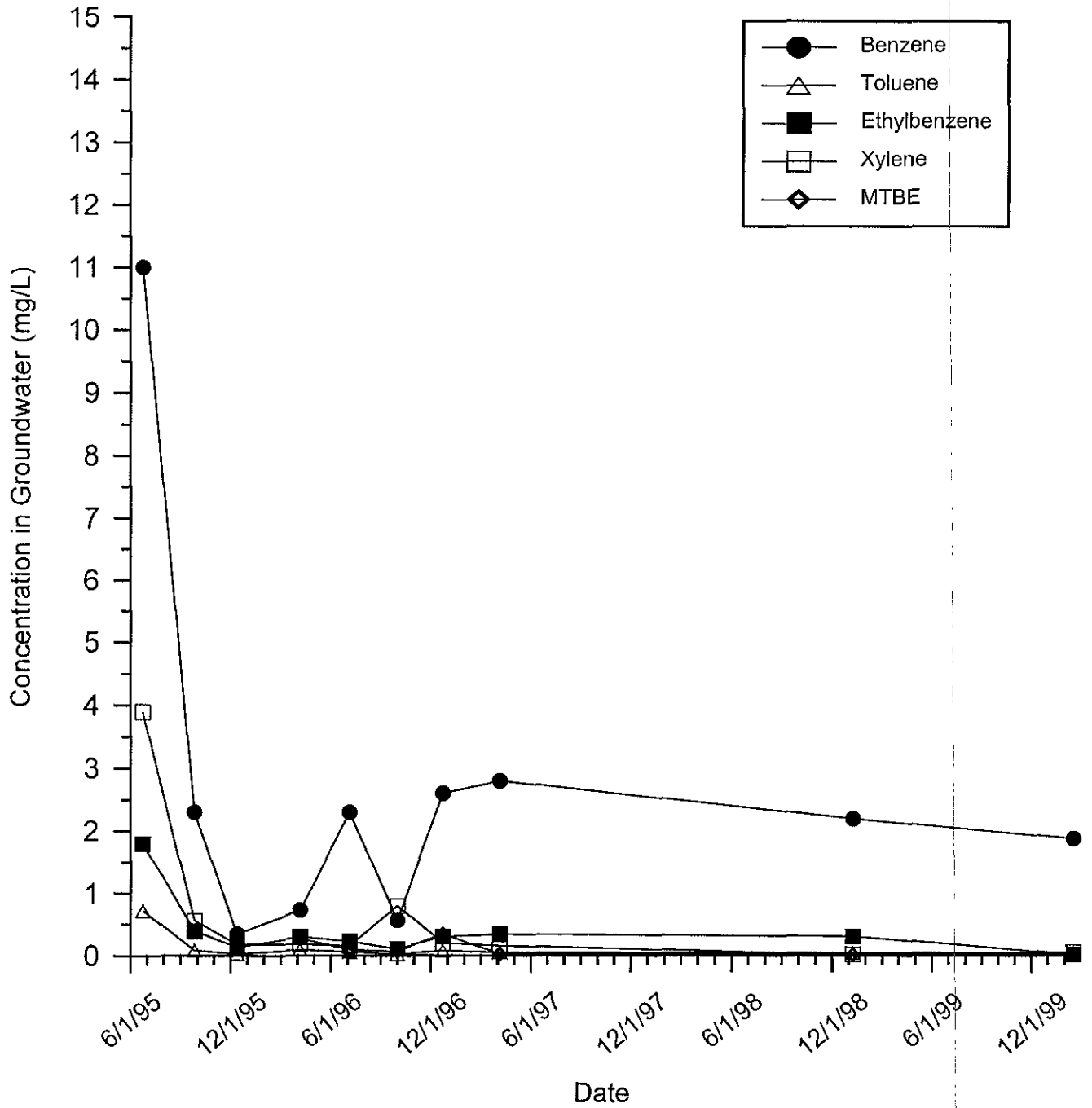
Note: If not detected, results are plotted as one-half of the method detection limit.

