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**Quarterly Monitoring Report for  
October 1 through December 31, 1996  
East Baybridge Center  
Emeryville and Oakland, California**

**February 12, 1997  
1649.96-002**

Prepared for  
Catellus Development Corporation  
201 Mission Street  
San Francisco, California 94105

 **Levine·Fricke·Recon**  
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS



Printed on recycled paper

February 12, 1997

1649.96-002

Ms. Susan Hugo  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Second Floor  
Alameda, California 94502

Subject: Quarterly Monitoring Report for October 1 through December 31, 1996, East Baybridge Center, Emeryville and Oakland, California

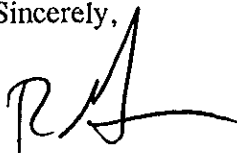
Dear Ms. Hugo:

The enclosed report presents the results of quarterly groundwater monitoring by Levine·Fricke·Recon Inc. (LFR; formerly Levine·Fricke and Recon Environmental) on behalf of Catellus Development Corporation for October 1 through December 31, 1996, at the Yerba Buena/East Baybridge Center in Emeryville and Oakland, California.

Monitoring was conducted in accordance with LFR's "Groundwater Monitoring Plan for the East Baybridge Center, Emeryville and Oakland, California," submitted to the Alameda County Health Care Services Agency on December 19, 1994.

If you have any questions or comments concerning this report, please call me.

Sincerely,



Ron Goloubow  
Senior Project Geologist

Enclosure

cc: James Adams, Catellus Development  
Sumadhu Arigala, Regional Water Quality Control Board

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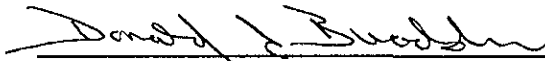
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## CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a Levine·Fricke·Recon Inc. California Registered Geologist.



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Donald T. Bradshaw  
Principal Hydrogeologist  
California Registered Geologist (5300)

2/12/97  
Date

## 1.0 INTRODUCTION

This report presents the results of groundwater monitoring by Levine·Fricke·Recon Inc. (LFR; formerly Levine·Fricke and Recon Environmental) during the quarterly period from October 1 through December 31, 1996, at the East Baybridge Center in Emeryville and Oakland, California ("the Site"; Figure 1). LFR is performing groundwater monitoring and submitting this report on behalf of the Catellus Development Corporation ("Catellus") in accordance with a December 19, 1994 groundwater monitoring plan submitted to the Alameda County Health Care Services Agency (ACHA; LFR 1994a).

The Site covers approximately 51 acres, is partially developed, and is undergoing further development. To aid in organizing environmental investigation, remediation, and monitoring, the Site has been divided into Areas A, B, and C (Figure 2).

Quarterly monitoring at the Site includes measuring water levels in accessible wells and collecting groundwater samples from selected wells, to monitor volatile organic compound (VOC) concentrations in groundwater and assess the effectiveness of a groundwater extraction system installed at the Site during the summer of 1994. In addition, soils affected with total petroleum hydrocarbons (TPH) have been contained on site beneath building pads, and monitoring data are being collected to assess possible effects on groundwater quality beneath the Site from the contained soils.

## 2.0 BACKGROUND

From the early 1900s to approximately 1990, the Site was used by a variety of industrial and commercial businesses. These businesses included warehouse storage of predominantly dry goods and limited quantities of hazardous materials (oxides and acids [a complete record of materials stored at the Site is not available]); metal foundries; truck maintenance and repair; an auto storage and wrecking yard; a construction yard; and several passenger and freight rail lines.

In preparation for site development, LFR began environmental investigations at the Site on behalf of Catellus in September 1989. Site investigation and remediation continued for approximately five years. Results of Phase I and Phase II investigations indicated that VOCs were present in shallow groundwater beneath the Site. During site development, underground storage tanks (USTs) were excavated at several locations across the Site. Groundwater monitoring wells were installed in the vicinity of the former UST locations (Figure 2) to monitor groundwater quality, in accordance with agency guidelines.

## 2.1 Areas A and B

As illustrated on Figure 2, Area A and a portion of Area B have been developed for commercial use, including a large retail store, several smaller retail stores, and two large parking areas. Areas north of the parking lots and west of Emery Street are in the process of being developed into apartments.

A groundwater monitoring program was implemented at the Site in January 1992 to monitor VOC concentrations in groundwater in Area A. To reduce the potential for off-site migration of shallow VOC-affected groundwater, a groundwater extraction and treatment system was installed in Area A (Figure 2). This extraction system began operation in August 1994. Details regarding the operation of the extraction and treatment system are presented in an LFR quarterly self-monitoring report submitted semiannually to the East Bay Municipal Utilities District.

Approximately 25,000 cubic yards of petroleum hydrocarbon-affected soil were excavated from Area B and contained beneath building pads in Areas A and B in accordance with an LFR containment plan (LFR 1992a). The removal of soil from this area of the Site was described in LFR's soil remediation activities report for the Site (LFR 1992b). To assess groundwater quality in Areas A and B, five monitoring wells were installed and sampled on a quarterly basis for over a year. In response to a request from the Regional Water Quality Control Board (RWQCB), LFR prepared a soils management plan for the contained soils (LFR 1994b). The plan outlined periodic groundwater monitoring to evaluate the possible effects on groundwater from soils contained at the Site.

## 2.2 Area C

Area C (the area west of Hollis Street) has been developed for commercial use, including the construction of two retail stores and large parking areas. One smaller retail store has yet to be constructed in this portion of the development.

VOCs have been detected in groundwater samples collected in Area C of the Site. Based on the distribution of VOCs detected, it appears that the VOCs have migrated from an off-site source. The RWQCB concurs with this conclusion, according to the RWQCB's letter to Catellus and others dated May 11, 1994.

Several USTs were identified at various locations within Area C during environmental investigations and site grading. Groundwater monitoring wells were installed following the excavation of some of these USTs. These groundwater monitoring wells (LF-31 and LF-32, installed at the former Bashland and Bay Area Warehouse properties, respectively) were monitored on a quarterly basis until they were destroyed during site development in June 1994, along with all other wells located west of Hollis Street (except well LF-13).



Replacement wells for those wells (MW-31R and MW-32R) were installed in December 1995. In addition, well MW-12R was installed downgradient from (west of) USTs formerly located along Beach Street, to monitor groundwater quality in that area. Wells MW-10R and MW-34R were installed, in locations presented on Figure 2, to monitor possible on-site migration of VOCs from a known source located north of the property.

### 3.0 GROUNDWATER ELEVATIONS AND FLOW DIRECTION

On December 13, 1996, depth to water was measured in all accessible on- and off-site wells to the nearest 0.01 foot using an electric water-level sounding probe. Table 1 summarizes the depth-to-water and groundwater elevation data collected. Depth to groundwater in shallow wells (less than 25 feet deep) ranged from 1.67 feet below ground surface (bgs) in well LF-13 to 16.22 feet bgs in well MW-9.

#### 3.1 Areas A and B

Figure 3 is a groundwater elevation contour map illustrating water levels measured on December 13, 1996. As illustrated, the direction of shallow groundwater flow beneath Areas A and B of the Site is toward the west-southwest, in the direction of the groundwater extraction wells (EX-3 and EX-4) and the interceptor trench. The hydraulic gradient across this portion of the Site is 0.016 foot per foot (ft/ft), as measured between wells MW-2 and MW-9. The direction and gradient are consistent with the groundwater flow direction previously reported at the Site (LFR 1996).

Because of a malfunction of the transfer pump between the groundwater stabilization tank and carbon filters at the groundwater treatment system, the shallow groundwater extraction wells and trench were not operating when the water levels were measured on December 13, 1996. Therefore, the magnitude of the influence on the groundwater flow pattern typically observed during previous monitoring periods was not observed. The system has been repaired and has been operating since January 6, 1997.

#### 3.2 Area C

As illustrated in Figure 3, the direction of shallow groundwater flow beneath Area C of the Site is toward the west. The hydraulic gradient across this portion of the Site is 0.008 foot per foot (ft/ft), as measured between wells MW-31R and MW-12R. The direction and gradient are consistent with the groundwater flow direction previously reported at the Site (LFR 1996).

## 4.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected on December 16, 17, and 18, 1996 for chemical analysis. A total of 20 samples were collected from 16 shallow groundwater monitoring wells (less than 25 feet bgs; MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10R, MW-12R, MW-31R, MW-32R, MW-34R, LF-13, LF-22, and LF-23), two shallow extraction wells (less than 25 feet bgs; EX-3 and EX-4), and the extraction trench (EXTR). A total of four samples were collected from three intermediate-depth wells (30 to 45 feet bgs; MW-6D, MW-7D, and MW-9D) and one deeper well (50 to 65 feet bgs; MW-7Z).

Before groundwater samples were collected, three to four well volumes of water were purged from each well in accordance with field procedures for quarterly groundwater sampling described in Appendix A. During purging, indicator parameters such as pH, temperature, and specific conductance were recorded on water-quality sampling sheets. After collection, samples were submitted to Aqua Air Analytical Corp., a California state-certified laboratory, located in Weymouth, Massachusetts, under strict chain-of-custody protocols.

Samples were analyzed as follows:

- Samples from wells MW-3, MW-4, MW-5, MW-6, MW-6D, MW-7, MW-7D, MW-7Z, MW-8, MW-9, MW-9D, LF-13, MW-10R, MW-12R, MW-31R, MW-32R, MW-34R, LF-13, LF-22, LF-23, EX-3, EX-4, and the extraction trench were analyzed for VOCs using EPA Method 8010.
- Samples from MW-3, MW-4, MW-5, MW-6, MW-7, MW-12R, MW-31R, MW-32R, EX-3, EX-4, and the extraction trench were also analyzed for TPH as diesel (TPH<sub>d</sub>; carbon chain length C<sub>12</sub> to C<sub>22</sub>), and TPH as oil (TPH<sub>o</sub>; carbon chain length C<sub>22</sub> to C<sub>36</sub>) in accordance with the Soils Management Plan (LFR 1994b).
- The sample from MW-2 was also analyzed for TPH<sub>d</sub>. This sample was also analyzed for TPH as gasoline (TPH<sub>g</sub>) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) to monitor whether TPH<sub>g</sub>-affected groundwater is migrating onto the Site. Results of chemical analyses are discussed in Section 5.0.

For QA/QC purposes, a duplicate sample was collected from well LF-9 and analyzed for VOCs. Results of the duplicate sample were similar to results of the primary sample. A summary of the analytical and sampling QA/QC for samples collected during this quarterly monitoring period is included as Appendix B.

## 5.0 GROUNDWATER QUALITY

Table 2 summarizes the analytical results for groundwater samples collected.

## 5.1 Volatile Organic Compounds

In general, the concentration of VOCs detected in samples collected during this monitoring period are within the same order of magnitude as samples previously collected at the Site (Table 2). No VOCs were detected at concentrations above method detection limits in groundwater samples collected from shallow wells LF-22, MW-3, and MW-8, or from deeper well MW-6D.

1,1-Dichloroethene (1,1-DCE) was detected in samples collected from seven shallow wells at concentrations ranging from 0.002 parts per million (ppm) (wells MW-4 and MW-34R) to 0.310 ppm (well MW-6) and at concentrations of 0.098 ppm, 0.090 ppm, and 0.074 ppm in samples from shallow extraction wells EX-3 and EX-4, and the extraction trench, respectively. 1,1-DCE was detected in samples collected from two of the three deeper wells at a concentrations of 0.001 ppm (well MW-9D) and 0.008 ppm (well MW-7D).

Trichloroethene (TCE) was detected in the samples collected from seven shallow monitoring wells ranging from 0.001 ppm (wells LF-23 and MW-12R) to 0.610 ppm (well MW-10R) and at concentrations of 0.006 ppm, 0.001 ppm, and 0.001 ppm in shallow extraction wells EX-3, EX-4, and the extraction trench, respectively. TCE was detected in the sample collected from the deep zone well MW-7Z at a concentration of 0.001 ppm.

Tetrachloroethene (PCE) was detected in samples collected from shallow monitoring well MW-5 at a concentration of 0.002 ppm and the off-site well LF-23 at 0.003 ppm. Higher concentrations of PCE were detected in the samples collected from shallow extraction wells EX-3 (0.020 ppm) and EX-4 (0.010 ppm). The sample collected from the extraction trench contained PCE at a concentration of 0.009. PCE was not detected in the samples collected from remaining shallow or deeper wells sampled during the current monitoring event.

1,1,1-Trichloroethane (1,1,1-TCA) was detected at concentrations ranging from 0.006 ppm (well MW-9) to 0.060 ppm (well MW-6) in samples collected from six shallow wells (MW-6, MW-7, MW-9, EX-3, EX-4, and the extraction trench). 1,1,1-TCA was not detected in deeper wells.

## 5.2 Total Petroleum Hydrocarbons

TPHd was detected in samples collected from 11 wells analyzed this period at concentrations ranging from 1.520 ppm (extraction trench) to 0.334 ppm (EX-4). TPHg was detected at 0.776 ppm in samples collected from well MW-2. The sample collected from well MW-2 contained benzene (0.004 ppm), toluene (0.009), ethylbenzene (0.011 ppm), and total xylenes (0.019 ppm).

### 5.2.1 Former Bashland Company Property

Well LF-31 was replaced by well LF-31R in November 1995. The replacement well was installed within 20 feet of the original well's location. Samples are collected from this well to monitor groundwater quality in the vicinity of a UST formerly located at the former Bashland property. Analytical results for the sample collected from this well did not detect the presence of TPHd above detection levels (see Table 3). This is the first quarter that diesel compounds have not been detected. Following the next quarterly monitoring the data will be evaluated, and a request for case closure may be requested.

### 5.2.2 Former Bay Area Warehouse Property

Well LF-32 was replaced by well LF-32R in November 1995. Based on survey information, the replacement well was installed within 20 feet of its original location. The samples are collected from this well to monitor groundwater quality in the vicinity of a UST formerly located at the former Bay Area Warehouse property. Analytical results for the sample collected from this well did not detect the presence of TPHd above the detection limits (see Table 4). Following the next quarterly monitoring the data will be evaluated, and a request for case closure may be requested.

## 6.0 SUMMARY

In general, groundwater gradient and flow direction measured in December 1996 are consistent with the groundwater flow direction previously reported for the Site (LFR 1996). Because of the malfunctioning of the extraction system at the time of the water-level measurements, the effect of the system on the groundwater appears to be less than has been reported in the past. There appears to have been a residual draw down resulting in a depression of groundwater elevations around extraction wells EX-3 and EX-4, and the excavation trench.

Analytical results for groundwater samples collected in December 1996 are similar to results previously reported for the Site (Table 2). Results indicate that the plume of VOC-affected groundwater likely extends to the north between wells MW-3 and MW-6 and to the south between wells MW-7 and MW-8. The plume extends approximately 800 feet southwest (downgradient) from well MW-6 toward the extraction wells and trench, and is approximately 300 feet wide. Analysis of samples from well MW-2 indicate that TPHg-affected groundwater is migrating onto the property from the east.

Samples collected from three deeper zone wells (MW7B, MW7Z, MW9D) detected the presence of VOCs at low concentrations (up to 0.008 ppm). The detection of VOCs in these wells are not common. These wells will be monitored during the first quarter of 1997 to confirm these results.

## 7.0 ACTIVITIES PROPOSED FROM JANUARY TO MARCH 1997

Groundwater monitoring planned for January through March 1997 include water-level measurements and quarterly groundwater sampling. The sampling schedule is summarized in Table 5. It is anticipated that a report summarizing those activities will be submitted to the ACHA by April 30, 1997.

## 8.0 REFERENCES

- LFR, Inc. 1992a. Containment Plan for Total Petroleum Hydrocarbon-Affected Soils, Yerba Buena Project Site, Emeryville and Oakland, California. March 10.
- . 1992b. Soil Remediation Activities Report, Former Ransome Property, Yerba Buena Project Site, Emeryville, California. March 21.
- . 1994a. Groundwater Monitoring Plan, East Baybridge Center, Emeryville and Oakland, California. March 19.
- . 1994b. Soils Management Plan for Petroleum Hydrocarbon-Affected Soils, Yerba Buena/East Baybridge Center, Emeryville and Oakland, California. November 30.
- . 1996. Quarterly Monitoring Report for April 1 through June 30, 1996, East Baybridge Center, Emeryville and Oakland, California. July 31.

**Table 1**  
**Well Construction and Groundwater Elevation Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
<b>Shallow Wells</b>						
MW-1	27.47	30	15-30	12-Sep-94	14.88	12.59
				30-Nov-94	14.61	12.86
				16-Feb-95	14.73	12.74
				08-May-95	14.55	12.92
				30-Aug-95	14.62	12.85
				19-Dec-95	13.38	14.09
				26-Feb-96	14.27	13.20
				29-Apr-96	14.69	12.78
				03-Sep-96	14.70	12.77
MW-2	37.23	18	8-18	12-Sep-94	8.00	29.23
				30-Nov-94	6.84	30.39
				16-Feb-95	6.84	30.39
				08-May-95	7.08	30.15
				30-Aug-95	9.03	28.20
				19-Dec-95	6.95	30.28
				26-Feb-96	6.62	30.61
				29-Apr-96	7.92	29.31
				03-Sep-96	8.10	29.13
MW-3	32.05	25	14-25	12-Sep-94	9.88	22.17
				30-Nov-94	9.96	22.09
				16-Feb-95	9.24	22.81
				08-May-95	9.82	22.23
				30-Aug-95	11.75	20.30
				19-Dec-95	9.65	22.40
				26-Feb-96	8.80	23.25
				29-Apr-96	10.66	21.39
				03-Sep-96	10.51	21.54
MW-4	24.28	25	12-25	12-Sep-94	17.01	7.27
				30-Nov-94	16.15	8.13
				16-Feb-95	16.38	7.90
				08-May-95	16.27	8.01
				30-Aug-95	16.32	7.96
				19-Dec-95	14.52	9.76
				26-Feb-96	13.29	10.99
				29-Apr-96	15.08	9.20
				03-Sep-96	14.70	9.58
MW-5	22.19	21.5	11.5-21.5	12-Sep-94	17.15	5.04
				30-Nov-94	15.94	6.25
				16-Feb-95	16.45	5.74

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Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
				08-May-95	16.08	6.11
				30-Aug-95	15.79	6.40
				19-Dec-95	13.81	8.38
				26-Feb-96	12.69	9.50
				29-Apr-96	14.49	7.70
				03-Sep-96	14.11	8.08
				13-Dec-96	12.67	9.52
MW-6	28.54	21.5	11.5-21.5	12-Sep-94	12.58	15.96
				30-Nov-94	12.75	15.79
				16-Feb-95	12.17	16.37
				08-May-95	12.75	15.79
				30-Aug-95	14.22	14.32
				19-Dec-95	13.17	15.37
				26-Feb-96	11.37	17.17
				29-Apr-96	12.95	15.59
				03-Sep-96	12.67	15.87
				13-Dec-96	11.83	16.71
MW-7	26.29	23.5	13.5-23.5	12-Sep-94	11.60	14.69
				30-Nov-94	11.53	14.76
				16-Feb-95	10.82	15.47
				08-May-95	11.84	14.45
				30-Aug-95	12.81	13.48
				19-Dec-95	11.77	14.52
				26-Feb-96	10.04	16.25
				29-Apr-96	11.55	14.74
				03-Sep-96	11.32	14.97
				13-Dec-96	10.96	15.33
MW-8	24.40	20.5	10.5-20.5	12-Sep-94	9.96	14.44
				30-Nov-94	9.96	14.44
				16-Feb-95	9.68	14.72
				08-May-95	10.06	14.34
				30-Aug-95	11.10	13.30
				19-Dec-95	10.22	14.18
				26-Feb-96	8.78	15.62
				29-Apr-96	10.05	14.35
				03-Sep-96	9.67	14.73
				13-Dec-96	9.20	15.20
MW-9	24.17	26	14-26	12-Sep-94	19.70	4.47
				30-Nov-94	17.65	6.52
				16-Feb-95	18.85	5.32
				08-May-95	19.47	4.70
				30-Aug-95	19.65	4.52
				19-Dec-95	18.43	5.74
				26-Feb-96	16.46	7.71