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



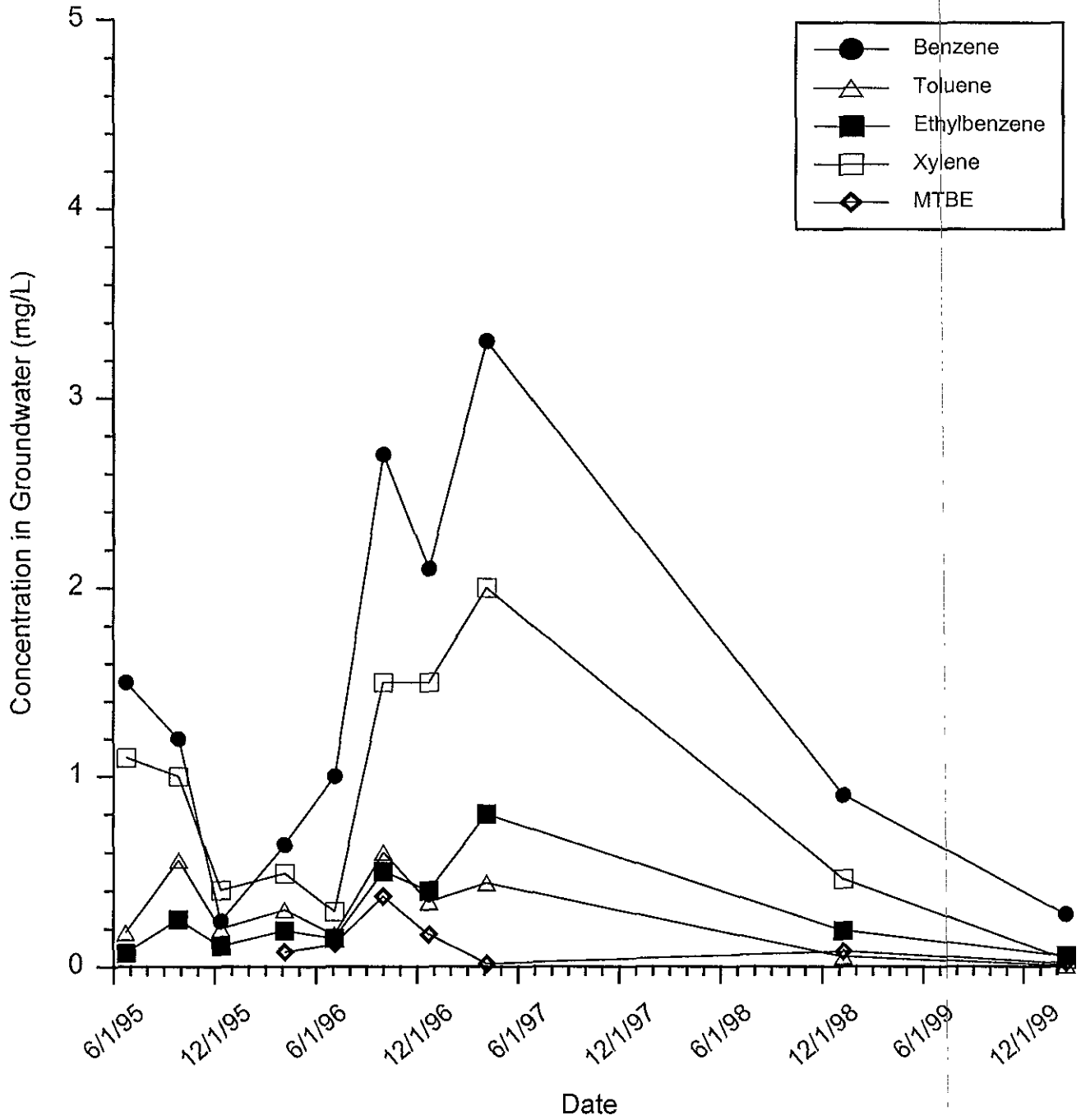
Note: Plotted data does not include diesel concentration of 330 mg/L detected on 6 September 1996 during first sampling event after installation of MW-4.