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**Well Construction and Groundwater Elevation Data**  
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**Emeryville and Oakland, California**

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
				29-Apr-96	18.91	5.26
				03-Sep-96	19.12	5.05
				13-Dec-96	16.22	7.95
MW-10	13.21			19-Dec-95	6.31	6.90
				26-Feb-96	6.09	7.12
				29-Apr-96	6.73	6.48
				03-Sep-96	6.50	6.71
				13-Dec-96	5.86	7.35
MW-12	10.42			19-Dec-95	10.69	-0.27
				26-Feb-96	9.66	0.76
				29-Apr-96	10.98	-0.56
				03-Sep-96	11.05	-0.63
				13-Dec-96	10.04	0.38
MW-31	19.14			19-Dec-95	6.92	12.22
				26-Feb-96	6.99	12.15
				29-Apr-96	7.54	11.60
				03-Sep-96	7.55	11.59
				13-Dec-96	6.72	12.42
MW-32	15.52			19-Dec-95	8.92	6.60
				26-Feb-96	8.48	7.04
				29-Apr-96	9.46	6.06
				03-Sep-96	9.20	6.32
				13-Dec-96	8.35	7.17
MW-34	11.97			19-Dec-95	11.20	0.77
				26-Feb-96	12.12	-0.15
				29-Apr-96	12.47	-0.50
				03-Sep-96	12.21	-0.24
				13-Dec-96	11.36	0.61
LF-13	9.19			19-Dec-95	2.86	6.33
				26-Feb-96	2.55	6.64
				29-Apr-96	6.13	3.06
				03-Sep-96	6.58	2.61
				13-Dec-96	1.67	7.52
LF-22	17.99	20	10-20	12-Sep-94	11.96	6.03
				30-Nov-94	9.69	8.30
				16-Feb-95	10.45	7.54
				08-May-95	11.40	6.59
				30-Aug-95	13.03	4.96
				19-Dec-95	9.42	8.57
				26-Feb-96	8.84	9.15
				29-Apr-96	10.29	7.70



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**Well Construction and Groundwater Elevation Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
LF-23	17.99	20	10-20	03-Sep-96	11.20	6.79
				13-Dec-96	8.18	9.81
				12-Sep-94	12.24	5.75
				30-Nov-94	10.05	7.94
				16-Feb-95	11.10	6.89
				08-May-95	11.88	6.11
				30-Aug-95	13.38	4.61
				19-Dec-95	10.01	7.98
				26-Feb-96	8.97	9.02
				29-Apr-96	10.84	7.15
				03-Sep-96	11.35	6.64
				13-Dec-96	8.47	9.52
				<b>Extraction Wells</b>		
EX-1 (LF-1)	23.51	NA	NA	12-Sep-94	24.83	-1.32
				30-Nov-94	19.16	4.35
				08-May-95	23.45	0.06
				30-Aug-95	23.45	0.06
				19-Dec-95	23.50	0.01
				26-Feb-96	18.38	5.13
				29-Apr-96	NM	NM
				03-Sep-96	22.15	1.36
				13-Dec-96	13.38	10.13
				09-Jan-97	10.65	12.86
EX-2 (LF-2)	20.03	NA	NA	12-Sep-94	20.11	-0.08
				30-Nov-94	15.68	4.35
				08-May-95	20.70	-0.67
				30-Aug-95	20.68	-0.65
				19-Dec-95	20.40	-0.37
				26-Feb-96	14.91	5.12
				29-Apr-96	20.47	-0.44
				03-Sep-96	18.80	1.23
				13-Dec-96	NM	NM
				09-Jan-97	10.69	9.34
EX-3	20.96	24	7.5-24	12-Sep-94	22.33	-1.37
				30-Nov-94	15.50	5.46
				16-Feb-95	17.80	3.16
				08-May-95	19.80	1.16
				30-Aug-95	19.86	1.10
				19-Dec-95	17.00	3.96
				26-Feb-96	15.10	5.86
				29-Apr-96	16.21	4.75
				03-Sep-96	16.65	4.31
				13-Dec-96	12.95	8.01

**Table 1**  
**Well Construction and Groundwater Elevation Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
EX-4	24.40	25	8-25	12-Sep-94	22.61	1.79
				30-Nov-94	20.70	3.70
				16-Feb-95	20.55	3.85
				08-May-95	20.85	3.55
				30-Aug-95	20.88	3.52
				19-Dec-95	19.41	4.99
				26-Feb-96	20.40	4.00
				29-Apr-96	19.75	4.65
				03-Sep-96	20.65	3.75
			13-Dec-96	18.59	5.81	
<b>Deeper Wells</b>						
MW-6D	28.48	45	32-40	12-Sep-94	11.09	17.39
				30-Nov-94	11.46	17.02
				16-Feb-95	10.67	17.81
				08-May-95	11.58	16.90
				30-Aug-95	12.93	15.55
				19-Dec-95	13.14	15.34
				26-Feb-96	10.14	18.34
				29-Apr-96	11.57	16.91
				03-Sep-96	11.48	17.00
			13-Dec-96	12.29	16.19	
MW-7D	26.27	40	27-40	12-Sep-94	11.32	14.95
				30-Nov-94	11.30	14.97
				16-Feb-95	11.01	15.26
				08-May-95	11.35	14.92
				30-Aug-95	12.65	13.62
				19-Dec-95	11.61	14.66
				26-Feb-96	9.84	16.43
				29-Apr-96	11.38	14.89
				03-Sep-96	11.18	15.09
			13-Dec-96	10.72	15.55	
MW-9D	24.17	45	32-45	12-Sep-94	18.38	5.79
				30-Nov-94	16.35	7.82
				16-Feb-95	16.43	7.74
				08-May-95	16.96	7.21
				30-Aug-95	18.28	5.89
				19-Dec-95	16.50	7.67
				26-Feb-96	14.68	9.49
				29-Apr-96	16.85	7.32
				03-Sep-96	17.61	6.56
			13-Dec-96	15.23	8.94	
<b>Deep Well</b>						
MW-7Z	25.96	65	50-65	12-Sep-94	11.78	14.18

**Table 1**  
**Well Construction and Groundwater Elevation Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
				30-Nov-94	10.76	15.20
				16-Feb-95	9.16	16.80
				08-May-95	9.85	16.11
				30-Aug-95	11.85	14.11
				19-Dec-95	10.89	15.07
				26-Feb-96	8.62	17.34
				29-Apr-96	9.91	16.05
				03-Sep-96	11.01	14.95
				13-Dec-96	10.31	15.65

Data entered by RW, Proofed by JOK.

**Notes**

- (1) Well elevation is in feet mean sea level as surveyed by Nolte and Associates in August 1994.
- (2) Well depth and screened interval are in feet below ground surface as measured at the time of well installation.
- (3) Water level elevation is in feet mean sea level.

NA Not applicable, well associated with extraction trench.

NM Water level not measured.

**Table 2**  
**Quarterly Summary of Groundwater Quality Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**  
*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans- 1,2-DCE
<b>Shallow Wells (20 to 25 feet below grade)</b>																
MW-1		13-Sep-94	AEN	<0.005	0.30	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA	NA	NA	NA	NA	NA
		30-Nov-94	AEN	NA	0.10	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		17-Feb-95	AEN	<0.05	0.08	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
		09-May-95	AEN	<0.05	0.20	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
		31-Aug-95	AEN	<0.05	0.30	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
		27-Dec-95	AEN	<0.05	0.10	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
		27-Feb-96	AEN	<0.05	0.18	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
		01-May-96	AEN	<0.05	0.10	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
	04-Sep-96	AEN	<0.05	0.25	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA	
MW-2		01-Dec-94	AEN	7.10	NA	0.065	<0.01	0.13	0.47	NA	NA	NA	NA	NA	NA	NA
		17-Feb-95	AEN	3.50	0.30	0.045	0.005	0.11	0.35	NA	NA	NA	NA	NA	NA	NA
		09-May-95	AEN	3.50	0.20	0.025	0.009	0.085	0.25	NA	NA	NA	NA	NA	NA	NA
		31-Aug-95	AEN	0.90	0.20	0.011	<0.0005	0.032	0.072	NA	NA	NA	NA	NA	NA	NA
		20-Dec-95	AEN	2.60	<0.05	0.016	0.002	0.079	0.24	NA	NA	NA	NA	NA	NA	NA
		27-Feb-96	AEN	4.10	0.20	0.076	0.0095	0.21	0.62	NA	NA	NA	NA	NA	NA	NA
		01-May-96	AEN	2.40	0.23	0.039	0.0047	0.098	0.26	NA	NA	NA	NA	NA	NA	NA
		04-Sep-96	AEN	0.54	0.22	0.0024	<0.0005	0.018	0.045	NA	NA	NA	NA	NA	NA	NA
	17-Dec-96	A2AC	0.776	<0.010	0.004	0.009	0.011	0.019	NA	NA	NA	NA	NA	NA	NA	
MW-3		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		01-Dec-94	AEN	NA	0.07	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		08-May-95	AEN	NA	0.07	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		20-Dec-95	AEN	NA	<0.05	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		04-Sep-96	AEN	NA	0.11	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
MW-4		01-Dec-94	AEN	NA	0.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		08-May-95	AEN	NA	0.10	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0.004	<0.0005	<0.0005
		20-Dec-95	AEN	NA	0.09	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005
		30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	<0.0005	<0.0005

**Table 2**  
**Quarterly Summary of Groundwater Quality Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**  
*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans-1,2-DCE	
MW-5	(27)	04-Sep-96	AEN	NA	0.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	0.002	0.001	<0.001	0.001
			13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.001	0.0007	0.003	0.002	<0.0005	<0.0005
			01-Dec-94	AEN	NA	0.05	NA	NA	NA	NA	<0.0005	0.0007	0.0005	0.004	0.003	<0.0005	<0.0005
			16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.001	0.002	0.008	0.003	<0.0005	<0.0005
			08-May-95	AEN	NA	0.09	NA	NA	NA	NA	0.0005	0.002	0.002	0.016	0.005	<0.0005	<0.0005
			31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	0.0007	0.002	0.002	0.013	0.004	<0.0005	<0.0005
			20-Dec-95	AEN	NA	0.1	NA	NA	NA	NA	<0.0005	0.001	0.0008	0.009	0.002	<0.0005	<0.0005
			27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.0008	0.0024	0.010	0.0029	<0.0005	<0.0005
			30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	0.001	0.0051	0.0021	<0.0005	<0.0005
		04-Sep-96	AEN	NA	0.24	NA	NA	NA	NA	<0.0005	<0.0005	0.0010	0.0051	0.0022	<0.0005	<0.0005	
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	<0.001	<0.001	0.002	0.005	0.002	<0.001	<0.001	
MW-6	(2)	13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	0.0005	0.041	<0.0005	0.280	0.005	0.001	0.001	
		01-Dec-94	AEN	NA	0.08	NA	NA	NA	NA	0.0006	0.041	<0.0005	0.300	0.004	<0.0005	<0.0005	
	duplicate		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.039	<0.003	0.280	0.003	<0.003	<0.003
			16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.045	<0.003	0.290	0.004	<0.003	<0.003
			09-May-95	AEN	NA	0.20	NA	NA	NA	NA	<0.003	0.031	<0.003	0.260	0.003	<0.003	<0.003
			31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.032	<0.003	0.270	0.004	<0.003	<0.003
			28-Dec-95	AEN	NA	0.1	NA	NA	NA	NA	<0.003	0.040	<0.003	0.280	0.004	<0.003	<0.003
			27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.005	0.031	<0.005	0.270	<0.005	<0.005	<0.005
			01-May-96	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.026	<0.003	<0.200	0.003	<0.003	<0.003
			04-Sep-96	AEN	NA	0.17	NA	NA	NA	NA	<0.003	0.033	<0.003	0.330	0.005	<0.003	<0.003
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	0.010	0.060	<0.001	0.310	<0.001	<0.001	<0.001	
MW-7		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.017	<0.0005	0.160	0.003	0.0009	<0.0005	
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.016	<0.0005	0.170	0.003	<0.0005	<0.0005	
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.011	<0.003	0.120	<0.003	<0.003	<0.003	
		09-May-95	AEN	NA	0.09	NA	NA	NA	NA	<0.0005	0.015	<0.0005	0.180	0.004	<0.0005	<0.0005	
		30-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.012	<0.003	0.140	0.003	<0.003	<0.003	
		20-Dec-95	AEN	NA	<0.05	NA	NA	NA	NA	<0.003	0.011	<0.003	0.170	<0.003	<0.003	<0.003	
		27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.018	<0.003	0.210	0.0035	<0.003	<0.003	
		duplicate	27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.017	<0.003	0.210	0.003	<0.003	<0.003
			30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.016	<0.003	0.220	0.003	<0.003	<0.003
			03-Sep-96	AEN	NA	0.11	NA	NA	NA	NA	<0.003	0.021	<0.003	0.290	0.004	<0.003	<0.003

**Table 2**  
**Quarterly Summary of Groundwater Quality Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**  
*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans-1,2-DCE
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	<0.001	0.050	<0.001	0.280	<0.001	<0.001	<0.001
<b>MW-8</b>	(3)	13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005
		02-Dec-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		29-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		04-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
<b>MW-9</b>		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.017	<0.0005	0.120	0.0005	0.006	<0.0005
duplicate		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.015	<0.0005	0.120	0.0005	0.009	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.016	<0.0005	0.150	0.0005	<0.0005	<0.0005
duplicate		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.016	<0.0005	0.160	0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.014	<0.003	0.120	<0.003	<0.003	<0.003
		08-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.013	<0.0005	0.110	0.005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.013	<0.003	0.130	0.004	<0.003	<0.003
		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.003	0.009	<0.003	0.092	<0.003	<0.003	<0.003
		27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.0099	<0.0005	0.087	0.0035	<0.0005	<0.0005
		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.0083	<0.0005	0.099	0.0030	<0.0005	<0.0005
duplicate		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.0078	<0.0005	0.097	0.0026	<0.0005	<0.0005
		17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	0.005	<0.001	0.059	0.002	<0.001	<0.001
dup		17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	0.006	<0.001	0.064	0.002	<0.001	<0.001
<b>MW-10R</b>		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	0.910	<0.005	0.007	<0.005	<0.005	<0.005	0.222
	(19)	29-Apr-96	AEN	NA	NA	NA	NA	NA	NA	0.650	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	(28)	17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	0.610	<0.001	<0.001	<0.001	<0.001	<0.001	0.160
<b>MW-12R</b>		27-Dec-95	AEN	NA	0.2	NA	NA	NA	NA	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002
		27-Feb-96	AEN	<0.05	0.36	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
	(20)	30-Apr-96	AEN	<0.05	0.23	<0.0005	<0.0005	<0.0005	<0.002	0.0025	<0.0005	<0.0005	<0.0005	0.0024	<0.0005	<0.0005
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	0.001	<0.001	<0.001	<0.001	0.005	<0.001	0.004

**Table 2**  
**Quarterly Summary of Groundwater Quality Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**  
*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans-1,2-DCE
MW-31R		27-Dec-95	AEN	NA	0.3	NA	NA	NA	NA	0.018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.009
		27-Feb-96	AEN	<0.05	0.37	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
	(21)	30-Apr-96	AEN	NA	0.19	NA	NA	NA	NA	0.015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		05-Sep-96	AEN	NA	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
MW-32R	(15)	22-Dec-95	AEN	NA	0.2	NA	NA	NA	NA	0.058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.055
		27-Feb-96	AEN	<0.05	0.26	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA	NA
	(22)	01-May-96	AEN	NA	0.17	NA	NA	NA	NA	0.074	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		05-Sep-96	AEN	NA	0.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	(31)	17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	0.110	<0.001	<0.001	<0.001	<0.001	<0.001	0.100
MW-34R		27-Dec-95	AEN	NA	0.3	NA	NA	NA	NA	0.009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	(23)	29-Apr-96	AEN	NA	NA	NA	NA	NA	NA	0.035	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		17-Dec-96	AEN	NA	NA	NA	NA	NA	NA	0.018	<0.001	<0.001	0.002	<0.001	<0.001	0.005
LF-13		09-May-95	AEN	NA	NA	NA	NA	NA	NA	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		28-Dec-95	AEN	NA	NA	NA	NA	NA	NA	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	0.0031	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	duplicate	30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	0.0031	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	(38)	17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
LF-22		12-Jul-91	ANA	NA	NA	NA	NA	NA	NA	0.0007	0.012	0.0017	0.053	0.0063	0.0016	<0.0005
		07-Jan-92	ANA	NA	NA	NA	NA	NA	NA	<0.0005	0.009	0.0037	0.041	0.0054	0.0011	<0.0005
		16-Apr-92	ANA	NA	NA	NA	NA	NA	NA	<0.0005	0.0026	0.0018	0.015	0.0021	<0.0005	<0.0005
	(1)	23-Jul-92	ANA	NA	NA	NA	NA	NA	NA	<0.0005	0.0034	0.0014	0.027	0.0052	<0.0005	<0.0005
		20-Oct-92	ANA	NA	NA	NA	NA	NA	NA	0.0008	0.0013	0.0007	0.014	0.004	<0.0005	<0.0005
		25-May-93	ANA	NA	NA	NA	NA	NA	NA	<0.0005	0.0008	0.0006	0.0061	0.0024	<0.0005	<0.0005
		13-Jul-93	ANA	NA	NA	NA	NA	NA	NA	0.0007	0.001	0.0009	0.0077	0.0033	<0.0005	<0.0005
	(4)	13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	0.004	<0.0005	0.008	0.003	0.001	0.0007	<0.0005
		01-Dec-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.0006	0.0009	<0.0005	<0.0005
		17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	0.0006	0.0007	0.001	<0.0005	<0.0005
		09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.0007	0.0007	<0.0005	<0.0005
	duplicate	09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.0005	0.0006	<0.0005	<0.0005
	(11)	31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.001	0.001	<0.0005	<0.0005
	duplicate	(11)	31-Aug-95	AEN	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.001	0.001	<0.0005	<0.0005