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



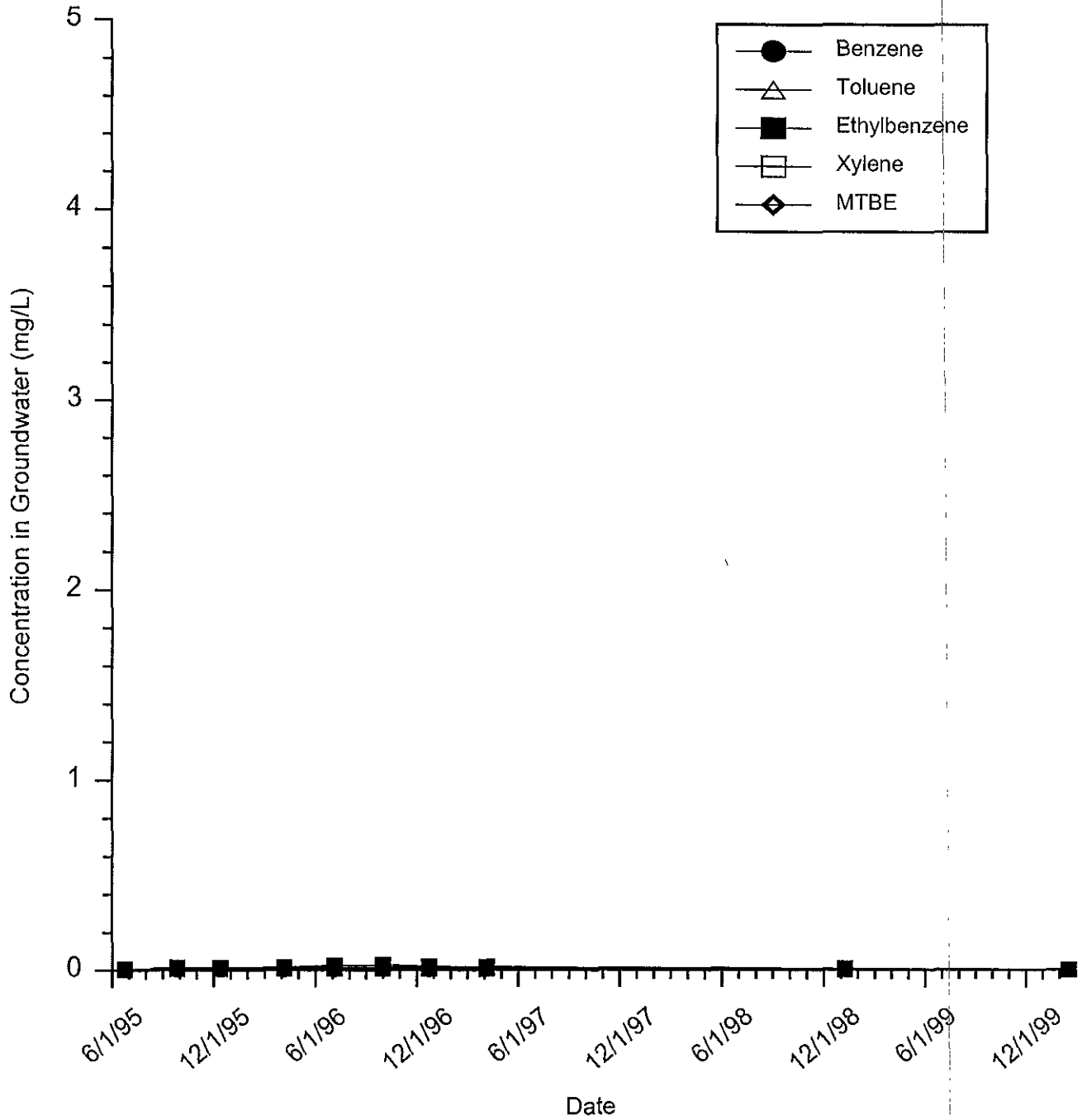
Note: If not detected, results are plotted as one-half of the method detection limit.

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)