**Table 2**  
**Quarterly Summary of Groundwater Quality Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**  
*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans-1,2-DCE
		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	(17)	27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	(24)	29-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		04-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
<b>LF-23</b>		12-Jul-91	ANA	NA	NA	NA	NA	NA	NA	0.0039	0.0009	0.027	0.0012	0.011	0.0009	<0.0005
		07-Jan-92	ANA	NA	NA	NA	NA	NA	NA	0.007	0.0023	0.056	0.0034	0.012	0.0013	<0.0005
		16-Apr-92	ANA	NA	NA	NA	NA	NA	NA	0.0036	0.0007	0.020	0.0044	0.0044	0.0011	<0.0005
		23-Jul-92	ANA	NA	NA	NA	NA	NA	NA	0.0038	0.0013	0.029	0.0061	0.0044	0.0014	<0.0005
		20-Oct-92	ANA	NA	NA	NA	NA	NA	NA	0.0033	0.0005	0.023	0.0047	0.002	0.0015	<0.0005
		25-May-93	ANA	NA	NA	NA	NA	NA	NA	0.0042	0.0007	0.016	0.0035	0.0017	0.0019	<0.0005
		13-Jul-93	ANA	NA	NA	NA	NA	NA	NA	0.0081	0.0015	0.018	0.0074	0.0033	0.0051	<0.0005
		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	0.0006	0.002	0.003	0.0007	<0.0005
	(7)	01-Dec-94	AEN	NA	NA	NA	NA	NA	NA	0.004	<0.0005	0.008	0.0006	<0.0005	<0.0005	0.002
	(8)	17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	0.003	<0.0005	0.006	<0.0005	<0.0005	<0.0005	0.002
	(9)	09-May-95	AEN	NA	NA	NA	NA	NA	NA	0.002	<0.0005	0.005	<0.0005	<0.0005	<0.0005	0.001
	(10)	31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	0.002	<0.0005	0.007	0.0007	0.0007	<0.0005	0.001
	(14)	20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	0.001	<0.0005	0.006	<0.0005	<0.0005	<0.0005	<0.0005
	(18)	27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	0.0008	<0.0005	0.0038	<0.0005	<0.0005	<0.0005	<0.0005
	(25)	29-Apr-96	AEN	NA	NA	NA	NA	NA	NA	0.0006	<0.0005	0.0028	<0.0005	<0.0005	<0.0005	<0.0005
	(26)	04-Sep-96	AEN	NA	NA	NA	NA	NA	NA	0.0014	<0.0005	0.0032	<0.0005	<0.0005	<0.0005	<0.0005
	(35)	17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
<b>Shallow Extraction Wells (20 to 30 feet below grade)</b>																
<b>EX-3</b>		14-Sep-94	AEN	NA	NA	NA	NA	NA	NA	0.004	0.014	0.042	0.100	0.005	0.001	0.008
		02-Dec-94	AEN	NA	0.10	NA	NA	NA	NA	0.004	0.015	0.045	0.140	0.005	<0.0005	<0.0005
		17-Feb-95	AEN	NA	<0.05	NA	NA	NA	NA	0.003	0.014	0.037	0.096	0.005	<0.0005	<0.0005
		09-May-95	AEN	NA	0.10	NA	NA	NA	NA	0.003	0.012	0.031	0.120	0.005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	0.10	NA	NA	NA	NA	<0.003	0.012	0.027	0.120	0.005	<0.003	<0.003
		28-Dec-95	AEN	NA	0.10	NA	NA	NA	NA	<0.003	0.009	0.036	0.160	0.004	<0.003	<0.003
		27-Feb-96	AEN	NA	0.12	NA	NA	NA	NA	<0.003	0.0077	0.030	0.120	0.0032	<0.003	<0.003
		30-Apr-96	AEN	NA	0.08	NA	NA	NA	NA	<0.003	0.008	0.026	0.120	0.003	<0.003	<0.003
		05-Sep-96	AEN	NA	0.14	NA	NA	NA	NA	<0.003	0.008	0.029	0.140	0.004	<0.003	<0.003
		17-Dec-96	A2AC	NA	<0.010	NA	NA	NA	NA	0.006	0.010	0.020	0.098	0.003	<0.001	0.004



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*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans-1,2-DCE
EX-4		14-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	0.025	0.010	0.220	0.006	0.001	<0.0005
		02-Dec-94	AEN	NA	0.09	NA	NA	NA	NA	<0.0005	0.020	0.011	0.240	0.006	<0.0005	<0.0005
		17-Feb-95	AEN	NA	<0.05	NA	NA	NA	NA	<0.003	0.017	0.011	0.210	0.004	<0.003	<0.003
		09-May-95	AEN	NA	0.10	NA	NA	NA	NA	<0.003	0.020	0.011	0.210	0.004	<0.003	<0.003
		31-Aug-95	AEN	NA	0.20	NA	NA	NA	NA	<0.003	0.016	0.010	0.200	0.005	<0.003	<0.003
		28-Dec-95	AEN	NA	0.10	NA	NA	NA	NA	<0.003	0.014	0.014	0.210	0.004	<0.003	<0.003
		27-Feb-96	AEN	NA	0.13	NA	NA	NA	NA	<0.0005	0.0086	0.012	0.150	<0.0005	<0.0005	<0.0005
		30-Apr-96	AEN	NA	0.06	NA	NA	NA	NA	<0.003	0.010	0.010	0.150	<0.003	<0.003	<0.003
		05-Sep-96	AEN	NA	0.14	NA	NA	NA	NA	<0.003	0.008	0.009	0.140	0.003	<0.003	<0.003
	17-Dec-96	A2AC	NA	0.334	NA	NA	NA	NA	0.001	0.009	0.010	0.090	0.003	<0.001	0.004	
EXTR		27-Feb-96	AEN	NA	0.15	NA	NA	NA	NA	<0.0005	0.0069	0.0013	0.066	0.0028	<0.0005	<0.0005
		30-Apr-96	AEN	NA	0.11	NA	NA	NA	NA	<0.0005	0.0055	0.0012	0.063	0.0024	<0.0005	<0.0005
		05-Sep-96	AEN	NA	0.12	NA	NA	NA	NA	<0.0005	0.0082	0.0031	0.099	0.0031	<0.0005	<0.0005
		17-Dec-96	A2AC	NA	1.520	NA	NA	NA	NA	0.001	0.008	0.009	0.074	0.002	<0.001	0.004
<b>Deeper Wells (40 to 45 feet below grade)</b>																
MW-6D		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	0.0005	<0.0005
		01-Dec-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		28-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		01-May-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
MW-7D		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005	<0.0005
		09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.002	<0.0005	<0.0005	<0.0005
		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
duplicate		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	

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Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans-1,2-DCE
MW-9D		30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.0010	<0.0005	<0.0005	<0.0005
		17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	0.008	<0.001	<0.001	<0.001
		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		08-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		26-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	01-May-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
	03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
	17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	
<b>Deep Well (65 feet below grade)</b>																
MW-7Z		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		28-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		27-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Apr-96	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
(36)		17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
<b>Trip Blanks</b>																
		17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		10-May-95	AEN	NA	NA	<0.0005	<0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		31-Aug-95	AEN	NA	NA	<0.0005	<0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		28-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		27-Feb-96	AEN	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

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*(concentrations expressed in parts per million [ppm])*

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans- 1,2-DCE
<b>Field Blanks</b>																
LF-22		17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
LF-22		09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-7Z		09-May-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
LF-22-FB		31-Aug-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-7D-FB		20-Dec-95	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-7-FB		26-Feb-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-9-FB		03-Sep-96	AEN	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
LF-22-FB	(37)	17-Dec-96	A2AC	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Data entered by PW. Data proofed by PEH and QA/QC by PEH.

**NOTES:**

**Key to abbreviations:**

TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

TPHo = Total petroleum hydrocarbons as oil

TCE = Trichloroethene

1,1,1-TCA = 1,1,1-Trichloroethane

PCE = Tetrachloroethene

1,1-DCE = 1,1-Dichloroethene

1,1-DCA = 1,1-Dichloroethane

1,2-DCA = 1,2-Dichloroethane

AEN = American Environmental Network in Pleasant Hill, California

ANA = Inchepe Testing Anametrix, Inc., in San Jose, California

A2AC - Aqua Air (A2) Analytical Corporation

NA = parameter not analyzed

**Notes:**

(1) 0.00081 ppm vinyl chloride .

(2) 0.002 ppm chloroform .

(3) 0.0008 ppm chloroform .

(4) 0.002 ppm chloroform .

(6) 0.002 ppm chloroform .

Table 2  
 Quarterly Summary of Groundwater Quality Data  
 East Baybridge Center  
 Emeryville and Oakland, California  
 (concentrations expressed in parts per million [ppm])

Well ID	Notes	Date Sampled	Lab	TPHg	TPHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA	cis/trans- 1,2-DCE
---------	-------	--------------	-----	------	------	---------	---------	-------------------	------------------	-----	-----------	-----	---------	---------	---------	-----------------------

- (7) 0.0002 ppm chloroform .
- (8) 0.002 ppm chloroform .
- (9) 0.014 ppm chloroform .
- (10) Chloroform = 0.004 .
- (11) Chloroform = 0.0006.
- (14) Chloroform = 0.006.
- (15) Bromodichloroethane = 0.010 ppm, vinyl chloride = 0.017 .
- (17) Chloroform = 0.0012.
- (18) Chloroform = 0.010, Bromodichloromethane = 0.0011.
- (19) 1,2-DCE = 0.194.
- (20) 1,2-DCE = 0.0024.
- (21) 1,2-DCE = 0.011.
- (22) Vinyl chloride = 0.025, 1,2-DCE = 0.087, Bromodichloromethane = 0.004
- (23) 1,1,2-Trichlorotrifluoroethane = 0.0021.
- (24) Chloroform = 0.0015.
- (25) Bromodichloromethane = 0.001, Chloroform = 0.013.
- (26) Chloroform=0.002
- (27) Methylene Chloride-0.001 .
- (28) Chloroform-0.030 .
- (31) Methylene Chloride-0.010.
- (35) Chloroform-0.002
- (36) Chloroform-0.001
- (37) Chloroform-0.001.
- (38) Methylene Chloride-0.001.

**Table 3**  
**Chemical Analysis Results for Monitoring Well LF-31**  
**Former Bashland Company Property**  
*(results in parts per million [ppm])*

Date Sampled	Dups	Lab	Notes	TRPH	THPd	TPHo	THPg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,2-DCE
12-Feb-93		ANA	(1)	<5	<0.05	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
26-May-93		ANA		<5	0.200	NA	NA	NA	NA	NA	NA	0.020	0.0039
26-May-93	dup			<5	0.310	NA	NA	NA	NA	NA	NA	0.020	0.0034
14-Jul-93		ANA	(2)	<5	0.150	NA	NA	NA	NA	NA	NA	0.0073	0.0024
14-Jul-93	dup	AEN		<1	0.400	NA	NA	NA	NA	NA	NA	0.010	0.002
09-Dec-93		ANA		<5	0.200	0.100	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
11-Mar-94		ANA	(3)	NA	0.110	0.210	NA	NA	NA	NA	NA	0.0054	0.003
11-Mar-94	dup	ANA	(4)	NA	NA	NA	NA	NA	NA	NA	NA	0.006	0.0034
21-Jun-94		AEN		NA	0.400	0.200	<0.05	<0.0005	<0.0005	<0.0005	<0.002	0.005	0.002
27-Dec-95		AEN		NA	0.300	<0.200	NA	NA	NA	NA	NA	0.018	0.009
27-Feb-96		AEN		NA	0.370	<0.2	<0.05	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
30-Apr-96		AEN		NA	0.190	<0.2	NA	NA	NA	NA	NA	0.015	0.017
05-Sep-96		AEN		NA	0.540	<0.2	NA	NA	NA	NA	NA	NA	NA
17-Dec-96		A2AC		NA	<0.01	<0.2	NA	NA	NA	NA	NA	0.008	NA

Data entered by PW. Data proofed by RLH

**NOTES:**

TRPH - Total recoverable petroleum hydrocarbons as oil and grease, analyzed using Standard Methods 5520BF.

THPd - Total petroleum hydrocarbons as diesel, analyzed using EPA Method 3510.

TPHo - Total petroleum hydrocarbons as oil, analyzed using EPA Method 3510.

THPg - Total petroleum hydrocarbons as gasoline, analyzed using EPA Method 3550.

TCE - Trichloroethene, analyzed using EPA Method 8010.

1,2-DCE - 1,2-dichloroethene, analyzed using EPA Method 8010.

Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.

ANA - Anamatrix, Inc., of San Jose, California.

AEN - American Environmental Network of Pleasant Hill, California.

NA - Not analyzed.

(1) Groundwater samples also analyzed for cadmium, chromium, nickel, lead, and zinc, and semivolatile organic compounds using EPA Method 8270. None of these compounds were detected above laboratory detection limits.

(2) Tetrachloroethene detected at a concentration of 0.0063 ppm.

(3) Chloroform detected at 0.0012 ppm.

(4) Chloroform detected at 0.0014 ppm.

**Table 4**  
**Chemical Analysis Results for Monitoring Well LF-32**  
**Former Bay Area Warehouse Property**  
*(concentrations expressed in parts per million (ppm))*

Date	Dups	Lab	Notes	TPHg	Benzene	Toluene	Ethyl -benzene	Total Xylenes	TPHd	TPHo	TCE	1,2-DCE
26-May-93		ANA		0.050	<0.0005	<0.0005	<0.0005	<0.0005	0.44	NA	NA	NA
14-Jul-93		AEN		<0.050	<0.0005	<0.0005	<0.0005	<0.002	<0.050	NA	NA	NA
14-Jul-93		ANA		<0.050	<0.0005	<0.0005	<0.0005	<0.005	0.23	NA	NA	NA
09-Dec-93		ANA	(1)	<0.050	<0.0005	<0.0005	<0.0005	<0.005	0.66	0.360	NA	NA
11-Mar-94		ANA	*	0.110	* <0.0005	<0.0005	<0.0005	<0.0005	0.89	0.850	0.0025	0.0008
11-Mar-94	Dup	ANA	*	0.110	* <0.0005	<0.0005	<0.0005	<0.0005	NA	NA	0.0026	0.00088
27-Apr-94		ANA		<0.05	NA	NA	NA	NA	NA	NA	NA	NA
23-May-94		AEN	(2)	NA	NA	NA	NA	NA	NA	NA	0.005	0.005
21-Jun-94		AEN		<0.05	<0.0005	<0.0005	<0.0005	<0.002	1.4	0.400	NA	NA
22-Dec-95		AEN	(3)	NA	NA	NA	NA	NA	0.2	<0.2	0.058	0.055
27-Feb-96		AEN		<0.05	<0.0005	<0.0005	<0.0005	<0.002	0.26	<0.2	NA	NA
01-May-96		AEN	(4)	NA	NA	NA	NA	NA	0.17	<0.2	0.074	0.087
05-Sep-96		AEN		NA	NA	NA	NA	NA	0.34	NA	NA	NA
17-Dec-96		A2AC		NA	NA	NA	NA	NA	<0.010	NA	0.110	0.100

Data entered by AW. Data proofed by AW.

TPHg = Total petroleum hydrocarbons as gasoline, analyzed using EPA Method 5030 GCFID

TPHd = Total petroleum hydrocarbons as diesel, analyzed using EPA Method 3510 GCFID

TPHo = Total petroleum hydrocarbons as motor oil, analyzed using EPA Method 3510

TCE = Trichloroethene, analyzed using EPA Method 8010

1,2-DCE = 1,2-Dichloroethene, analyzed using EPA Method 8010

NA = not analyzed

ANA = Anametrix, Inc., of San Jose, California

AEN = American Environmental Network of Pleasant Hill, California

**NOTES:**

- (1) Total petroleum hydrocarbons as oil and grease were not reported above the laboratory detection limit of 5 ppm.
  - (2) Vinyl chloride was present at 0.002 ppm and bromodichloromethane detected at 0.0006 ppm.
  - (3) Vinyl chloride was present at 0.017 ppm and bromodichloromethane detected at 0.010 ppm.
  - (4) Vinyl chloride was present at 0.025 ppm and bromodichloromethane detected at 0.0041 ppm.
- \* According to the laboratory QA/QC summary, the concentration reported as gasoline is primarily due to the presence of a heavier petroleum product of hydrocarbon range C9-C14, possibly diesel fuel. However, it appears that the TPHg detected is a result of cross-contamination by the laboratory (see Section 3.3 in Levine-Fricke 1994).

**TABLE 5  
GROUND-WATER SAMPLING SCHEDULE  
East Baybridge Center  
Emeryville and Oakland, California**

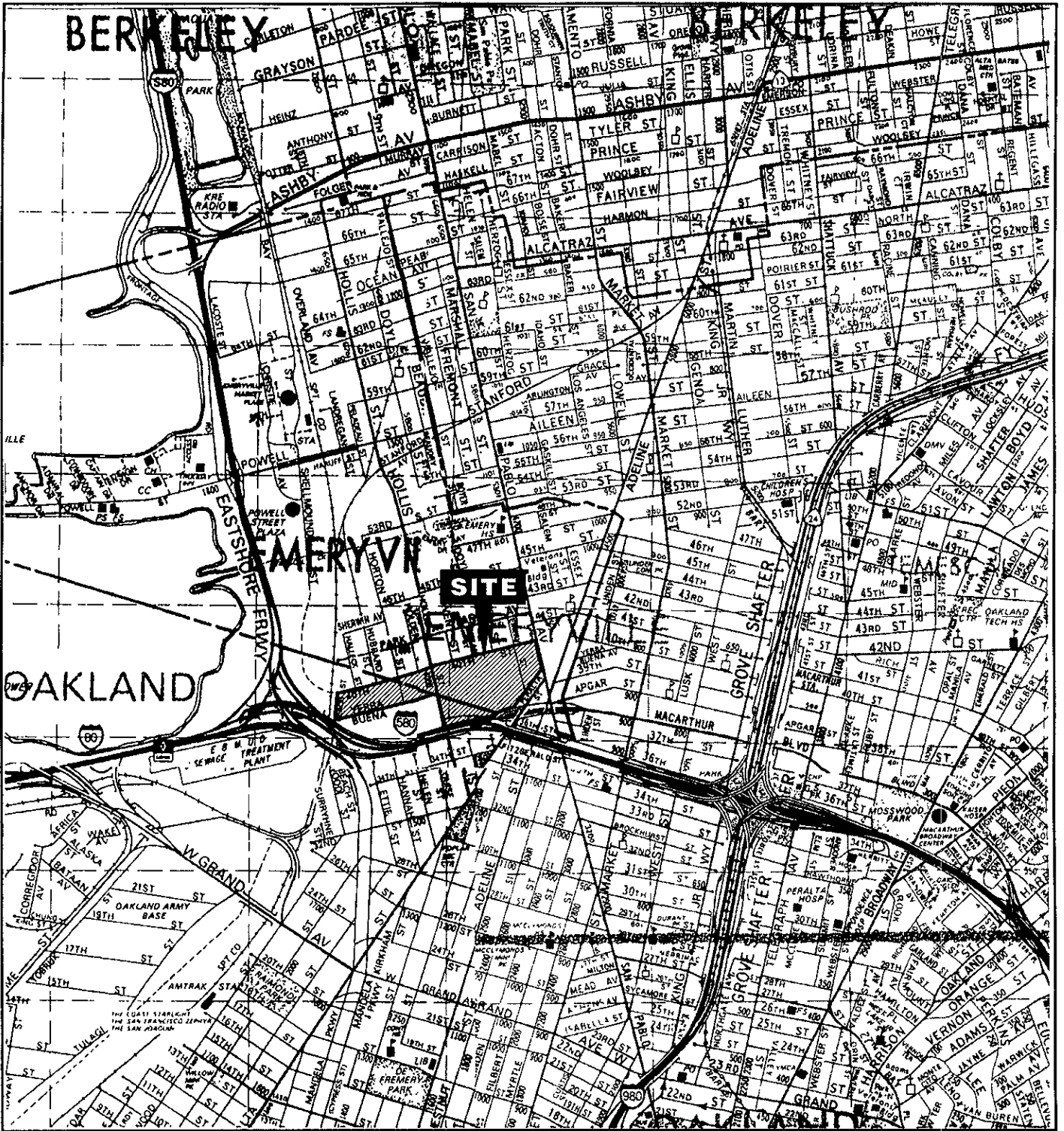
Quarterly Period	Area	Well Depth	Well Identification	Analysis
JANUARY through MARCH 1997	Area A	20' to 25'	MW-2 MW-3, MW-5, MW-6, MW-7, MW-8, MW-9, LF-22, LF-23	TPHg, TPHd, BTEX VOCs, TPHd, TPHo VOCs
		40' to 45'	EX-3 & EX-4	TPHd, TPHo, VOCs
			MW-6D, MW-7D, MW-9D	VOCs
	60'	MW-7Z	VOCs	
	Area C	20' TO 25'	MW-31R, MW-32R	TPHd, TPHo

**NOTES:**

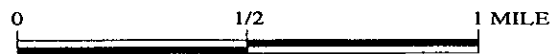
The sampling proposed is in accordance with Levine-Fricke's December 19, 1994  
"Ground-Water Monitoring Plan, East Baybridge Center, Emeryville and Oakland, California"

Analysis for TPHg will use EPA Method 5030.  
Analysis for BTEX will use EPA Method 8020.  
Analysis for TPHd and TPHo will use EPA Method 3510.  
Analysis for VOCs will use EPA Method 8010.

One duplicate sample, a trip blank, and bailer rinsate blank will be analyzed for VOCs.



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 Alameda County  
 1995 Edition



EAST BAYBRIDGE CENTER  
 Site Location Map

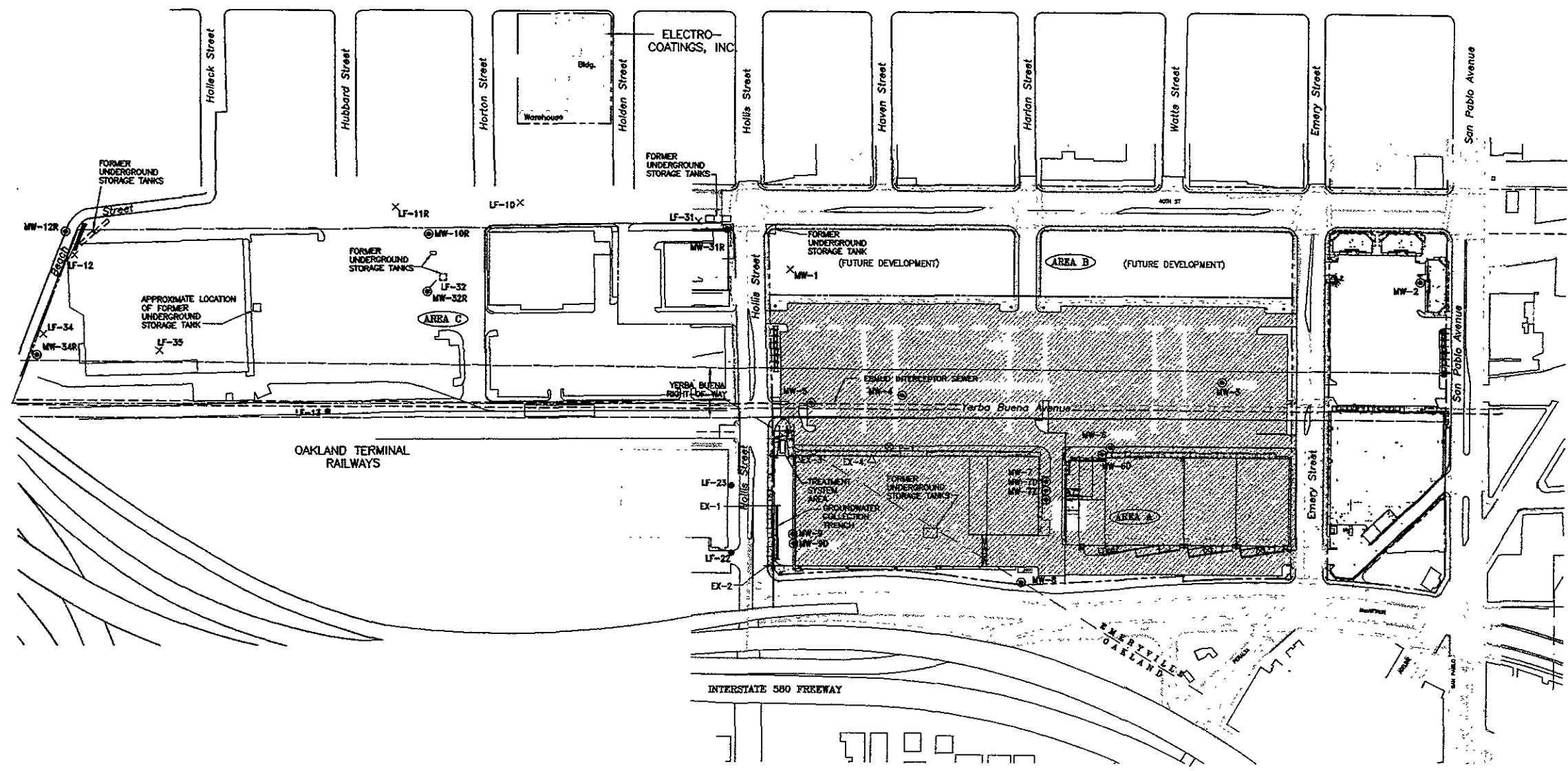
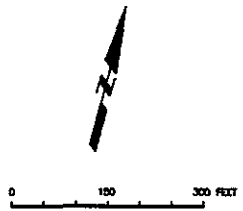
**Levine-Fricke-Recon**

**Figure 1**

Project No. 1649

1649SV01.CDR 102296RYL.JCK





- EXPLANATION**
- ⊙ MONITORING WELL LOCATION
  - △ EXTRACTION WELL
  - ⊕ PROPOSED MONITORING WELL LOCATION
  - × ABANDONED GROUNDWATER MONITORING WELL
  - APPROXIMATE PROPERTY LINE
  - 7.17 GROUNDWATER ELEVATION
  - APPROXIMATE LOCATION OF PETROLEUM-AFFECTED SOIL CONTAINED ON SITE

REVISION	DESIGN	DRAWN	CHECKED	DATE

SCALE : \_\_\_\_\_  
 DESIGN : \_\_\_\_\_  
 DRAWN : \_\_\_\_\_  
 CHECKED : \_\_\_\_\_

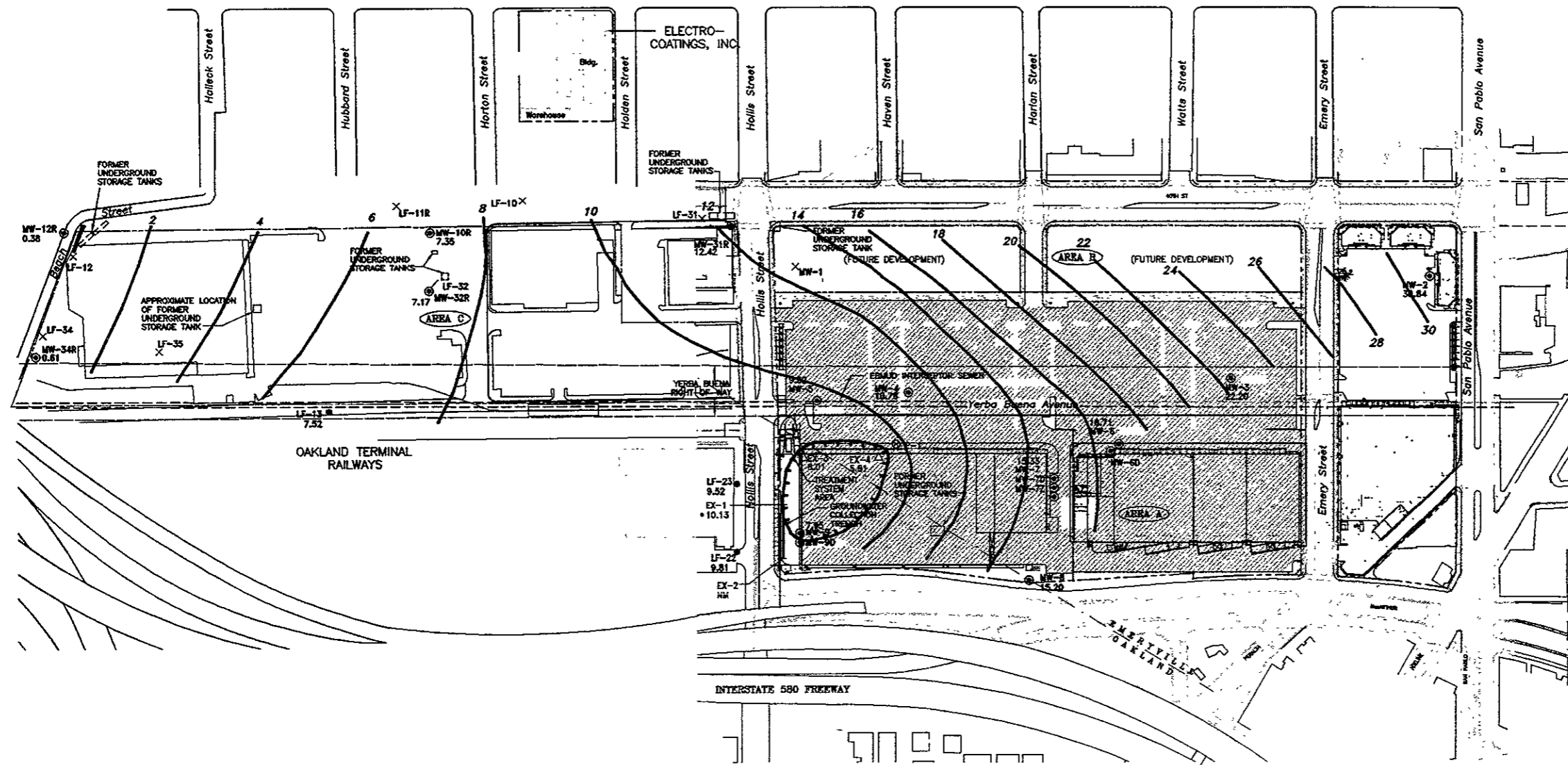
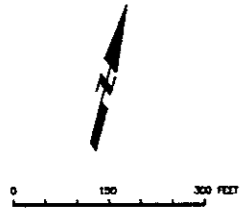
**Levine-Fricke-Recon**  
 ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS  
 Emeryville, California

**CATELLUS DEVELOPMENT CORPORATION**

YERBA BUENA/EAST BAYBRIDGE DEVELOPMENT  
 Figure 2  
 SITE PLAN SHOWING LOCATIONS OF  
 CONTAINED SOILS  
 AND UNDERGROUND STORAGE TANKS

Project No. 1649  
 Date JAN, 97  
 Sheet of

DRAWING CODE J:\ENGCAD\1649\STBASE1.DWG



- EXPLANATION**
- ⊙ MONITORING WELL LOCATION
  - △ EXTRACTION WELL
  - ⊗ PROPOSED MONITORING WELL LOCATION
  - × ABANDONED GROUNDWATER MONITORING WELL
  - GROUNDWATER ELEVATION CONTOUR (FEET MSL)
  - APPROXIMATE PROPERTY LINE
  - 29.31 GROUNDWATER ELEVATION
  - APPROXIMATE LOCATION OF PETROLEUM-AFFECTED SOIL CONTAINED ON SITE
  - ELEVATION NOT USED IN CONTOURING
  - DEPRESSION IN GROUNDWATER ELEVATION
  - NM NOT MEASURED

REVISION	DESIGN	DRAWN	CHECKED	DATE

SCALE : \_\_\_\_\_  
 DESIGN : \_\_\_\_\_  
 DRAWN : \_\_\_\_\_  
 CHECKED : \_\_\_\_\_

**Levine-Fricke-Recon**  
 ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS  
 Emeryville, California

**CATELLUS DEVELOPMENT CORPORATION**

**CATELLUS DEVELOPMENT CORPORATION**

YERBA BUENA/EAST BAYBRIDGE DEVELOPMENT  
 Figure 3  
 SITE PLAN SHOWING  
 GROUNDWATER ELEVATIONS IN SHALLOW WELLS  
 DECEMBER 13, 1996

Project No. 1649  
 Date JAN. 97  
 Sheet of

**APPENDIX A**

**Field Procedures**

## APPENDIX A: FIELD PROCEDURES

Before sample collection, depth to static water was measured in each well and the volume of water in the well casing was calculated. Three to five well-casing volumes of groundwater were then purged from each well using a centrifugal pump or a bailer until indicator parameter readings (pH, specific conductance, and temperature) stabilized. Indicator parameters were measured using portable field instruments and measurements were recorded on water-quality sampling forms. Purging and sampling equipment were steam cleaned before use at each well. Purged groundwater was pumped into the on-site treatment system.

After each well had been purged, groundwater samples were collected using a clean Teflon bailer. Samples were collected in containers appropriate for the laboratory analysis to be performed. Samples collected for VOC analyses were collected by pouring groundwater directly from the bailer into laboratory-supplied, 40-milliliter volatile organic analysis (VOA) glass vials. Vials were gently filled to overflowing, capped, and then inverted to check for trapped air. If an air bubble was observed, the vial was discarded and a new vial filled. Samples were immediately capped and placed in an ice-chilled cooler for transportation to the analytical laboratory.

Groundwater samples were submitted to Aqua Air Analytical Corp., a California state-certified laboratory, under strict chain-of-custody protocols. For quality assurance/quality control, a duplicate sample was collected from well LF-9 and analyzed for VOCs using EPA Method 8010. Laboratory certificates are presented in Appendix C.

**APPENDIX B**

**Summary of Analytical and Sampling QA/QC**

Summary of Sampling QA/QC		
Site Name: East Bay Bridge	Site Address: East Bay Bridge Center Emeryville and Oakland CA	Monitoring Period Covered: October 1 through December 31, 1996
Sampling performed by: Levine-Fricke-Recon Firm name: Levine - Fricke - Recon Firm address: 1900 Powell Street, Emeryville, CA Firm contact: Ron Goloubow Firm phone number: 510-652-4500		
Were chain-of-custody forms completed for all samples?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were field parameters stabilize prior to taking sample?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
For VOCs samples, was there zero head space in sample containers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were samples preserved according to analytical method?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were the required field QA/QC samples taken?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
For any questions above answered with "No", please provide an explanation:		

Data entered by AW. Data proofed by JCC. QA/QC by REH

Summary of Analytical QA/QC		
Site Name: East Bay Bridge	Site Address: East Bay Bridge Center Emeryville and Oakland CA	Monitoring Period Covered: October 1 through December 31, 1996
Analysis performed by: Lab name: Aqua Air (A2) Analytical Corp. Lab address: 25 Mathewson Drive, Weymouth MA. 02189 Lab contact: J. Sulkowski Lab phone number: 617-357-9334		
Analytical method used: (check applicable methods)		
<input type="checkbox"/> Total Dissolved Solids by EPA Method _____ <input type="checkbox"/> Bioassay 96-hr % survival by Standard Method <input type="checkbox"/> Turbidity (NTU) by EPA Method _____ <input type="checkbox"/> Dissolved Oxygen (mg/l and % saturation) by Standard Method <input type="checkbox"/> Hardness (mg/l CaCO <sub>3</sub> ) by EPA Method _____ <input type="checkbox"/> Arsenic by EPA Method _____ <input type="checkbox"/> Cadmium by EPA Method _____ <input type="checkbox"/> Chromium (total) by EPA Method _____ <input type="checkbox"/> Chromium (hexavalent) <input type="checkbox"/> Copper by EPA Method _____ <input type="checkbox"/> Lead by EPA Method _____ <input type="checkbox"/> Mercury by EPA Method _____ <input type="checkbox"/> Nickel by EPA Method _____ <input type="checkbox"/> Selenium by EPA Method _____ <input type="checkbox"/> Silver by EPA Method _____ <input type="checkbox"/> Zinc by EPA Method _____ <input checked="" type="checkbox"/> Halogenated Volatile Organics by EPA Method 601 or 8010 <input type="checkbox"/> Aromatic and Unsaturated Volatile Organics by EPA 602 or 8020 <input type="checkbox"/> Volatile Organics by EPA Method 624 or 8240 <input checked="" type="checkbox"/> Semivolatile Organics by EPA Method 625 or 8270 <input checked="" type="checkbox"/> EDB and DBCP by EPA Method 504 <input checked="" type="checkbox"/> TPH gasoline by EPA Method 8015 modified <input checked="" type="checkbox"/> TPH oil by EPA Method 8015 modified <input checked="" type="checkbox"/> TPH diesel by EPA Method 8015 modified		
Is the lab state-certified for the above analytical method(s)?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were analyses performed according to standard methods?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Were sample holding times met?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were all reported analytical results values above MDLs?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Were QA/QC samples (i.e. blanks, field replicates, spikes, and surrogates) analyzed in accordance and consistent with the analytical method?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Did QA/QC results meet all acceptance criteria?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are QA/QC results and acceptance criteria on file?		<input type="checkbox"/> Yes <input type="checkbox"/> No
For any questions above answered with "No", please provide an explanation: *		
Sample for MW-2 & MW-4 liter sample broken during delivery. Analysis from 40 mL VOA.		

Data entered by PW. Data proofed by ELH. QA/QC by JCK

\* The explanation should describe any modifications to standard methods and whether approved by Board staff, and describe corrective actions taken in response to any QA/QC results that fall outside acceptance criteria.

Common Reporting Limits For Groundwater Sample Analyses

EPA 8010		
Water Matrix	CAS #	Reporting Limits
Bromodichloromethane	75-27-4	3 mg/l
Bromoform	75-25-2	3 mg/l
Bromomethane	74-83-9	10 mg/l
Carbon Tetrachloride	56-23-5	3 mg/l
Chlorobenzene	108-90-7	3 mg/l
Chloroethane	75-00-3	10 mg/l
2-Chloroethyl Vinyl Ether	110-75-8	3 mg/l
Chloroform	67-66-3	3 mg/l
Chloromethane	74-87-3	10 mg/l
Dibromochloromethane	124-48-1	3 mg/l
1,2-Dichlorobenzene	95-50-1	3 mg/l
1,3-Dichlorobenzene	541-73-1	3 mg/l
1,4-Dichlorobenzene	106-46-7	3 mg/l
Dichlorodifluoromethane	75-71-8	10 mg/l
1,1-Dichloroethane	75-34-3	3 mg/l
1,2-Dichloroethane	107-06-2	3 mg/l
1,1-Dichloroethene	75-35-4	3 mg/l
cis-1,2-Dichloroethene	156-60-5	3 mg/l
trans-1,2-Dichloroethene	156-60-5	3 mg/l
1,2-Dichloropropane	78-87-5	3 mg/l
cis-1,3-Dichloropropene	10061-01-5	3 mg/l
trans-1,3-Dichloropropene	10061-02-6	3 mg/l
Methylene Chloride	75-09-2	10 mg/l
1,1,2,2-Tetrachloroethane	79-34-5	3 mg/l
Tetrachloroethene	127-18-4	3 mg/l
1,1,1-Trichloroethane	71-55-6	3 mg/l
1,1,2-Trichloroethane	79-00-5	3 mg/l
Trichloroethene	79-01-6	3 mg/l
Trichlorofluoromethane	75-69-4	10 mg/l
1,1,2-Trichlorotrifluoroethane	76-13-1	3 mg/l
Vinyl Chloride	75-01-4	10 mg/l

EPA 8015 modified		
Total Extractable Petroleum Hydrocarbons (TEPH)		
	CAS #	Reporting Limits
TEPH as Diesel		50 mg/l
TEPH as Gasoline		50 mg/l